

incu
INTERNATIONAL NETWORK OF CUSTOMS UNIVERSITIES



WORLD CUSTOMS ORGANIZATION



*World
Customs
Journal*

March 2022
Volume 16, Number 1

ISSN: 1834-6707 (Print)
1834-6715 (Online)

World Customs Journal

March 2022

Volume 16, Number 1



WORLD CUSTOMS ORGANIZATION

incu
INTERNATIONAL NETWORK OF CUSTOMS UNIVERSITIES

World Customs Journal

Published by the Centre for Customs and Excise Studies (CCES), Charles Sturt University, Australia, and the Institute of Customs and International Trade Law (ICTL), University of Münster, Germany, in association with the International Network of Customs Universities (INCU) and the World Customs Organization (WCO).

The *World Customs Journal* is a peer-reviewed journal that provides a forum for customs professionals, academics, industry researchers and research students to contribute items of interest and share research and experiences to enhance its readers' understanding of all aspects of the roles and responsibilities of Customs. The Journal is published twice a year. The website is at: <http://worldcustomsjournal.org>

Guidelines for Contributors are included at the end of each issue. More detailed guidance about style is available on the Journal's website.

Correspondence and all items submitted for publication should be sent in Microsoft Word or RTF, as email attachments, to the Editor-in-Chief: editor@worldcustomsjournal.org

ISSN: 1834-6707 (Print) 1834-6715 (Online)

Volume 16, Number 1

Published March 2022

© 2022 CCES, Charles Sturt University, Australia and ICTL, University of Münster, Germany

INCU (www.incu.org) is an international not-for-profit association that aims to raise the academic standing of the customs profession through the development and promotion of educational programs, providing academic and applied research, and intellectual input to strategic decision-making.

Copyright. All rights reserved. Permission to use the content of the *World Customs Journal* must be obtained from the copyright owner. Please apply to the Editor-in-Chief.

Disclaimer. The views expressed in the *World Customs Journal* are those of individual contributors and are not necessarily those of the Editorial Board, INCU, the WCO or its individual membership, or the publishers.

Contents

Editorial.....	iii
SECTION 1 – ACADEMIC CONTRIBUTIONS	1
The role of excise duties on tobacco products and their effect on the quality of life of citizens in Greece	
<i>Christos Papageorgiou, Zacharias Dermatis, Farlekas Panagiotis, Dimitrios Komninos and Athanasios Anastasiou</i>	<i>3</i>
The impact of trade costs upon gross domestic product: the customs efficiency index as a mediator	
<i>Ümit Çelebi</i>	<i>23</i>
Application of the European Union (EU) non-preferential rules of origin for goods as a measure to extend the scope of trade restrictions	
<i>Ewa Gwardzińska and Jakub Chowaniec</i>	<i>37</i>
Enhancing trade compliance to benefit small and medium-sized enterprises (SMEs) in Trade Facilitation Agreement (TFA) implementation in Vietnam	
<i>Phan Thi Thu Hien and Bui Thai Quang</i>	<i>49</i>
Compensation for cargo claims in reverse supply chains	
<i>Julia Hörnig and Martijn Schippers</i>	<i>61</i>
Combinations of goods and services and their treatment under World Trade Organization (WTO) law	
<i>Hanns-Thilo von Spankeren</i>	<i>87</i>
Is blockchain technology a silver bullet for a customs environment?	
<i>Hüseyin Yaren</i>	<i>101</i>
SECTION 2 – SPECIAL REPORT	113
Get ready for a new mindset on women in customs leadership	
<i>Anita Dodds, Anneka Farrington, Phillip Dowler, Joel Carruthers, Michelle Bond, Anne Linn Jensen and Ulrich Meiser</i>	<i>117</i>
Women in customs leadership: why does it matter?	
<i>Sreya Hong, Michelle Bond, Losalini Lesu, Melani Madhubhashini, Senali Lokubalasooriya and Dini Ratnasari</i>	<i>125</i>
Strengthening integrity by building integrated systems: a comparative case study of Indonesia and the Philippines	
<i>Nidia Putri Kusumawardhani and Jenny Puno Diokno</i>	<i>135</i>
A new mindset on customs cooperation in the Asia-Pacific region	
<i>Nguyen Thi Hong Ngoc, Shirley Mohanakumar, Anushka Cooray and Litiana Wai Sautulevu ..</i>	<i>145</i>

Bolstering resilience in Customs: the wellbeing of our people

Akosita Valamalua, Shirley Mohanakumar, Indu Ranathunga and Sanduli Medonza..... 151

Reflections on the Container Control Programme – Women’s Professional Development Programme: transforming women’s leadership in customs administrations

Shirley Mohanakumar, Dimuthu Dananjanie, Siti Sarina Binti Samsudin, Hoang Thi Mai Lan and Sabaahath Sabree..... 157

Customs inspections – building a culture of proactive curiosity: Thailand case study

Araya Siripanukul, Atittaya Sommana, Sirima Panyarnpisit, Siriporn Mekdee, Nuttha Ummarakoon and Thomas Dixon 165

SECTION 3 – REFERENCE MATERIAL 173

Guidelines for Contributors 175

Editorial Board..... 176

Editorial



In the last edition of the *World Customs Journal* we commemorated the twentieth anniversary of the terrorist attacks in the United States which killed almost 3,000 people and injured thousands more. Sadly, we are again witnessing acts of terrorism that continue to disrupt peaceful societies and blatantly ignore sovereign borders in a way that shows a total disregard for international security and stability.

We are deeply saddened by the death and destruction which is occurring in Ukraine for no other reason than to satisfy a selfish, despotic ambition at the expense of anyone and anything that stands in the way of its achievement.

It seems incomprehensible that such atrocity and inhumanity could be occurring in today's world.

On behalf of the Editorial Board, I would like to extend our deepest sympathies to our dear Ukrainian friends and colleagues who are facing the brutal consequences of their neighbour's ruthless act of aggression. In particular, we send a special message of support to our friends and colleagues in academic institutions that are Affiliates of the International Network of Customs Universities (INCU). These include the University of Customs and Finance in Dnipropetrovsk, the State Customs Research Institute in Khmelnytsky, the University of State Fiscal Service of Ukraine in Irpin, the Ternopil National Economic University in Ternopil, and the National University of Odessa Law Academy in Odessa. Our thoughts and prayers are with you, your families, friends, colleagues and compatriots.

We are also thinking of our friends and colleagues in Russia who are equally shocked and saddened to see the lives of their Ukrainian brothers and sisters being destroyed.

We sincerely wish for peace and a return to harmony and freedom. We maintain a fervent hope that all those affected by this rapidly escalating humanitarian crisis will stay strong in these demanding and difficult times, and look forward to meeting with you again when peaceful times return.

In this edition we present a series of academic contributions that address a broad range of topical subjects including tobacco excise, blockchain technology, compensation in reverse supply chains, non-preferential rules of origin, the treatment of goods and services in WTO law, SME trade benefits, and the impact of customs on the cost of trade.

We also include several articles that showcase the inaugural Women's Professional Development Program that was jointly sponsored by the United Nations Office on Drugs and Crime, the World Customs Organization and Australian Border Force. These provide thought-provoking insights into the principles, benefits and outputs of this innovative program that is designed to strengthen the leadership skills of women customs officers and build their international networks in the male-dominated field of containerised cargo control.

A handwritten signature in blue ink, appearing to read 'D. Widdowson'. The signature is stylized and fluid, with a large loop at the beginning and a trailing end.

Professor David Widdowson AM
Editor-in-Chief



Section 1

Academic Contributions

The role of excise duties on tobacco products and their effect on the quality of life of citizens in Greece

Christos Papageorgiou, Zacharias Dermatis, Farlekas Panagiotis, Dimitrios Komninos and Athanasios Anastasiou

Abstract

The determination of excise duties is an important decision of the state, given that a significant part of the state's revenue depends on it. Understanding the importance of excise duties on tobacco products in the Member States of the European Union, combined with exploring their effectiveness, advantages and disadvantages, as well as assessing their impact on the quality of life of citizens, are important issues explored here. Our survey in Greece examines the effect of excise duties on tobacco products and their effects on the quality of life of citizens.

The results of the survey in Greece are mapped by region to enable the creation of a complete picture of the effects of excise duties on tobacco products through mapping with the contribution of geographic information systems (GIS).

Keywords: excise duties, tax, tobacco, quality of life, GIS

1. Introduction

The way in which rates of excise duty on tobacco in the Member States of the European Union are determined, as well as the assessment of their impact on government revenue and citizens, are important issues that need exploring. An important part of this study is the impact of these excise duties on citizens' health and quality of life.

It was also important to capture the results of this survey through mapping, to create a complete picture of the effects of excise duties on the state and citizens, in relation to the different regions of the country (see Anastasiou et al., 2021a, Anastasiou et al., 2021b).

The increase of excise duties on tobacco products may result in the reduction of state revenues, while at the same time creating conditions for improving the health of citizens. This is supported by the publication of a joint study by the World Bank and Jha & Chaloupka (1999) and the World Health Organization (WHO Tobacco Free Initiative, 2004). Taxation is ultimately seen as the most effective way to reduce the consumption of tobacco products, especially among young people and low-income groups. That means that proper management of excise duties results in an increase in the price of tobacco products, which immediately makes tobacco products less accessible to a large part of the population and, in particular, to groups with less purchasing power (Komninos et al., 2020a; Komninos et al., 2020b; Papageorgiou et al. 2018; Anastasiou et al., 2020; Liargovas et al. 2019).

The decrease in tobacco demand is also affected by the increase in the rates of smokers who quit smoking and the decrease in the percentages of potential users who might start smoking, because of

anti-smoking campaigns. Moreover, young people are particularly sensitive to price increases and may reduce smoking by two to three times as much as older people (Cnossen & Smart, 2005).

Increased excise duties on tobacco products also have a direct effect on government revenues and is often used by governments to improve their budgets. However, over-taxation on the consumption of tobacco products leads to a reduction in consumption, as mentioned above and a subsequent reduction in government revenues.

1.1 Factors that affect health and quality of life

Health and quality of life constitute a multilevel social phenomenon, which operates under the principles of universality, individualisation, reality and the satisfaction of the needs of modern on tobacco products on wellbeing and quality of life, overcharging distorts consumers' choices. The more elastic the demand for a product, the greater will be the excess weight of an excise duty, because there will be a relatively large impact on the consumer's quality of life. Given this result, it is preferable to use a lower excise tax on a wide range of products than a high excise tax on a small number of products (Cnossen, 2005).

Therefore, optimisation can be achieved with a set of selective excise duties (given the amount of revenue to be collected by the state), setting the excise duty rates for different products inversely depending on the elasticity of demand. Such a plan can be effective, in the sense that it minimises excessive burdens (Cnossen, 2005).

2. Research method

The current research is based on a quantitative data method, which allows the systematic collection of objective numerical data for statistical use (Mantzoukas, 2007), based on a typical sequence of research stages. The quantitative research design is predetermined (Bellali & Papazoglou, 2004).

For this research, a questionnaire of 22 questions was created. A total of 1,498 questionnaires was distributed in 13 regions of Greece. Of these, 1,233 were completed (82.31 per cent). This number is considered satisfactory for conducting the survey. The completed questionnaires originated from the different geographic regions shown in Table 1.

Table 1: List of completed questionnaires according to region

No	Region	Number	Percentage
1	Attica	333	27.01
2	Peloponnese	189	15.33
3	Western Greece	65	5.27
4	Stereia Ellada	47	3.81
5	Thessaly	24	1.95
6	Epirus	77	6.24

No	Region	Number	Percentage
7	Western Macedonia	98	7.95
8	Central Macedonia	119	9.65
9	Eastern Macedonia and Thrace	65	5.27
10	Northern Aegean	35	2.84
11	Southern Aegean	33	2.68
12	Ionian Islands	50	4.06
13	Crete	98	7.95
	Total	1,233	100.00

Source: Authors

The aim was to assess the impact of excise duties on tobacco products on quality of life and consumption ability of citizens. Other objectives of the survey were to investigate the impact of the economic situation and the educational level of the citizens, in a period of economic crisis, in combination with the imposition of excise duties on tobacco products, on the quality of life of the citizens. In addition, the research aimed to investigate the citizens' perceptions on the impact of these excise duties on their quality of life, as well as on their sense of social justice.

Bearing in mind that excise duties can affect the quality of life of citizens differently in different regions of Greece, the research was conducted in such a way that the results could be captured through the GIS system on maps for the 13 different regions of the country.

A quantitative approach was followed, which allowed the research to be conducted in such a way that conclusions could be reached without making arbitrary interpretations, due to the large number of questionnaires. The research followed the process outlined by Cohen and Manion (1994) to generalise the conclusions based on the research sample.

Closed-ended questions were mainly used in a structured questionnaire that had a strictly defined series of written questions. This did not allow unnecessary deviations and provided a structured uniformity in the answers (Berdie, Anderson, & Niebuhr, 1986).

The composition of the population to whom the questionnaire was distributed was considered to have significant similarities to the total active population of the country, in terms of age, income, educational level and marital status. Therefore, its results can be transferred to the total active population through the generalisation process.

3. Results and discussion

The results of the descriptive statistics are presented in Appendix 1 and in Table 2. Table 2 records the proportion of respondents consuming tobacco products as well as their reactions to an increase in the excise duties on tobacco products.

The descriptive statistics show the following demographic and consumption characteristics, as well as opinions of the consumers. Regarding gender, 48.8 per cent of the total population of respondents (602) were men and 51.2 per cent (631) were women. Regarding age, the largest percentage of respondents, 38.0 per cent were aged between 45 and 59 years. Those aged between 30 and 44 years accounted for 35.3 per cent, followed by 13.5 per cent aged up to 29 years. Those aged over 60 years accounted for 13.3 per cent.

Table 2: The proportion of respondents consuming tobacco products and their reactions to an increase in the excise duties on tobacco products

Smoker	Number	Percentage
Yes	405	32.8
No	828	67.2
Total	1,233	100.0
Increase in the effect of a special tax on tobacco products on quality of life		
Very much	73	18.0
Enough	111	27.4
Moderate	104	25.7
A little	82	20.2
Not at all	35	8.6
Total	405	100.0
Increase in the effect of a special tax on tobacco products in reducing smoking		
Very much	72	17.8
Enough	102	25.2
Moderate	100	24.7
A little	91	22.5
Not at all	40	9.9
Total	405	100.0

Source: Authors

The largest percentage, 35.6 per cent, of respondents had two children, 31.2 per cent had no children, 21.4 per cent had one child and 11.8 per cent had more than two children.

Regarding the educational level of the participants, the largest percentage, 43.6 per cent, had a university or technical education degree, 30.0 per cent had a high school diploma, 18.2 per cent had a postgraduate or doctoral degree, 4.3 per cent had a primary school diploma, 2.1 per cent attended some school classes and 1.9 per cent had no education.

Regarding the profession of the respondents, 64.4 per cent were employees, 10.5 per cent were entrepreneurs, 8.9 per cent were income earners, 8.4 per cent were retirees, 4.5 per cent were farmers and 3.3 per cent were unemployed.

The annual income of the research population showed that 12.7 per cent had an average annual income from €0 to €5,000, 10.9 per cent from €5,001 to €10,000, 17.2 per cent from €10,001 to €15,000, 15.7 per cent from €15,001 to €20,000, 14.8 per cent from €20,001 to €25,000, 13.2 per cent from €25,001 to €30,000, and 15.4 per cent over €30,000.

As shown in Table 2, almost one third of the respondents declared that they smoked, while almost 45 per cent declared that an increase in the excise duties on tobacco products affected their quality of life to a remarkable level. Also, almost 43 per cent declared that the increase in the excise duties on tobacco products affected their reduction in smoking to a remarkable level.

3.1 Results of Spearman non-parametric correlations

The non-parametric Spearman correlations are presented in detail in Appendix 2 and summarised in Table 3. All Spearman correlations are statistically significant.

Table 3: Non-parametric Spearman correlations

Variable 1	Variable 2*	Spearman's (rho) correlation value
To what extent is the quality of your life negatively affected by the tobacco excise duty?	Family income (1=lower, 7=higher)	0.327 (p=0.000)
	Education (1=higher, 6=lower)	-0.148 (p=0.001)
To what extent would an increase in the tobacco excise duty generally reduce your consumption ability?	Family income (1=lower, 7=higher)	0.286 (p=0.000)
	Education (1=higher, 6=lower)	-0.187 (p=0.000)

*According to the questionnaire, for family income: 1 = €0 to €5,000, 2 = €5,001 to €10,000, 3 = €10,001 to €15,000, 4 = €15,001 to €20,000, 5 = €20,001 to €25,000, 6 = €25,001 to €30,000, and 7 = €30,000.

For educational level: 1 = postgraduate or doctoral degree, 2 = university or technical education degree, 3 = high school diploma, 4 = primary school diploma, 5 = some school classes, 6 = no education.

Source: Authors

From these non-parametric Spearman correlations, it appears that:

- The negative impact on the quality of life of consumers, as well as the possible reduction of their consumption ability due to the increase of excise duties on tobacco products, have a linear and positive Spearman's rho correlation with family income. That is, the higher the family income, the smaller the negative impact on the quality of life and the consumption ability of the citizens brought about by the increase in excise duties.

- b. The negative impact on the quality of life of consumers, as well as the possible reduction of their consumption ability due to the increase of excise duties on tobacco products, have a linear and negative Spearman’s rho correlation with education. That is, the higher the level of education, the smaller the negative impact on the quality of life and consumption ability of citizens brought about by the increase in excise duties.

3.2 Linear regression results

The results of the linear regression are presented in detail in Appendix 3 and the linear correlations between the dependent and independent variables are described and summarised in Table 4. The findings of these correlations through linear regression are statistically significant and are fully consistent with the Spearman correlations analysed in the previous section.

Table 4: Results of linear regressions

Dependent variable y	Independent variable x*	Coefficient a	Constant b	P
To what extent is the quality of your life negatively affected by the tobacco excise duty?	Family income (1=lower, 7=higher)	0.203	1.924	0.000
	Education (1=higher, 6=lower)	-0.145	3.099	0.018
To what extent would an increase in the tobacco excise tax generally reduce your consumption ability?	Family income (1=lower, 7=higher)	0.179	2.092	0.000
	Education (1=higher, 6=lower)	-0.153	3.192	0.014

*According to the questionnaire, for family income: 1 = €0 to €5,000, 2 = €5,001 to €10,000, 3 = €10,001 to €15,000, 4 = €15,001 to €20,000, 5 = €20,001 to €25,000, 6 = €25,001 to €30,000, and 7 = €30,000.

For educational level: 1 = postgraduate or doctoral degree, 2 = university or technical education degree, 3 = high school diploma, 4 = primary school diploma, 5 = some school classes, 6 = no education.

Source: Authors

From these correlations of the linear regression, it appears that:

- a. There is clearly a proportionally positive linear relationship between the negative impact on quality of life or the reduction of consumption ability due to the increase in excise duties on tobacco products as dependent variables and the family income as the independent variable. Those with the highest incomes have a smaller sense of the negative impact on quality of life and a more limited reduction in their consumption ability, due to an increase in excise duties on tobacco products.
- b. There is also a clear proportionally negative linear relationship between the negative impact on quality of life or the reduction in consumption ability due to increased excise duties on tobacco products as dependent variables and the level of education as an independent variable. Those with higher levels of education have a smaller sense of the negative impact on quality of life and more limited reduction of their consumption ability, due to increased excise duties on all products.

3.3 Results of the geographic representation (GIS)

Using ArcMap software, the data were entered in tabular form. These data were plotted as graphs in the corresponding geographical locations on the maps, providing a complete picture of the impact of excise duties on quality of life and consumption ability.

Some examples of how these results are presented using GIS are shown in the maps in Appendix 4.

4. Conclusions

Our survey examined the effect of excise duties on tobacco products and their effects on the quality of life of citizens in Greece. The main results of this survey are summarised as follows:

- People with the highest incomes have a smaller sense of the negative impact on quality of life and a more limited reduction in their consumption ability, due to an increase in excise duties on tobacco products.
- People with higher levels of education have a smaller sense of the negative impact on quality of life and more limited reduction of their consumption ability, due to increased excise duties on tobacco products.

Some of the results were plotted in maps, using ArcMap software, providing a complete picture of the impact of excise duties on quality of life and consumption ability in different areas of the country.

It should be emphasised that the reliability of this research depended to a large extent on the honesty of the participants and their understanding of the questions in the survey. In this area, efforts were made to help the participants understand as much as possible about both the aims of the research and the content of the questions.

Given the usefulness of tax policy research, we propose to examine, in a new survey, the indirect effects of the increase of excise taxes on tobacco products on economic life, such as, for example, the reduction of industrial activity, the reduction of the turnover of some specific sectors of commercial activity and the increase in unemployment.

References

- Anastasiou, A., Kalligosfyris, C., & Kalamara, E. (2021a). An analysis of the efficiency of tax administrations of 26 European countries in 2017. *Bulletin for International Taxation*, 25(2), 67–83.
- Anastasiou, A., Kalligosfyris, C., & Kalamara, E. (2021b). Determinants of tax evasion in Greece: Econometric analysis of co-integration and causality, variance decomposition and impulse response analysis. *Bulletin of Applied Economics*, 8(1), 29–57. https://www.researchgate.net/publication/348752396_Determinants_of_tax_evasion_in_Greece_Econometric_analysis_of_co-integration_and_causality_variance_decomposition_and_impulse_response_analysis
- Anastasiou A., Kalamara, E., & Kalligosfyris C. (2020). Estimation of the size of tax evasion in Greece. *Bulletin of Applied Economics*, 7(2), 97–107. <https://ideas.repec.org/a/rmk/rmkbae/v7y2020i2p97-107.html>
- Bellali, Th., & Papazoglou, E. (2004). The qualitative methodology in nursing research. *Nursing*, 43(3), 261–270.
- Berdie, D., Anderson, J., & Niebuhr, M. (1986). *Questionnaires: design and use* (2nd ed.). The Scarecrow Press, Inc.
- Cnossen, S. (2005). Economics and politics of excise taxation. In S. Cnossen (Ed.), *Theory and practice of excise taxation: smoking, drinking, gambling, polluting, and driving* (pp. 1–18). Oxford University Press.
- Cnossen, S., & Smart, M. (2005). Taxation of tobacco. In S. Cnossen (Ed.), *Theory and practice of excise taxation: smoking, drinking, gambling, polluting, and driving* (pp. 20–52). Oxford University Press.
- Cohen, L., & Manion, L. (1994). *Research Methods in Education* (4th ed.). Routledge.

- Jha, P., & Chaloupka, F. (1999). *Curbing the epidemic: governments and the economics of tobacco control*. The World Bank. <https://documents1.worldbank.org/curated/en/914041468176678949/pdf/multi-page.pdf>
- Komninos, D., Dermatis, Z., Anastasiou, A., & Liargovas, P. (2020a). The multiplicity and the frequent changes of the tax legislation in the Greek Tax Administration. *Technium Social Sciences Journal*, 13(1), 395–407.
- Komninos, D., Dermatis, Z., Anastasiou, A., & Liargovas, P. (2020b). The effect of over-taxation and corruption at commercial enterprises in Greece: Evidence from a survey experiment. *Journal of Statistical and Econometric Methods*, 9(4), 153–170. <https://www.researchgate.net/deref/https%3A%2F%2Fdoi.org%2F10.47260%2Fjssem%2Fvol9410>
- Liargovas, P., Anastasiou, A., Komninos, D., & Dermatis, Z. (2019). The contribution of electronic tax transactions to increasing the productivity of Greek tax administration and serving services for citizens and businesses. *China-USA Business Review*, 18(1), 12–21. <http://dx.doi.org/10.17265/1537-1514/2019.04.002>
- Mantzoukas, S. (2007). Qualitative research in 6 easy steps: Epistemology, methods and presentation. *Nursing*, 46(1), 236–246.
- Papageorgiou, C., Kalamara, E., Komninos, D., Dermatis, Z., Anastasiou, A., & Liargovas, P. (2018). Corruption Perception Index (CPI), as an index of economic growth for European countries. *Theoretical Economics Letters*, 8(3), 524–537. <https://doi.org/10.4236/tel.2018.83037>
- WHO Tobacco Free Initiative. (2004). *Building blocks for tobacco control: a handbook*. World Health Organization. <https://apps.who.int/iris/handle/10665/42993>

Athanasios Anastasiou



Athanasios Anastasiou is Associate Professor at the Department of Management Science and Technology of the University of Peloponnese. He possesses a PhD in economics and has 20 years teaching experience in higher education, both in Greece and in Cyprus. His research interests are in the areas of macroeconomics, public administration and economics, economic growth, international economics and European integration. He has been an editorial board member of the *International Journal of Behavioural and Healthcare Research*, has published several scientific papers and he has participated in numerous conferences related to macroeconomics, international economics, public economics and administration and macroeconomics of the European Union. ORCID iD: 0000-0003-4546-7846.

Zacharias Dermatis



Zacharias Dermatis holds a PhD in Computer Applications in Health and Economics. He is also a member of the Workshops for Sustainable Development and Entrepreneurship of the University of Peloponnese and a member of the Center for Research & Training on Strategic Leadership & Digital Transformation (iLEADS) of the University of Piraeus. Zacharias Dermatis is a member of the teaching staff in the Department of Administrative Science and Technology, University of Peloponnese. ORCID iD: 0000-0001-5605-3169.

Farlekas Panagiotis

Farlekas Panagiotis is a graduate of the ASPETE SELETE Department of Electronics. He holds a master degree from the University of Peloponnese in economic analysis and a PhD in economics from the University of Peloponnese with a dissertation entitled “The role of indirect taxation through excise duty on tobacco, beverages, and fuel on state revenues and the impact on health and quality of life indicators. Results by geographical area with GIS”. Farlekas Panagiotis is an employee of the Ministry of Finance (AADE) with tenure in positions of responsibility (Head, Deputy Director, Director). ORCID iD: 0000-0002-0414-4947.

Dimitrios Komninos

Dimitrios Komninos holds a PhD in E-Government in tax organisation and strategy. He is a graduate of the School of Computer Automation of Piraeus Higher Technological Education Institute and Business Administration of University of Cyprus. He holds two postgraduate degrees in Education of Greek Open University and Public Administration of the University of Peloponnese. He is a postdoctoral student at the University of Peloponnese.

Christos Papageorgiou

Christos Papageorgiou is a chemical engineer, with a BChemEng degree from Cairo University, an MSc degree from Bradford University and a DProf degree from Middlesex University. He has also studied European Civilization, and he holds a PhD in Evaluation of European Economic Integration from the University of Peloponnese and has made relevant publications in International Journals. He has worked as a Director of Private Sector Production Units and as a Municipal Enterprise Manager and has been involved in procedures for European regional funding programs for municipal projects and monitoring of their implementation. ORCID iD: 0000-0002-2674-5495.

APPENDIX 1: Sample characteristics

Figure 1. Smoking per cent

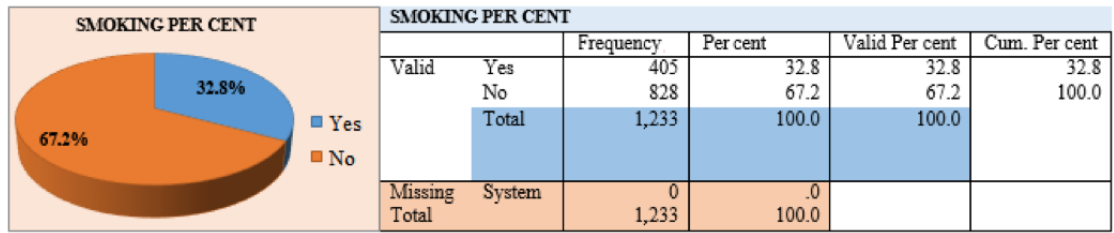


Figure 2. Effect of increase of excise duties on tobacco products on the quality of life

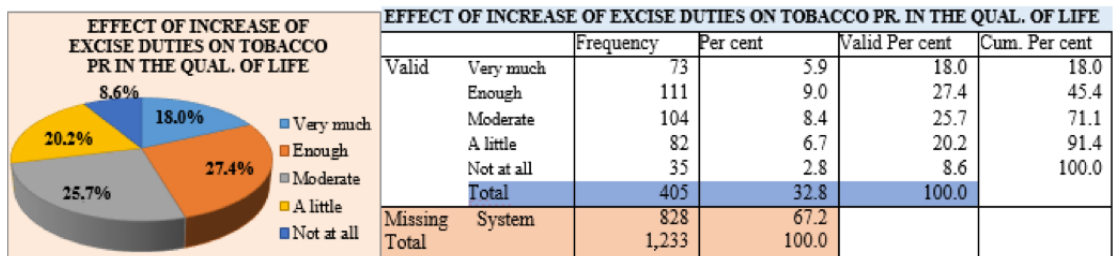
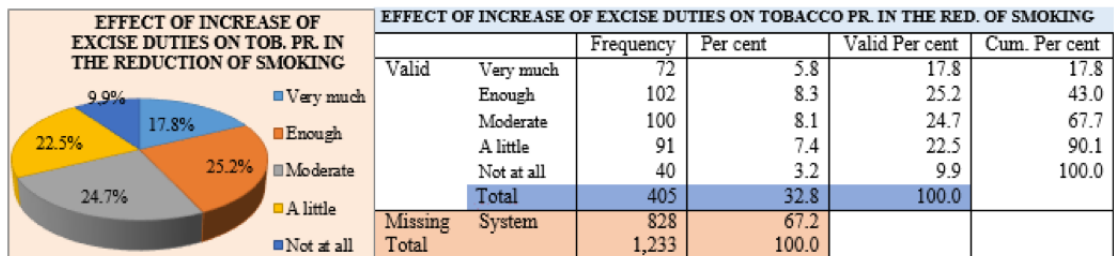


Figure 3. Effect of increase of excise duties on tobacco products in the reduction of smoking



APPENDIX 2: Spearman correlations (non-parametric analysis)

Correlations ^a				
			Family income	Reduction of quality of life due to increase of excise duties on tobacco products
Spearman's rho	Family income	Correlation Coefficient	1.000	.327**
		Sig. (1-tailed)	.	.000
	Reduction of quality of life due to increase of the excise duties on tobacco products	Correlation Coefficient	.327**	1.000
		Sig. (1-tailed)	.000	
a. Listwise N = 405 **. Correlation is significant at the 0.01 level (1-tailed).				

Correlations ^a				
			Family income	Reduction of smoking due to increase of excise duties on tobacco products
Spearman's rho	Family income	Correlation Coefficient	1.000	.286**
		Sig. (1-tailed)	.	.000
	Reduction of smoking due to increase of the excise duties on tobacco products	Correlation Coefficient	.286**	1.000
		Sig. (1-tailed)	.000	.
a. Listwise N = 405 **. Correlation is significant at the 0.01 level (1-tailed).				

Correlations^a				
			Education	Reduction of quality of life due to increase of excise duties on tobacco products
Spearman's rho	Education	Correlation Coefficient	1.000	-.148**
		Sig. (1-tailed)	.	.001
	Reduction of quality of life due to increase of the excise duties on tobacco products	Correlation Coefficient	-.148**	1.000
		Sig. (1-tailed)	.001	.
a. Listwise N = 405 **. Correlation is significant at the 0.01 level (1-tailed).				

Correlations^a				
			Education	Reduction of smoking due to increase of excise duties on tobacco products
Spearman's rho	Education	Correlation Coefficient	1.000	-.187**
		Sig. (1-tailed)	.	.000
	Reduction of smoking due to increase of the excise duties on tobacco products	Correlation Coefficient	-.187**	1,000
		Sig. (1-tailed)	.000	.
a. Listwise N = 405 **. Correlation is significant at the 0.01 level (1-tailed).				

APPENDIX 3: Linear regressions

Regression A

Variables entered/removed ^b			
Model	Variables entered	Variables removed	Method
1	Family income ^a	.	Enter

a. All requested variables entered

b. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Model summary ^b				
Model	R	R Square	Adjusted R square	Std. error of the estimate
1	.320 ^a	.102	.100	1.154

a. Predictors Q (Constant), FAMILY INCOME

b. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

ANOVA ^b						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	61.270	1	61.270	46.024	.000 ^a
	Residual	536.507	403	1.331		
	Total	597.778	404			

a. Predictors Q (Constant), family income

b. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Coefficients ^a						
Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.924	.133		14.418	.000
	Family income	.203	.030	.320	6.784	.000

a. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Residuals statistics ^a					
	Minimum	Maximum	Mean	Std. deviation	N
Predicted Value	2.13	3.34	2.74	.389	405
Residual	-2.140	2.874	.000	1.152	405
Std. Predicted Value	-1.578	1.547	.000	1.000	405
Std. Residual	-1.855	2.491	.000	.999	405

a. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Regression B

Variables entered/removed ^b			
Model	Variables Entered	Variables removed	Method
1	Family income ^a	.	Enter

a. All requested variables entered

b. Dependent Variable: reduction of smoking due to increase in the excise duties on tobacco products

Model summary ^b				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	.276 ^a	.076	.074	1.199

a. Predictors Q (Constant), Family income

b. Dependent Variable: reduction of smoking due to increase in the excise duties on tobacco products

ANOVA ^b						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	47.936	1	47.936	33.355	.000 ^a
	Residual	579.175	403	1.437		
	Total	627.111	404			

a. Predictors Q (Constant), family income

b. Dependent Variable: reduction of smoking due to increase in the excise duties on tobacco products

Coefficients ^a						
Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.092	.139		15.092	.000
	Family income	.179	.031	.276	5.775	.000

a. Dependent Variable: reduction of smoking due to increase in the excise duties on tobacco products

Residuals statistics ^a						
	Minimum	Maximum	Mean	Std. deviation	N	
Predicted Value	2.27	3.35	2.81	.344	405	
Residual	-2.168	2.729	.000	1.197	405	
Std. Predicted Value	-1.578	1.547	.000	1.000	405	
Std. Residual	-1.809	2.276	.000	.999	405	

a. Dependent Variable: reduction of smoking due to increase in the excise duties on tobacco products

Regression C

Variables entered/removed ^b			
Model	Variables entered	Variables removed	Method
1	Education ^a	.	Enter

a. All requested variables entered

b. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Model summary ^b				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	.118 ^a	.014	.011	1.209

a. Predictors Q (Constant), education

b. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

ANOVA ^b						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	8.324	1	8.324	5.691	.018 ^a
	Residual	589.453	403	1.463		
	Total	597.778	404			

a. Predictors Q (Constant), Education

b. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Coefficients ^a						
Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. error	Beta	t	Sig.
1	(Constant)	3.099	.162		19.172	.000
	Education	-.145	.061	-.118	-2.386	.018

a. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Residuals statistics ^a					
	Minimum	Maximum	Mean	Std. deviation	N
Predicted Value	2.23	2.95	2.74	.144	405
Residual	-1.954	2.625	.000	1.208	405
Std. Predicted Value	-3.560	1.485	.000	1.000	405
Std. Residual	-1.616	2.171	.000	.999	405

a. Dependent Variable: reduction of quality of life due to increase in the excise duties on tobacco products

Regression D

Variables entered/removed ^b			
Model	Variables entered	Variables removed	Method
1	Education ^a	.	Enter

a. All requested variables entered

b. Dependent Variable: reduction of smoking due to increase in the excise duties on tobacco products

Model summary ^b				
Model	R	R Square	Adjusted R square	Std. error of the estimate
1	.122 ^a	.015	.012	1.238

a. Predictors Q (Constant), Education

b. Dependent Variable: Reduction of smoking due to increase in the excise duties on tobacco products

ANOVA ^b						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	9.261	1	9.261	6.041	.014 ^a
	Residual	617.850	403	1.533		
	Total	627.111	404			

a. Predictors Q (Constant), Education

b. Dependent Variable: Reduction of smoking due to increase in the excise duties on tobacco products

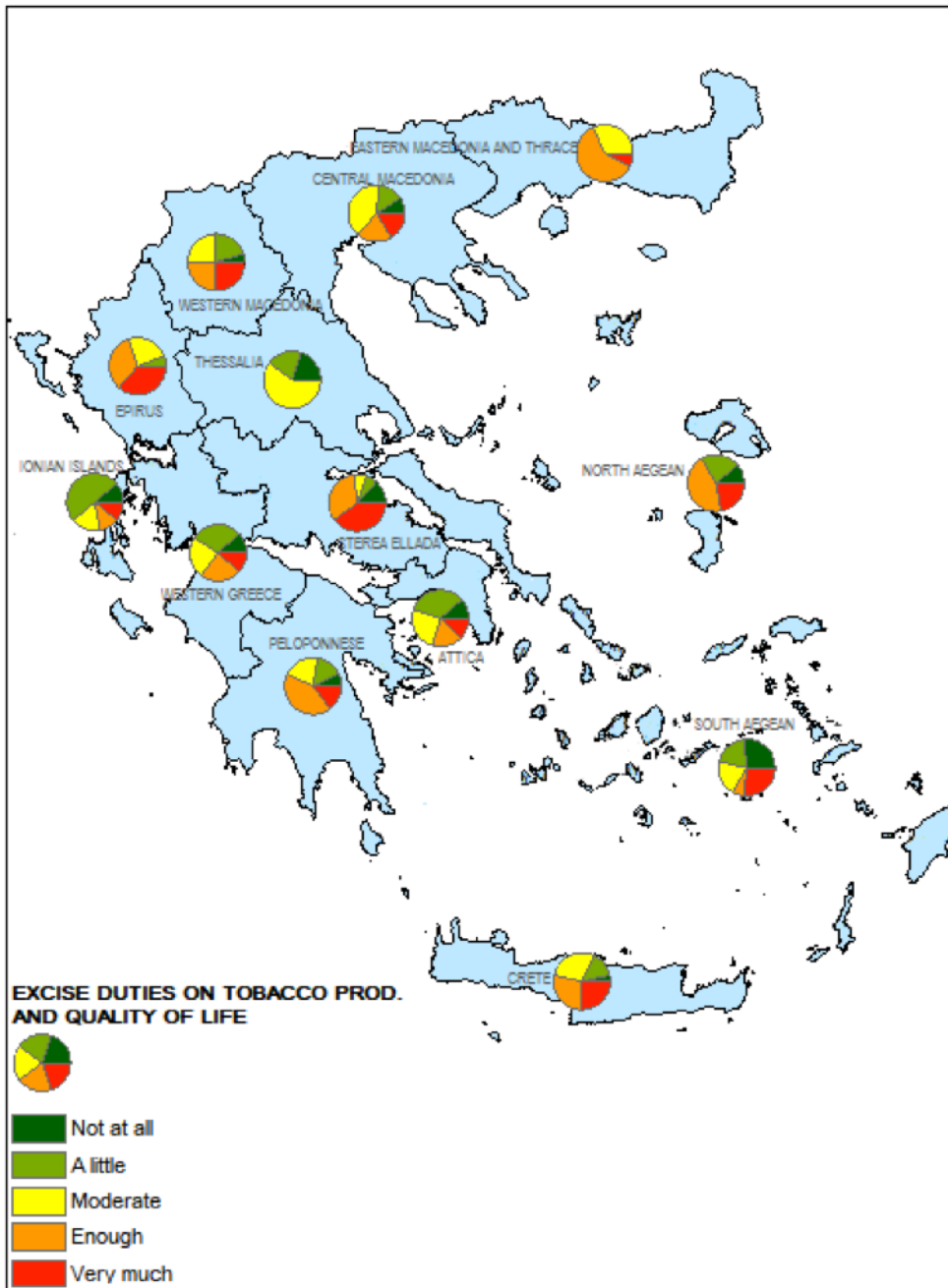
Coefficients ^a						
Model		Unstandardised coefficients		Standardised coefficients		
		B	Std. error	Beta	t	Sig.
1	(Constant)	3.192	.165		19.292	.000
	Education	-.153	.062	-.122	-2.458	.014

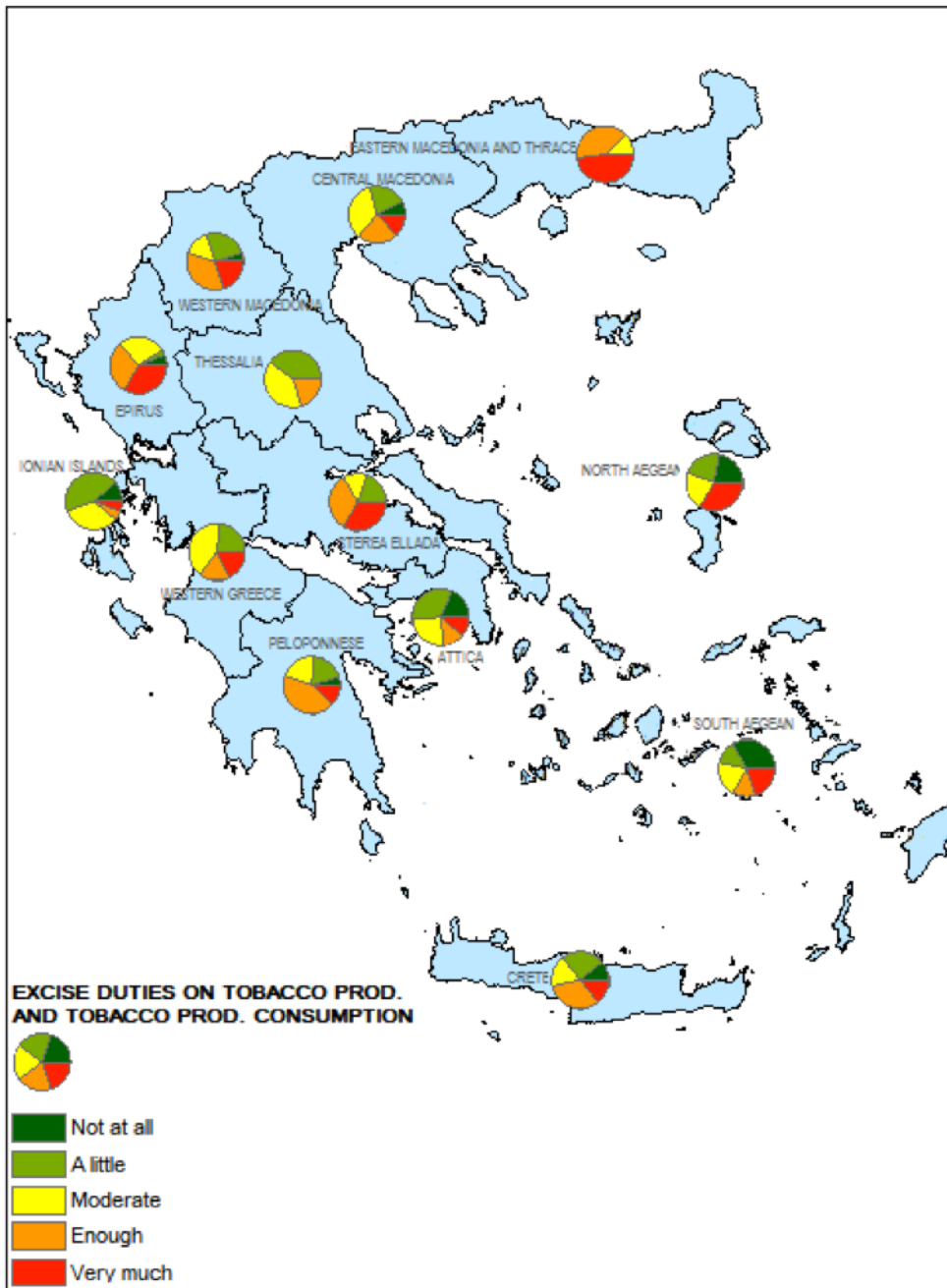
a. Dependent Variable: Reduction of smoking due to increase in the excise duties on tobacco products

Residuals statistics ^a					
	Minimum	Maximum	Mean	Std. deviation	N
Predicted Value	2.28	3.04	2.81	.151	405
Residual	-2.040	2.724	.000	1.237	405
Std. Predicted Value	-3.560	1.485	.000	1.000	405
Std. Residual	-1.647	2.200	.000	.999	405

a. Dependent Variable: Reduction of smoking due to increase in the excise duties on tobacco products

APPENDIX 4: GIS presentation





The impact of trade costs upon gross domestic product: the customs efficiency index as a mediator

Ümit Çelebi

Abstract

Trade costs are important determinants of international trade and economic development. In these relationships customs efficiency plays a critical role. Studies commonly highlight the role of customs efficiency as a significant driver behind the reduction of trade costs. Our study differs from those previously in the sense that our main aim was to explore how and to what extent customs efficiency mediates trade costs and gross domestic product. By utilising hierarchical regression as well as the Baron and Kenny mediation methods, we analysed the dataset of 80 countries for the years 2007, 2010, 2012, 2014 and 2016. The result of the mediation analysis and the Sobel test shows that the customs efficiency index fully mediates trade costs and gross domestic product (GDP). In reducing trade costs to reach a higher level of GDP, the role of customs efficiency is significant.

Keywords: customs efficiency index, GDP, mediation analysis and trade costs

1. Introduction

We aimed to examine the role of the customs efficiency index (CEI) to see how and to what extent it mediates trade costs (TC) and gross domestic product (GDP).

TC have important effects on a country's trade and economic development, and many factors contribute to the costs of trade. Transportation, border-related trade barriers and wholesale and retail distribution account for a large share. In the developed world, they may be as high as 170 per cent of the value of the goods. Considering tariffs that are now down to as low as five per cent of the goods' value, TC remain a major point of concern inhibiting higher levels of economic development (Anderson & van Wincoop, 2004).

Among the many factors playing a role in TC, the level of efficiency of customs processes is critical. Much of the information and documents demanded by different national customs varies widely. These variations increase costs and delays which in turn negatively impact trade and competitiveness. For example, in Vietnam the time to export goods, including document preparation, customs clearance, port and terminal handling as well as inland transport and handling is 24 days at a cost of USD669 per 20-foot container, while in Rwanda, these delays are doubled and the costs are quadrupled (Korinek & Sourdin, 2011, p. 8). In contrast, simplification and facilitation in customs processes increase efficiency and provide a more favourable environment for trade and economic development (Saslavsky & Sheperd, 2014).

Previous studies regard customs efficiency and trade facilitation as one of the main drivers in the reduction of TC (Marti & Puertas, 2017; Staboulis et. al., 2020; Moise et. al., 2011; Memedovic et.al., 2008; Arvis et. al., 2016a). This study, however, explores the role of CEI as a mediator variable and aims to investigate its relationship to TC and GDP. This is because CEI may also have a reverse relationship with TC – analysing this relationship with GDP has been ignored but is considered to be necessary. We contend that exploring the mediator role of the CEI in the relationship between TC and GDP would further contribute to the field. To do this, we developed hypotheses and tested them using secondary data. To analyse and validate the results we used hierarchical regression and mediation analyses.

In the first part of this study, we explain the definitions and background of the concepts in our model. In the second part we develop hypotheses. In the third, we outline the research method, sampling and measurements. In the fourth part, we test the hypotheses and analyse the results. Finally, we draw some conclusions based on our analyses.

2. Background

From an economic perspective, the price of goods is determined at the time and the place of the final delivery to the end user. The goods are valued more where and when they are needed most. To fulfil this objective, the occurrence of TC is inevitable. Apart from the production costs of the goods, TC are made up of various elements, including transportation, policy barriers, information costs, contract enforcements costs, the cost of dealing with different languages, currencies, local legal and regulatory costs and local distribution costs. TC may be as high as 170 per cent of production costs in a typical developed country, the major components being 21 per cent transport costs, 44 per cent border-related trade barriers and 55 per cent local distribution (Staboulis et. al., 2020). Economic policies have considerable effects on the TC especially around physical transport, trade infrastructure and regulation. Their impacts on national welfare are calculated to be around 10 per cent (Anderson & van Wincoop, 2004).

TC vary by income groups and the nature of the trade (Table 1). The costs are higher in trade in agricultural goods than in manufacturing because of higher protectionism in the former. Secondly, TC increase in lower-income countries due to the higher trade barriers (Arvis et al., 2016a), though remain a major concern even for developed countries (Goodwin, 2017).

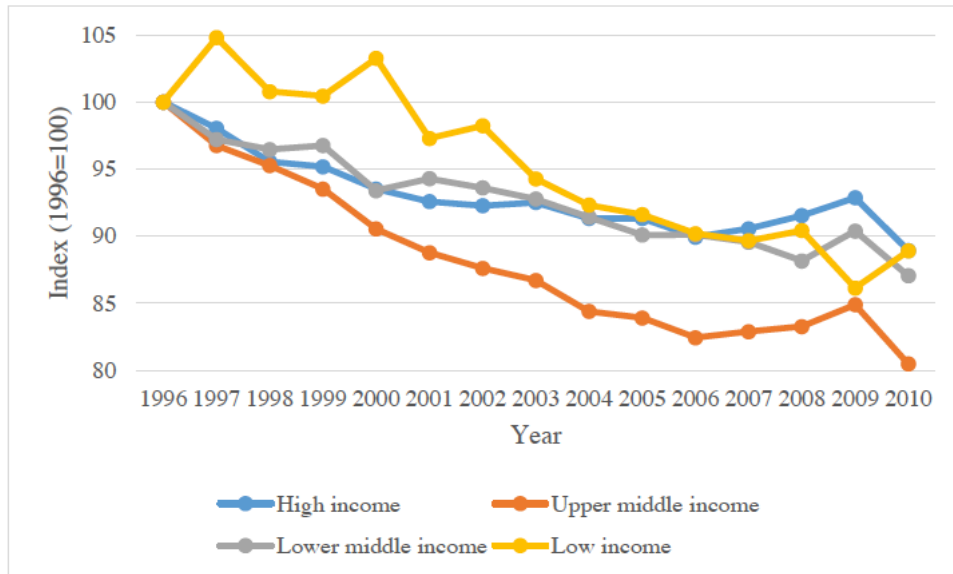
Table 1: TC as a percentage of goods' value by sector and income group

Income group	Manufacturing %	Agriculture %
High income	82.39	141.11
Upper middle income	98.09	166.57
Lower middle income	125.08	187.67
Low income	227.08	310.63

Source: Arvis et.al. (2016a), p. 19

As far as trade in manufacturing goods is concerned, TC have been reducing over the years for all income groups (Figure 1). The rate of decline is higher in richer countries due to the higher rate of liberalisation and facilitation (Arvis et al., 2016a).

Figure 1: World TC (manufactured goods)



Source: Arvis et.al. (2016a), p. 23

The Organisation for Economic Co-operation and Development (OECD) developed Trade Facilitation Indicators (TFI) to assist policy makers to improve border procedures, reduce trade costs and increase world trade. They are based on specific measures designed to bring simplification, standardisation and automation to customs and border processes providing opportunities for significant savings. The decrease of TC is estimated to be 13.2 per cent in the upper income group, 14.4 per cent for low-income countries and 15.5 per cent for middle-income countries (Moise & Sorescu, 2013). In another study, the overall savings are estimated to be almost 10 per cent of overall TC (Moise et.al., 2011) with speed and timeliness being key factors. In this regard, efficient processes in Customs prevent delays and secure delivery times in the global supply chain. A one-day reduction in the time spent in Customs corresponds to a 0.6 per cent decrease in customs tariffs. Assuming that all trade facilitation measures are implemented, a 0.9 per cent decrease in import costs and a 1.2 per cent decrease in export costs may be achieved. In terms of global welfare, as much as USD210 billion may be saved by preventing delays in customs processes. Table 2 gives an estimation of the global welfare gains, noting that China alone accounts for almost one-quarter of the total global gains. (Hilberly & Zhang, 2015).

Table 2: Potential benefits of trade facilitation

Import gains			
Country	Reduction in days	Welfare gain (billions of USD)	Share of global total
China	2.12	24.60	0.24
Mexico	2.70	7.16	0.07
Russia	3.35	7.01	0.07
Italy	1.93	5.56	0.06
Indonesia	3.63	4.63	0.05
Export gains			
Country	Reduction in days	Welfare gains (billions of USD)	Share of global total
China	2.48	32.76	0.30
Mexico	1.54	3.60	0.03
Russia	3.98	14.03	0.13
Saudi Arabia	1.96	4.56	0.04
Indonesia	3.21	4.01	0.04

Source: Hilberry and Zhang (2015), p. 36

One of the indicators of trade facilitation is cited as the CEI (Saslavsky & Sheperd, 2013). It is defined as speed, simplicity and predictability of formalities shown in the clearance process (The World Bank, 2014). With more efficient clearance processes at the border, reduced delays and costs may be achieved. In contrast, unpredictable delays at the border cause significant harm, exceeding the negative effects of traditional tariff measures (OECD, World Trade Organization [WTO] and The World Bank, 2014). Traders rate the speed, simplicity and predictability of the customs clearance process as critical success factors in their international competitiveness. Countries on the other hand see customs efficiency as an important driver in boosting trade, investment and national welfare. This also makes the role of customs authorities more like a trade facilitator than a mere protector of public interest (The World Bank, 2016).

World production and trade increasingly takes place within global value chains (GVCs). In these chains trade is based on the intermediate goods flow for import, process and finally export. This makes multiple border crossings a necessity and passing across borders each and every time requires a high degree of customs efficiency (Memedovic et. al., 2008; Baldwin & Lopez-Gonzalez, 2015; Baskol, 2016; Kowalski et. al., 2015). The CEI is one of the six dimensions of trade in the logistics performance index (LPI), published bi-annually by the World Bank. The LPI provides qualitative evaluations of a country by its trading partners – logistics professionals working outside the country. The CEI indicates the efficiency of customs and border clearance. It rates the countries from very low

(1) to very high (5). It is one of the main inputs required for a country to reach a higher level of supply chain and logistics performance (OECD/International Transport Forum [ITF], 2016).

Nations ultimately strive to reach a higher GDP per capita level for their economic development and exploring the effect of TC and the CEI on GDP per capita is therefore necessary. GDP per capita is one of the indicators of economic health and wellbeing of countries. It refers to the value in the products and services produced in a country per capita: GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products (The World Bank, 2022a). Against this background we now develop the hypotheses.

3. Hypotheses development

The hypotheses were developed to reflect the dual relationship of the variables as follows.

3.1 The effect of TC on the CEI

While inefficiency of customs is a driver of higher levels of TC, the reverse may also be at play: various direct and indirect costs of trade, such as trade and transport infrastructure, may well be negatively impacting the efficiency of Customs (Korinek & Sourdin, 2009). For example, the lack of efficient and effective transport and port infrastructure has a negative impact on the functioning of border administrations (Keçeli, 2011) and poor infrastructure often explains the lengthy waiting times and congestion and accounts for 40 to 60 per cent of a country's transport cost (Limao & Venebles, 2001). An insufficient level of information communication technology (ICT) infrastructure is cited as another area in increasing the cost of trade and transport, resulting in customs inefficiency. Customs automation, prearrival clearance, risk analysis, electronic submission of custom documents, information management and terminal operations and electronic single windows all heavily depend on well-functioning ICT systems (Korinek & Sourdin, 2011, Ojala & Çelebi, 2015).

Against this background the following hypothesis was developed:

H_1 : TC have a negative effect on the CEI.

3.2 The effect of the CEI on GDP

TFI measure simplification, standardisation and digitalisation of customs processes required to reach higher levels of efficiency in Customs (OECD, WTO and The World Bank, 2014). Higher levels of efficiency in Customs and border management processes have a strong positive impact on competitiveness and economic development (Korinek & Sourdin, 2011). The CEI – being an important driver of logistics performance – is closely related to economic growth (Memedovic et. al., 2008). In contrast, cumbersome customs processes cause delays and act as significant barriers to trade and economic development (Hummels & Schaur, 2013). Sanchez et. al. (2014) find that the rise in logistics performance positively impacts a nation's level of economic development, and timely delivery of goods and a high quality of logistics services necessitate efficiency in customs. Çelebi et. al. (2015) and Çelebi (2018, 2021) find that logistics performance has a significant impact on GDP.

In light of the existing literature the following hypothesis was developed:

H_2 : The CEI has a positive effect on GDP.

3.3 The effect of TC on GDP

Easier, faster and cheaper access to products and services from around the world through a reduction in TC stimulates a nation's level of economic development (ITF, 2015). In this relationship, the high quality of trade and transport infrastructure and administrative procedures are particularly critical (Duranton et. al., 2014; Korinek & Sourdin, 2011). Poor trade and transport infrastructure and cumbersome regulations, in contrast, increase the cost of trade, inhibiting economic development (Togan, 2016). In light of the existing literature the following hypothesis was developed:

H₃: TC have a negative effect on GDP.

3.4 CEI mediates TC and GDP

Countries ultimately aim to reach higher levels of GDP per capita for their citizens. One way to achieve this depends significantly on how competitive their trade is in manufacturing products globally. To be competitive on a global scale requires countries in turn to simultaneously achieve lower levels of TC and higher CEI (Hoekman, 2014). In this interplay, the quality of trade and transport infrastructure and policies is especially important as it helps improve both indicators to reach higher level of GDP per capita (Arvis et.al., 2016a; Togan, 2016).

In light of the existing literature the following hypothesis was developed:

H₄: The CEI mediates TC and GDP.

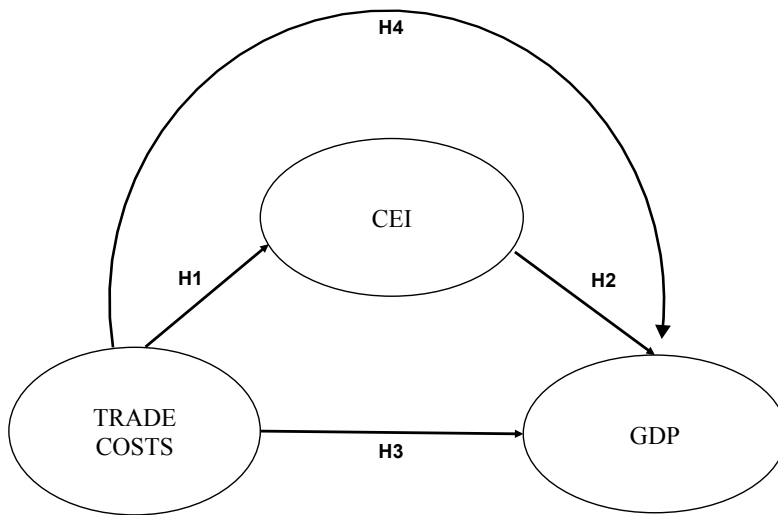
4. Research methods

We conducted a mediator analysis using the Baron and Kenny (1986) method. This method of analysis explores to what extent the effect of the independent variable on the dependent variable occurs through the effect of another variable –a mediator variable. This variable – according to Baron and Kenny – plays a mediator role in the interplay between independent and dependent variables when the following conditions are met:

- a change in the independent variable causes the mediator variable to change
- a change in the mediator variable causes the dependent variable to change
- when the mediator and the independent variables are included in the analysis together, the influence of the independent variable on the dependent variable decreases or completely disappears.

Figure 2 shows a conceptual model of the research. To test the hypotheses, we used hierarchical multiple regression.

Figure 2: Conceptual model



Source: Authors

CEI, TC and GDP are the variables of the research model and the three regression equations are designed to test the interrelationships. Model 1 is based on the third hypothesis (H3) testing the effect of TC (the independent variable) on GDP (the dependent variable). Model 2 is based on the first hypothesis testing the effect of TC (the independent variable) on CEI (the mediator variable). Model 3 is based on the second and fourth hypotheses testing the effects of both TC (the independent variable and CEI (the mediator variable) on GDP (the dependent variable). In the following equations β_0 denotes the intercept of the regression line, β_1 denotes the slope of the regression line and ε denotes the error term.

$$\text{Model 1: } \text{GDP} = \beta_0 + \beta_1 \cdot \text{TC} + \varepsilon \quad (\text{H}_3)$$

$$\text{Model 2: } \text{CEI} = \beta_0 + \beta_1 \cdot \text{TC} + \varepsilon \quad (\text{H}_1)$$

$$\text{Model 3: } \text{GDP} = \beta_0 + \beta_1 \cdot \text{TC} + \beta_2 \cdot \text{CEI} + \varepsilon \quad (\text{H}_2 \text{ and } \text{H}_4)$$

5. Measurements and sampling

We used the datasets of TC, CEI and GDP per capita. We took the CEI and GDP per capita dataset from the World Bank world development indicators (World Bank, 2022b) and TC data from the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP, 2021). Since secondary data were used there was no need to determine the validity and reliability of the scales. Therefore, confirmatory factor analysis was not conducted. This was not an analysis of comparison or of changes in time. Instead, the main motivation was to explore the linear relationships in the selected period. The period used was thus deemed sufficient for the purpose and the scope of the study.

We analysed data for the years 2007, 2010, 2012, 2014 and 2016 for a total of 80 countries. We used 2007 as the first year, because it was the year when the CEI was first published. After 2007, the World Bank continued to publish it bi-annually, in 2010, 2012, 2014 and 2016. We limited our analysis of TC to trade in manufacturing goods and excluded TC to trade in agricultural goods. For bilateral TC, we used Turkey as a reporting country and the other countries as partners. To fill the data row for Turkey as a partner country, we used Germany's bilateral costs with Turkey.

TC are bilateral trading costs among country pairs. There are several measurements attempting to measure trade costs: some are only concerned with cost components directly related to TC, such as the cost of moving standard containers internationally or the costs of delivering goods to the next seaport from a factory including the cost of processing paperwork, customs clearance, transport and handling. The dataset published by UN-ESCAP on the other hand offers a comprehensive measure for TC. It consists of all costs related to trading goods with international partners. This bilateral measurement nature of TC includes all costs involved in trading goods internationally with another partner (that is, bilaterally) relative to those involved in trading goods domestically (that is, intranationally). It captures TC in a broader sense, including not only international transport costs and tariffs but also other trade cost components associated with differences in languages and currencies, as well as cumbersome import or export procedures (Anderson & van Wincoop, 2004).

The CEI is based on survey participants consisting of logistics experts around the world that are requested to evaluate the eight countries with the highest business flow with their home country (Arvis et al., 2016b).

GDP per capita is an indicator of national economic output published by the World Bank, which describes it as “gross domestic product divided by midyear population. GDP at purchaser’s prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 US dollars” (World Bank, 2022a, ‘Long definition’ section).

We used this dataset to test our hypotheses and the SPSS program to apply hierarchical regression. The Baron and Kenny (1986) mediation methods and Sobel (1982) tests were used for analysis and validation of the results. The results of the analysis are described below.

6. Analysis of results

Baron and Kenny’s (1986) method requires a relationship among the variables shown in the models as a first step (Civelek, 2018). We calculated the correlation coefficients accordingly. Table 3 shows that the relationships among the variables were statistically significant:

Table 3: Correlation coefficients

	CEI	TC	GDP
CEI	1		
TC	-0.391*	1	
GDP	0.784*	0.331*	1

*Correlation is significant at the 0.01 level

We developed three models to test the mediator effect. Table 4 shows the R and R² values of these models, while Table 5 outlines the results of the analysis of variance (ANOVA).

Table 4: Model summaries

Models	R	R ²	Adjusted R ²	Standard error of the estimate
Model 1	0.331	0.110	0.108	19644.0463
Model 2	0.391	0.153	0.151	0.55744
Model 3	0.784	0.615	0.613	12933.2906

Table 5: ANOVA tables

Models		Sum of squares	Degrees of freedom	Mean square	F	Significance level (p)
1	Regression	1.893E+10	1	1.893E+10	49.068	0.000
	Residual	1.536E+11	398	385888554		
	Total	1.725E+11	399			
2	Regression	22.348	1	22.348	71.919	0.000
	Residual	123.675	398	,311		
	Total	146.023	399			
3	Regression	1.061E+11	2	5.306E+10	317.188	0.000
	Residual	6.641E+10	397	167270006		
	Total	1.725E+11	399			

We found that the ANOVA results of the models are statistically significant, as shown in Table 6.

Table 6: ANOVA results of the models

Relationship	Model 1	Model 2	Model 3
TC → GDP	-0.331*		-0.029
TC → CEI		-0.391*	
CEI → GDP			0.772*

Note: Regression coefficients are standardised. *p<0.01.

→ (arrows) indicates the direction of relations and effect.

We conducted the Sobel test (Sobel, 1982) to validate the results reached by the Baron and Kenny (1986) method. We note that the Sobel test is significant, as shown in Table 7.

Table 7: Sobel test results

	Sobel Test statistic	Significance level (p)
TC → CEI → GDP	-22.82933165	0.00*

*p<0.01

→ (arrows) indicates the direction of relations and effect.

7. Conclusion

Table 6 shows that the test results are statistically significant and supported all the hypotheses, as follows:

- H₁: TC have a significant negative effect on the CEI ($\beta_{\text{model2}} = -0.391, p < 0.01$)
- H₂: The CEI has a positive effect on GDP ($\beta_{\text{model3}} = 0.772, p < 0.01$)
- H₃: TC have a negative effect on the GDP ($\beta_{\text{model1}} = -0.331, p < 0.01$)
- H₄: The CEI has a mediator role in the relationship between TC and GDP ($\beta_{\text{model3}} = -0.029, p < 0.39$).

When we included the CEI as a mediator variable in the model we found that the effect of TC on GDP dropped, with the value of the β coefficient decreasing greatly and becoming statistically insignificant. We thus concluded that the CEI fully mediates the relationship between TC and GDP.

The motivation behind this research was to explore the mediating effect of the CEI in the relationships between TC and GDP. TC affect both the CEI and GDP. When TC decrease, GDP and the CEI increase. The results of this research support these relationships. The results also show that the CEI plays a role in this relationship and this role is of a full mediator nature. By including customs efficiency in the relationship, the previous effect of TC on GDP falls and becomes insignificant.

These results lead to the following policy implications: efforts to reduce TC are crucial in gaining a higher level of GDP per capita. At the same time, policies to improve the CEI are also important and should concurrently be implemented. Further research using different income groups of countries and time periods would extend the contribution to the field.

References

- Anderson, E. J., & Wincoop, v. E. (2004). Trade costs. *Journal of Economic Literature*, 42(3), 691–751. <https://doi.org/10.1257/0022051042177649>
- Arvis, J., Duval, Y., Shepherd, B., Utoktham, C., & Raj, A. (2016a). Trade costs in the developing world: 1996–2010. *World Trade Review*, 15(3), 451–474. doi:10.1017/S147474561500052X
- Arvis, J-F., Saslavsky, D., Ojala, L., Shepherd, B., Busch., C, Raj, A., & Naula, T. (2016b). *Connecting to compete 2016: trade logistics in the global economy – the logistics performance index and its indicators*. World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/24598/Connecting0to00n0the0global0economy.pdf?sequence=1&isAllowed=y>
- Baldwin, R., & Lopez-Gonzalez, J. (2015). Supply chain trade: a portrait of global patterns and several testable hypotheses. *The World Economy*, 38(11), 1682–1721. <https://doi.org/10.1111/twec.12189>
- Baron, R., & Kenny, D. (1986). The moderator - mediator variable distinction in social psychological research: conceptual, strategic and statistical consideration. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Başkol, M. O. (2016). An analysis of the import dependence of Turkey’s exports from the point of the inward processing regime. *The International Journal of Economic and Social Research*, 12, 1–18.
- Çelebi, Ü. (2018). *The role of logistics in the economy*. Ati Publishing.
- Çelebi, Ü., Civelek, M., & Çemberci, M. (2015). The mediator effect of foreign direct investments on the relation between logistics performance and economic growth. *Journal of Global Strategic Management*, 9(1), 17–21. <http://doi.org/10.20460/jgsm.2015915624>
- Çelebi, Ü. (2021). The impacts of logistics performance index upon gross domestic product: mediating roles of foreign direct investment and patents. *Journal of Global Strategic Management*, 14(2), 29–46. <http://doi.org/10.20460/jgsm.2021.297>
- Civelek, M. (2018). *Essentials of Structural Equation Modeling*. Zea Books.
- Duranton, G., Morrow M. P., & Turner, A. M. (2014). Roads and trade: evidence from the US. *Review of Economic Studies*, 81, 6817–24.
- Goodwin, A. (2017). *Brexit – Customs borders will impose costs and delays*. Oxford Economics, Wiley-Blackwell, pp. 11–18.
- Hilberry, R., & Zhang, X. (2015). Policy and performance in customs, evaluating the Trade Facilitation Agreement. *Policy Research Working Paper*, World Bank Group, 7211, 1–40. <https://doi.org/10.1111/roie.12338>
- Hoekman, B. (2014). *Governance of deeper economic integration in a supply chain world*. Robert Schuman Centre for Advanced Studies, European University Institute.
- Hummels, L. D., & Schaur, G. (2013). Time as a trade barrier. *American Economic Review*, 103(7), 2935–2959. <https://doi.org/10.1257/aer.103.7.2935>

- Keçeli, Y. (2011). A proposed innovation strategy for Turkish port administration policy via information technology. *Maritime Policy & Management*, 38(2), 151–167.
- Korinek, J., & Sourdin, P. (2009). *Maritime transport costs and their impact on trade*. OECD Trade Policy Papers, 108, 151–167.
- Korinek, J., & Sourdin, P. (2011). *To what extent are high-quality logistics services trade facilitating*. OECD Trade Policy Papers, 108, 1–41. <http://doi.org/10.1787/5kkgdthrj1zn-en>
- Kowalski, P., Lopez-Gonzalez, J., Ragoussis, A., & Ugarte, C. (2015). *Participation of developing countries in global value chains: implications for trade and trade-related policies*. OECD Trade Policy Papers, 179, 1–170. <https://doi.org/10.1787/5js331fw0xxn-en>
- Limao, N., & Venables J. A. (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *The World Economic Review*, 15(3), 451–479. <https://doi.org/10.1093/wber/15.3.451>
- Marti, L., & Puertas, R. (2017). Factors determining the trade costs of major European Exporters. *Marit Econ Logist*, 21, 324–333. <https://doi.org/10.1057/s41278-017-0093-5>
- Memedovic, O., Ojala, L., Rodrigue, J-P., & Naula, T. (2008). Fuelling the global value chains: what role for logistics capabilities? *Int. J. Technological Learning, Innovation and Development*, 1(3), 353–374. <https://doi.org/10.1504/IJTLID.2008.019978>
- Moise, E., Orliac, T., & Minor, P. (2011). *Trade Facilitation Indicators: the impact on trade costs*. OECD Trade Policy Papers, 118. Publishing. <https://doi.org/10.1787/5kg6nk654hmr-en>
- Moise, E., & Sorescu, S. (2013). *Trade Facilitation Indicators: the potential impact of trade facilitation on developing countries' trade*. OECD Trade Policy Papers, 144, 1–96. <http://dx.doi.org/10.1787/5k4bw6kg6ws2-en>
- International Transport Forum. (2015). *Drivers of logistics performance: a case study of Turkey*. International Transport Forum Policy Papers No. 9. OECD Publishing. <https://doi.org/10.1787/5jlwvzd3pks2-en>.
- The Organisation for Economic Co-operation and Development/International Transport Forum. (2016). *Logistics development strategies and performance measurement* (Roundtable Report 158). ITF. <https://www.itf-oecd.org/sites/default/files/docs/logistics-strategy-performance-management.pdf>
- The Organisation for Economic Co-operation and Development (OECD), World Trade Organization (WTO) and The World Bank, (2014, July 19). *Global value chains: challenges, opportunities, and implications for policy*. Report prepared for submission to the G20 Trade Ministers Meeting, Sydney, 1–53. <http://www.g20.utoronto.ca/2014/Global%20Value%20Chains%20Challenges%20Opportunities%20and%20Implications%20for%20Policy.pdf>
- Ojala, L., & Çelebi, D. (2015). *The World Bank's logistics performance index (LPI) and drivers of logistics performance*. Prepared for the Roundtable on Logistics Development Strategies and their Performance Measurements (9–10 March 2015, Queretaro). OECD/ITF, 158, 69–95. <https://www.itf-oecd.org/sites/default/files/docs/ojala.pdf>
- Sanchez, J. R., Tomassian, C, G., & Perrotti, E, D. (2014). Economic development and logistics performance. *Revista de Economia Mundial*, 38, 27–48.
- Saslavsky, D., & Shepherd, B. (2014). Facilitating international production networks: the role of trade logistics. *Journal of International Trade and Economic Development*, 23(7), 979–999. <https://doi.org/10.1080/09638199.2013.811534>
- Sobel, M. (1982). Asymptotic intervals for indirect effects in structural equations models. *Sociological methodology*, 290–312. <https://doi.org/10.2307/270723>
- Staboulis, C., Natos, D., Tsakiridou, E., & Mattas, K. (2020). International trade costs in OECD countries. *Oper Res Int J*, 20, 1177–1187. <https://doi.org/10.1007/s12351-018-0388-z>

- Togan, S. (2016). *The liberalization of transportation services in the EU and Turkey*. Oxford University Press.
- United Nations Economic and Social Commission for Asia and the Pacific. (2021, July 1). *ESCAP-World Bank Trade Cost Database*. <https://www.unescap.org/resources/escap-world-bank-trade-cost-database>
- The World Bank. (2014). *Connecting to compete 2014, trade logistics in the global economy, LPI and its indicators*. World Bank. <https://openknowledge.worldbank.org/handle/10986/20399>
- The World Bank. (2022a). *Databank: metadata glossary*. The World Bank Group. <https://databank.worldbank.org/metadataglossary/world-development-indicators/series/NY.GDP.PCAP.KD.ZG#:~:text=GDP%20per%20capita%20is%20gross,the%20value%20of%20the%20products>.
- The World Bank. (2022b). *Databank: world development indicators*. The World Bank Group. Retrieved June 1, 2021, from <https://databank.worldbank.org/source/world-development-indicators>

Dr Ümit Çelebi



Dr Ümit Çelebi is a lecturer at İstanbul Okan University Faculty of Applied Science in the Department of Aviation Management. He received his PhD in European Union Economics, Law and Political Science from Istanbul University Institute of Social Sciences. He holds a master's in international business from Southbank University and an MBA from Middlesex University. He has worked for over 30 years in senior management for major multinationals like Xerox and DHL where he successfully led major projects such as Eurasia Logistics Manual, Electronic Data Interchange, Import/Export Control Systems, Clear in the Air and Customs Bonded Facilities. He now teaches courses and performs research in aviation logistics, supply chain management, international trade and customs. ORCID iD: 0000-0002-2779-4168.

Application of the European Union (EU) non-preferential rules of origin for goods as a measure to extend the scope of trade restrictions

Ewa Gwardzińska and Jakub Chowaniec

Abstract

This article analyses the non-preferential rules of origin for internationally traded goods based on European Union (EU) customs law. This issue is rarely examined in scientific research, which has created a serious gap in knowledge. The rules of origin of goods under customs law do not often perform a neutral function in international trade. On the contrary, they often intentionally serve to expand the scope of trade restrictions. This article discusses the general international rules introduced by the World Trade Organization (WTO) Agreement on Rules of Origin. It also analyses the methods and rules of determining the EU non-preferential origin of goods based on two criteria. The first criterion is related to the determination of rules when only one country is involved in the manufacture of the goods. The other relates to the case where two or more countries deal with the manufacture of the goods. In addition, the method of documenting the non-preferential origin of goods is discussed. The role of binding origin information (BOI) in determining the origin of goods is also discussed. The analysis concludes with a reflection on the principle of non-discrimination and equal treatment in legal terms in relation to the non-preferential rules of origin of goods.

Keywords: origin of goods, non-preferential rules of origin, most-favoured nation, agreement on rules of origin, binding origin information (BOI)

1. Introduction

The rules of origin of goods under customs law are one of the most important components of the calculation of duty payable, together with tariff classification and the customs value of goods. There is a close relationship between the determination of the origin of goods for customs purposes and the amount of customs duties payable on the import of goods because the application of a specific rate of duty to a given product often depends on a determination of its origin. Thus, the origin of goods is an important component for the determination of customs duties. Consequently, the application of non-preferential rules of origin can deliberately serve to extend the scope of trade restrictions, thereby contradicting the general principle of international trade policy that rules of origin should play a neutral and non-protectionist role (World Trade Organization [WTO], n.d.-a).

Under customs law, rules of origin are methods of determining from which country a product originates, that is, where it was manufactured or obtained, and not from which country it was imported. Thus, they serve to determine the 'nationality' of goods traded internationally. They fall under the

principle of equal treatment under the law and the principle of non-discrimination. While in the colloquial sense the terms equality and non-discrimination are mostly treated as synonymous, in the legal context they are not mutually exchangeable.

Equality and non-discrimination are distinguished by the nature of obligations incumbent on public authorities. In the first, they are positive in nature and consist of taking specific actions in support of equality. In the second, the obligations are negative and involve refraining from certain actions that could violate the principle of equal treatment. Thus, equality is not equivalent to equal treatment, but it may require a different treatment to equalise opportunities or ensure equal outcomes. The principle of non-discrimination, therefore, requires equal treatment, but the scope of the principle of equality is broader than the principle of non-discrimination and includes the duty to treat equally, protect against discrimination, promote equality, and prevent inequality (Smith, 2016; Krygier, 2016).

The application of these principles to the rules of origin of goods is necessary to introduce differential treatment of goods from different countries or territories and to introduce certain market access facilities (preferential origin of goods) or to treat goods from a particular country less favourably than those from other countries (non-preferential origin of goods).

2. The Agreement on Rules of Origin

The non-preferential rules of origin are governed by the Agreement on Rules of Origin, which constitutes Annex 1A to the Marrakesh Agreement Establishing the WTO (WTO, n.d.-a).

Under this agreement, the rules of origin are defined as the laws and regulations, as well as administrative and implementing provisions, applied by any member to determine the country of origin of goods, provided that such rules of origin are not linked to contractual or autonomous trade regimes leading to the granting of tariff preferences beyond the meaning of paragraph 1 of Article I of GATT 1994 (WTO, 1994). The rules of origin include all rules of origin applied in non-preferential trade policy instruments, such as the application of most-favoured nation treatment under Articles I, II, III, XI, and XIII of the GATT 1994; anti-dumping and countervailing duties under Article VI of the GATT 1994; safeguard measures under Article XIX of the GATT 1994; origin marking requirements under Article IX of the GATT 1994; and any discriminatory quantitative restrictions or tariff quotas. They also include rules of origin applicable to government procurement and trade statistics.

The Agreement on Rules of Origin provided for the creation of harmonised rules by 1998, but work is still ongoing in this area under the Harmonization Work Programme (WCO, n.d.-a). The international institutions implementing the program are the WTO Committee on Rules of Origin (CRO), which reports to the WTO Council for Trade in Goods (CTG), and the WCO Technical Committee on Rules of Origin (TCRO), which was established with the support of the World Customs Organization (WCO) to undertake technical work. Membership of both committees is limited to WTO members. However, the TCRO accepts as observers those WCO members who are not WTO members, as well as some international organisations, including the WTO, the Organisation for Economic Co-operation and Development (OECD), United Nations Conference on Trade and Development (UNCTAD), the UN Statistics Division, the Secretariat of the UN Convention on the Law of the Sea, and the International Chamber of Commerce/The World Business Organization (ICCWBO).

Pending finalisation of the work program, each country may apply its own non-preferential rules of origin at the time of release for free circulation. However, the rules applied by WTO members should be consistent with those set out in the Agreement on Rules of Origin. It is expected that these rules will be defined because of the joint efforts of WTO members on non-preferential trade policy instruments and will include consistent rules for determining the origin of goods. Once completed, the rules will become an integral part of the Rules of Origin Agreement and should be:

- applied equally to all non-preferential purposes contained in the agreement
- objective, understandable and predictable
- not used as instruments for the direct or indirect pursuit of commercial objectives
- administered in a consistent, uniform, impartial and reasonable manner
- consistent and based on a positive standard. (WTO, n.d.-b)

Ensuring overall consistency in the determination of harmonised non-preferential rules of origin internationally will prevent the many discrepancies in the determination of origin among WTO member states. These rules do not allow for any liberty in the determination of origin and only one origin should be specified for each good, quite different from the current situation where non-preferential rules of origin may be obligatorily applicable for both imports or exports of goods, or only for imports of goods. In the European Union (EU), the application of non-preferential rules of origin is mandatory for imports of goods and not mandatory for exports, except where refund on the export of goods is applicable (WCO, n.d.-b).

In the US, 78 per cent of exports are conducted under non-preferential rules of origin and only 22 per cent of exports use preferences, while in Australia 97 per cent of exports are conducted under non-preferential rules and only three per cent of exports use preferences. In the EU, about 53 per cent of external exports are at zero per cent most-favoured nation (MFN) rates, and only about 17 per cent of goods are sold in foreign markets at a preferential tariff rate. In the EU, about 22 per cent of external imports do not benefit from preferences, 48 per cent are carried out at zero per cent MFN rate and the remaining 30 per cent are carried out on preferential terms (Kawecka-Wyrzykowska, 2013). Thus, 83 per cent of EU exports are based on non-preferential rules, and 70 per cent of imports are based on non-preferential rules.

It often happens that non-preferential rules of origin are transformed into a direct or indirect instrument of trade policy, which is contrary to current WTO rules. In recent years, the EU has also used non-preferential rules of origin as an indirect trade policy tool, mainly for renewable energy products, to facilitate the imposition of trade defence measures – anti-dumping and anti-subsidy duties, and sanitary and phytosanitary measures, as well as sanctions (Kommerskollegium, 2015).

3. EU non-preferential rules of origin

The concept of non-preferential origin of goods was established for several purposes, which include:

- the proper application of the MFN clause
- tariff quotas
- safeguard, preventive and retaliatory measures
- quantitative limitations
- anti-dumping duties
- the indication of origin and labelling
- agricultural export refunds
- public tenders
- trade statistics.

3.1. Methods of establishing the non-preferential origin of goods in the EU

The main methods of determining the non-preferential origin of goods are based on the following criteria:

1. only one country is involved in the manufacture of the goods, based on the rule that the goods are entirely obtained in or produced in one country or territory.¹
2. at least two or more countries are involved in the manufacture of the goods, based on the rule that the goods have undergone their last, substantial, economically justified processing or treatment, which has resulted in the manufacture of a new product or has constituted an essential stage of a manufacturing process conducted in a production facility equipped for that purpose.²

The first criterion (goods wholly obtained in one country or territory) is met when it concerns:

- mineral products extracted in that country or territory
- plant products harvested in that country or territory
- live animals born and raised there
- products obtained from live animals raised there
- products obtained by hunting or fishing there
- products of sea fishing and other products taken from the sea outside the territorial waters of any country by vessels registered in the country or territory concerned and flying the flag of the country or territory
- marine products or products onboard factory ships from sea fishing products and other products taken from the sea outside the territorial waters of any country or territory by vessels registered in and flying the flag of that country or territory
- products extracted from the seabed or subsoil beneath the seabed outside the territorial waters provided that the country or territory has exclusive rights to exploit that seabed or subsoil
- waste and residues resulting from manufacturing operations and used articles, if they have been collected there and are suitable only for the recovery of raw materials
- goods produced there exclusively from the products listed in the above points.³

In the case of the second criterion concerning goods produced with the cooperation of several countries, the criterion is met if the product has undergone the last significant economically justified processing or treatment in a production facility adapted for this purpose, which has resulted in the production of a new product or has constituted a significant stage of the production process.

The last substantial processing or treatment should result in the manufacture of a new product or constitute an important stage of manufacture. In practice, it is essential to have information on all materials used. In particular, non-originating materials used in the last country of manufacture that have undergone a substantial transformation and confer on the final product the non-preferential origin of the last country of manufacture should be identified.⁴ This criterion must be verified in two different ways, depending on whether the product in question is included in Annex 22-01 36 Commission Delegated Regulation (EU) 2015/2446 and whether the manufacture of the new product involves a change of the tariff heading.

According to the case law of the EU Court of Justice (ECJ), the last treatment or processing is ‘substantial’ only if the resulting product has its own characteristic features and composition, which were not present before the treatment or processing. Operations that affect the appearance of a product for the purposes of its use, but which do not involve any substantial change in the qualitative characteristics of the product, cannot affect the determination of the origin of that product.⁵

One of the basic rules conferring the origin of goods in the last country of production is a change of tariff heading, subheading, or split subheading. A change in tariff heading occurs where the tariff classification of the final product is different from the tariff classification of the non-originating materials that were used in production. A change from some specific other heading may be excluded (for example, for Harmonized System, HS, 7227, the rule reads “CTH, except from heading 7228”), or the change may be conditioned on some additional operation (for example, for HS⁶ 7223, the rule reads “CTH except from 7221 to 7222; or change from 7221 to 7222 provided the material has been cold-formed”) (European Commission, 2018).

The treatment or processing operations, however, may be economically unjustified if these operations are carried out in another country or territory to evade customs duties, non-tariff measures, or other measures. In such cases, the goods shall be deemed to have undergone the last substantial economically justified processing or treatment, which has resulted in the manufacture of a new product or has constituted an essential stage of manufacture in the country or territory from which most of the materials originated, determined based on the value of those materials.⁷

For the attribution of the origin of goods, the following operations from the range of so-called minimum operations are not considered to be economically significant processing or treatment operations. These are:

- operations to preserve the products in good condition during transport and storage (ventilation, disassembly, drying, removal of damaged parts and similar operations) and operations to facilitate shipment or transport
- simple operations of dust removal, sifting or sorting, assorting, sizing, washing, and cutting
- packaging changes and separating and combining shipments, simple placing in bottles, cans, bottles, bags, boxes, crates, placing on cartons or boards, and any other simple packing operations
- assembling goods into sets or assortments or preparing them for sale
- affixing marks, labels, or other similar distinguishing signs on goods or on their packaging
- simple assembly of parts of a product to produce a complete product
- disassembly or change of use
- combination of two or more of the above operations.⁸

According to ECJ case law, the operation of assembling the various parts may be considered as determining origin if, from a technical point of view and having regard to the definition of the goods in question, it represents a decisive stage in the production process in which the destination of the parts used is determined and in which the goods in question acquire their specific quality characteristics.⁹ However, given the variety of operations that fall within the concept of assembly, in certain situations, an assessment based on technical criteria may not lead to a determination of the origin of the goods. In such cases, the value added by the assembly should be considered as a subsidiary criterion.¹⁰

In determining the origin of the goods, the following are not considered: the origin of the energy and fuel used in the manufacture of the goods, the plant and equipment, the machinery and tools used in the manufacture, and the materials that do not enter or are not intended to enter into the final composition

of the products.¹¹ Packaging is also a neutral element, but when applying the rule of a percentage of non-originating materials in the price of the goods for which the value is determined, packaging will be considered if it is classified together with the goods when applying rules 5a (reusable packaging) and 5b (disposable packaging).

Accessories, spare parts, or tools which are supplied with any of the goods listed in Sections XVI,¹² XVII,¹³ and XVIII¹⁴ of the Combined Nomenclature (CN) and which are part of their standard equipment, shall be considered as having the same origin as those goods. Also, essential spare parts¹⁵ used with any of the goods listed in the above sections, which have previously been admitted to the EU market, shall be considered as having the same origin as these goods if the incorporation of essential spare parts at the production stage would not change their origin (Gwardzińska et al., 2017).

Regarding textile materials and products, the specific rules of origin of goods are very different. The rule of thumb is that working or processing that gives origin to such goods must be substantial, economically justified processing or working that results in a product classified in a heading of the CN other than that of the non-originating materials used. This is known as 'tariff jumping'. The general principle of tariff jumping does not apply to the determination of the origin of textile materials and products made from those materials falling within Section XI of the CN. In this case, specific rules for determining the origin of goods are established.

For products other than textiles and textile products falling within Section XI of the CN, the treatment or processing carried out in column three of the said Annex shall be considered as originating. If the lists of Annexes Commission Delegated Regulation (EU) 2015/2446 indicate that origin has been conferred on the basis of the value of the non-originating materials used, where these do not exceed a given percentage of the ex-works price of the products obtained, such value shall be determined by taking the customs value of the goods at the time of importation of the non-originating materials used or, if this is not known and cannot be ascertained, the first verifiable price paid for the materials in the country of processing. The ex-works price of the product obtained shall be determined after deduction of any internal taxes which are, or may be, repaid when the product is exported.

In economic trade, it is often difficult to determine the origin of goods based on the current rules of origin of goods, in which case the binding origin information (BOI) should be requested from the customs authorities.

3.2. Binding Origin Information (BOI)

The BOI is a customs decision in which the customs authorities, on the basis of the data provided by the applicant, confirm (in a binding manner) that the manufacture of a particular good in accordance with the declared circumstances determining the acquisition of origin, ensures that the good acquires the originating status defined in the decision within the given system of rules of origin (Gwardzińska, 2019).

Very often the origin determines the amount of customs duties to be paid, therefore the unified interpretation of regulations governing the origin of goods is of particular importance. So far, there has not been a uniform global harmonisation of these rules, therefore, relevant clarifications of the rules of origin may be established only by the EU authorities or by the committees created within the framework of preferential agreements. It is worth emphasising at this point that the BOI is not a certificate of origin and it cannot perform that role.

The BOI binds the customs authority that issued it, as well as the customs authorities of the member states and the person to whom it was granted with respect to the origin of goods. The binding of the customs authority is effective for customs formalities that are carried out after the date on which the information is issued, while the binding of the person is effective from the date on which the

notification of the decision is served on them or is deemed to have been served.¹⁶ The binding nature of the parties becomes effective when both conditions are met. For the purposes of the application of a BOI decision, the holder thereof shall be obliged to prove that the goods in question and the circumstances determining the acquisition of the origin correspond in all respects with the goods and circumstances specified in the decision¹⁷ and they shall be obliged to inform the customs authority of its possession and provide the reference number of the decision where it will concern goods declared for importation or exportation.

A BOI is valid for three years from the date of its issuance. After this period, it generally ceases to be valid, but the EU legislation has given the BOI holder (or the holder of Binding Tariff Information, BTI) the right to complete transactions initiated during the period of validity of the BOI, based on the principle of legitimate expectation, for a further period of six months. A BOI decision does not apply to the goods to be exported – it only applies to imported goods and, like a BTI, protects the interest of the BTI holder as well as the fiscal interest.¹⁸

The BOI may be invalidated if it is based on incorrect or incomplete data provided by the applicant. It may also be revoked if it does not comply with a judgement of the ECJ, with effect from the date of publication of the operative part (sentence) of that judgement in the Official Journal of the European Union, or in other specific cases.¹⁹

It may also be terminated, but the termination of its validity shall not be retroactive.²⁰ The BOI shall cease to be valid before its due date if it becomes inconsistent, at the international level, with the WTO Agreement on Rules of Origin or with Explanatory Notes or with an opinion on origin adopted for the purposes of the interpretation of that agreement, with effect from the date of their publication in the Official Journal of the EU, or as a consequence of the adoption by the EU of a regulation or the conclusion of an agreement, where the decision of the BOI no longer conforms to those provisions.²¹

3.3. Documentation of non-preferential origin of EU goods

EU regulations do not provide uniform rules on common principles for documenting the non-preferential origin of exported goods. These issues are currently governed only by national rules and guidelines on their application.²² The EU abandoned the universal (standardised) form of the certificate of non-preferential origin of goods, thus giving the member states the right to issue non-preferential certificates of origin. Each EU member state determines the specimen of the non-preferential certificate of origin and the procedure for issuing it. In Poland, in the case of exports, certificates of origin of goods are issued by customs authorities at the written request of the exporter or consignor of goods, unless international agreements provide otherwise.²³

The non-preferential origin of goods may be confirmed by various proofs of origin, provided that the documents include the country of origin of goods and permanent marking of the country of origin on the goods. Among these documents the following may be mentioned:

- a certificate of origin
- an invoice
- a specification
- a contract
- a quality certificate
- another official document.

However, to facilitate the tasks of the customs administration in the importing country, proofs of origin proving compliance with the rules of origin may be provided for and required. The non-preferential rules of origin relate to the application of the *erga omnes* rate, that is, the base (convention) rate in international trade in goods. Its application does not usually require proof of origin of imported goods, but there are exceptions to this rule and they mainly concern textiles, but also some agricultural or steel goods.

If the origin of the goods imported into the EU customs territory or exported from the customs territory must be documented with a certificate of origin, the proof of origin may be a certificate that meets the following conditions:

- it has been drawn up by an authority authorised to issue certificates of origin in the country concerned and which can secure reliable control of the origin of goods
- it contains the data necessary to identify goods covered by the certificate, and especially the particulars of the sender, a description of the type of goods, the gross and net weight of the goods (other data may be included), the number, the kind, marks and numbers of packages if the goods are transported in bulk
- certifies that the goods to which the certificate relates originate in the specified country.

In case of goods/products covered by special non-preferential import arrangements, the certificate of origin should be issued by the competent authorities of the third country from which the products originate (or by a reliable agency duly authorised for that purpose by those issuing authorities), provided that the origin of the products has been determined in accordance with Article 60 of the EU Union Customs Code.²⁴

Certificates of origin should be issued before the products to which they relate are declared for export in the third country of origin. In exceptional cases, the certificates may be issued after the export of the products to which they relate. This is the case where the certificates were not issued at the time of export because of errors or involuntary omissions, or special circumstances. The customs authority may always, in case of reasonable doubt, require other evidence to prove that the origin of goods has been determined in accordance with the rules of customs legislation. The specimen of the certificate of origin in Poland and the requirements for its issuance by the authorised authority are set forth in the Ordinance of the Minister of Finance on the certificate confirming the non-preferential origin of goods:

- the number of packages, their type, and the marks and numbers placed on them
- the type of goods, the gross and net weight of the goods or their number or volume
- the name of the sender and recipient.²⁵

The procedure for issuing the certificate of origin of goods in Poland is an application procedure and it is also free of charge. An entity applying for a certificate should submit an application to the customs authority, together with a completed form for a non-preferential certificate of origin, and relevant attachments. The type of attachments depends on whether the exporter is a manufacturer of the goods or an intermediary. At the request of an exporter or a consignor of goods that frequently and regularly exports goods from the territory of the country and that guarantees the verification of the originating status of goods, the customs authority may issue certificates of origin under a simplified procedure. The simplified procedure for issuing certificates of origin involves the issue of certificates of origin stamped by the customs authority before the goods are exported and filled out by the exporter or consignor of the goods when the goods are exported (the blank procedure). The decision on issuing certificates of

origin to a given entity under a simplified procedure shall be taken by the customs authority when granting to the applicant the authorisation to use a simplified procedure of issuing non-preferential certificates of origin. The authorisation shall be issued for an indefinite period. The Polish customs authority grants the authorisation when the following conditions are fulfilled:

- the authority is competent to process the application, that is, the applicant's main accounts are kept in Poland (or are available there) and the applicant conducts at least a portion of the requested business activity in Poland
- the entity to which the authorisation is to be granted regularly exports goods from the territory of Poland
- no enforcement or bankruptcy proceedings are pending against the applicant
- the exported products may be considered as originating products within the meaning of the relevant legislation
- the applicant has not had the authorisation to use a simplified way of documenting the origin of goods withdrawn due to violation of legal provisions during the past year.²⁶

Certificates proving the non-preferential origin of goods are indefinite but are kept for two years.

Conclusion

Although the principles of establishing non-preferential rules of origin of goods are fundamental in international trade in goods, nowadays their strength and scope have been significantly reduced by the creation of free trade areas, customs unions, or unilateral or bilateral preferential agreements, thus expanding the system of preferential rules of origin. The lack of application of harmonised non-preferential rules of origin results in these rules increasingly being used as a means of extending the scope of trade restrictions, thus increasing barriers to international trade. The principles of determining non-preferential rules of origin are extremely complex on regulatory grounds, which on the one hand creates numerous problems for economic operators participating in international trade in goods, and on the other means that the rules do not perform a neutral function in international trade policy. For as long as harmonised rules of non-preferential origin of goods in the international market are not uniformly implemented, the current situation will continue, in which each country can apply its own non-preferential rules of origin.

References

- Arnold, D., & Melin, Y. (2019). Non-preferential customs origin under EU law. *Global Trade and Customs Journal*, 14(10), 451–457.
- Ball K.A., & Wright Ch. S. (2011). *Most Favored Nations clauses reexamined in light of DOJ challenge in Michigan*. American Healthcare Lawyers Association, February p. 1.
- Burns J.M., & Pope J.R. (2010). *Ohio Legislative Commission recommends that most favored nation clauses be prohibited in all health care contracts*. https://www.williamsmullen.com/sites/default/files/wm-url-files/health_care_antitrust_alert_4_10.pdf
- Encyclopædia Britannica. (2022). *Most-favoured-nation treatment, international trade*. <https://www.britannica.com/topic/most-favored-nation-treatment>
- European Commission. (2018). *Guidance on Non-Preferential Rules of Origin*.
- Fisher G.C. (1966). The “Most Favored Nation” clause in GATT: a need for reevaluation? *Stanford Law Review*, No. 19, 841–851.
- Gwardzińska, E. (2019). *Decyzje dotyczące wiążących informacji w zakresie ustalania wartości celnej – fikcja czy rzeczywistość?* [Decisions on binding information in customs valuation – fiction or reality?]. *Monitor Prawa Celnego i Podatkowego* nr 9/2019, pp. 318–319.
- Gwardzińska, E., Laszuk, M., Masłowska, M., & Michalski, R. (2017). *Prawo celne* [Customs Law]. Wolters Kluwer, pp. 58–59.
- Kawecka-Wyrzykowska E.(2013). *Preferencyjne porozumienia handlowe: ułatwienie czy bariera dla wielostronnego systemu handlowego WTO oraz handlu międzynarodowego* [Preferential trade agreements: facilitation or barrier to the WTO multilateral trading system and international trade]. http://www.kawecka.eu/files/Preferencyjne_porozumienia_handlowe-2013.pdf
- Kommerskollegium [The National Board of Trade]. (2015). Preventing Global Value Chains in Renewable Energy. The Use of Non-Preferential Rules of Origin as an Indirect Trade Policy Instrument in the EU. <https://www.kommerskollegium.se/globalassets/publikationer/rapporter/2016-och-aldre/publ-preventing-global-value-chains.pdf>
- Krygier, M. (2016, March 2). *The rule of law: pasts, presents, and a possible future*. Paper for seminar co-sponsored by Center for Study of Law & Society, and Kadish Center for Morality, Law & Public Affairs, University of California Berkeley. <https://www.law.berkeley.edu/wp-content/uploads/2015/04/Krygier-Rule-of-Law.pdf>
- Lux, M. (2004). *Prawo celne Unii Europejskiej. Podręcznik dla praktyków z przykładami i pożytecznymi wskazówkami* [European Union customs law. A handbook for practitioners with examples and useful tips]. Wydawnictwo BW, pp. 148–156.
- Smith, N. (2016). *Basic equality and discrimination: reconciling theory and law* (1st ed.). Routledge. <https://www.routledge.com/Basic-Equality-and-Discrimination-Reconciling-Theory-and-Law/Smith/p/book/9781138277243> (Original work published 2011)
- Weiler, J. H. H., Cho, S., Feichtner, I., & Arato, J. (2017). International and regional trade law: the law of the World Trade Organization. Unit V: the Most-Favored Nation (MFN) principle. <https://www.jeanmonnetprogram.org/wp-content/uploads/WTO-Unit-5-MFN-2017-editon.pdf>
- World Customs Organization. (n.d.-a) *Harmonization Work Programme* <http://www.wcoomd.org/en/topics/origin/activities-and-programmes/nonpreferential-origin/harmonization-work-programme.aspx>
- World Customs Organization. (n.d.-b). *Benefits expected from the harmonization of non-preferential rules of origin*. http://www.wcoomd.org/en/topics/origin/activities-and-programmes/nonpreferential-origin/benefits_from_harmonization.aspx

- World Customs Organization. (n.d.-c). HS Convention. http://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/hs_convention.aspx
- World Trade Organization. (1994). *General Agreement on Tariffs and Trade 1994*. https://www.wto.org/english/docs_e/legal_e/06-gatt_e.htm
- World Trade Organization. (2020). https://www.wto.org/english/thewto_e/thewto_e.htm
- World Trade Organization. (n.d.-a) *Agreement on Rules of Origin*. https://www.wto.org/english/docs_e/legal_e/22-roo.pdf
- World Trade Organization (n.d.-b). *Non-preferential rules of origin*. <http://www.wcoomd.org/en/topics/origin/activities-and-programmes/nonpreferential-origin.aspx>

Notes

- 1 Article 60.1. Regulation (EU) No 952/2013.
- 2 Article 60.2. Regulation (EU) No 952/2013.
- 3 Article 31. Commission Delegated Regulation (EU) 2015/2446.
- 4 Article 60.2 Regulation (EU) No 952/2013.
- 5 ECJ of 11.02. 2010, C-373/08.
- 6 World Customs Organization. (n.d.-c) and Council Decision of 7 April 1987 concerning the conclusion of the International Convention on the Harmonized Commodity Description and Coding System and of the Protocol of Amendment thereto (87/369/EEC), OJ L 198.1 of 20.07.1987.
- 7 Art. 33 Commission Delegated Regulation (EU) 2015/2446.
- 8 Art. 34 Commission Delegated Regulation (EU) 2015/2446.
- 9 ECJ of 31.01.1979, C-114/78. Judgement of the ECJ of 31.01.1979, C-114/78 *Yoshida GmbH v Industrie- und Handelskammer Kassel*, EU:C:1979:21.
- 10 ECJ of 8 August 2007, joined cases C-447/05 and C 448/05 and of 13.12.1989, C-26/88 and ECJ of 11 February 2010, in case C-373/08. Judgement of the ECJ of 8 August 2007, joined cases C-447/05 and C 448/05, *Thomson Multimedia Sales Europe and Vestel France v Administration des Douanes et Droits Indirects*, EU:C:2007:151. Judgement of the ECJ of 13.12.1989, C-26/88 *Brother International GmbH v Hauptzollamt Gießen*, EU:C:1989:637. Judgement of the ECJ of 11.02.2010, C-373/08, *Hoesch Metals and Alloys GmbH v Hauptzollamt Aachen*, ECLI:EU:C:2010:68.
- 11 Article 36 Commission Delegated Regulation (EU) 2015/2446.
- 12 Machines and mechanical appliances; electrical equipment; parts thereof; sound recording and reproducing apparatus, television image, and sound recording and reproducing apparatus and parts and accessories thereof.
- 13 Vehicles, aircraft, vessels and associated transport equipment.
- 14 Optical, photographic, cinematographic, measuring, checking, precision, medical and surgical instruments, tools and apparatus; wall clocks and wristwatches; musical instruments; parts and accessories thereof.
- 15 Article 35.3 Commission Delegated Regulation (EU) 2015/2446; essential spare parts shall mean parts which are: (a) components without which the proper operation of a piece of equipment, machine, apparatus or vehicle which have been put into free circulation or previously exported cannot be ensured; and b) characteristic of those goods; and (c) intended for their normal maintenance and to replace parts of the same kind which are damaged or have become unserviceable.
- 16 Art.33.2 Regulation (EU) 952/2013.
- 17 Art.33.4 b Regulation (EU) 952/2013.
- 18 Article 33.3 and article. 34.9 Regulation (EU) 952/2013.
- 19 Article.34.8 Regulation (EU) 952/2013.
- 20 Art.34.3 Regulation (EU) 952/2013.
- 21 Art.34.2. Regulation (EU) 952/2013.
- 22 Art. 61.3 Regulation (EU) 952/2013.
- 23 Art.10 Act of 19 March 2004. Customs Law.
- 24 Regulation (EU) No 952/2013 of the European Parliament and of the Council of 9 October 2013 laying down the Union Customs Code, OJ L 269/1 of 10.10.2013.

- 25 Rozporządzenie Ministra Finansów w sprawie świadectwa potwierdzającego niepreferencyjne pochodzenie towaru z 19.08.2016 r., Dz. U. z 2016 r., poz. 1307 [Regulation of the Minister of Finance on the certificate confirming the non-preferential origin of goods dated 19.08.2016. Journal of Laws, 2016, item 1307].
- 26 Wytyczne dotyczące świadectw potwierdzających niepreferencyjne pochodzenie towarów, Ministerstwo Finansów Departament Cel, Warszawa 2016, s. 2-3 [Guidelines for certificates confirming the non-preferential origin of goods, Ministry of Finance Customs Department, Warsaw 2018]. <https://www.podatki.gov.pl/clo/informacje-dla-przedsiębiorcow/pochodzenie-towarow/wytyczne-dotyczace-swiaectwa-potwierdzajacego-niepreferencyjne-pochodzenie-towarow/>

Ewa Gwardzińska



Ewa Gwardzińska, PhD, is an associate professor of the Taxes and Customs Unit, Department of Administrative and Financial Corporate Law, Warsaw School of Economics, Poland. She is also a customs broker and was previously a member of the Consultative Council of the Customs Service, Poland (2015–2016). She specialises in customs law and customs intermediary services and has authored numerous research papers. ORCID iD: 0000-0003-1656-2078

Jakub Chowaniec



Jakub Chowaniec, PhD, is an associate professor in the Financial Law Department at the Faculty of Law and Administration at the University of Warsaw, Poland. He is currently working as the director of the Tax Analysis Department in the Ministry of Finance, Poland. He specialises in tax law, especially in the sphere of taxation of financial institutions and has authored numerous research papers. ORCID iD: 0000-0003-1270-7786.

Enhancing trade compliance to benefit small and medium-sized enterprises (SMEs) in Trade Facilitation Agreement (TFA) implementation in Vietnam

Phan Thi Thu Hien and Bui Thai Quang

Abstract

Vietnam ratified the Trade Facilitation Agreement (TFA) of the World Trade Organization in 2017. Following the core principles of the World Trade Organization (WTO), the TFA does not discriminate between large business and small and medium-sized enterprises (SMEs) in gaining trade facilitation benefits. This study aims at identifying similarities and differences in trade compliance behaviours between Vietnamese Authorised Economic Operators (AEO) as the biggest economic operators, and SMEs, which are differentiated by AEO criteria and trade facilitation grants. The study is based on a national survey of 399 respondents from Vietnamese import and export enterprises in 2019. The study determines that Vietnamese SMEs face many obstacles in improving trade compliance to gain the benefits of trade facilitation measures. Lastly, it provides some policy implications to enhance trade compliance and facilitation for Vietnamese SMEs in the context of Vietnam's accession to the new-generation FTAs.

Keywords: AEO, trade compliance, Trade Facilitation Agreement, Vietnam

1. Introduction

In brief, the World Trade Organization (WTO) states that the Trade Facilitation Agreement (TFA) is the first multilateral trade agreement to be concluded since the WTO was established 25 years ago, and is expected to reduce total trade costs by more than 14 per cent for low-income countries. The WTO also links the commitments of developing and least developed countries with their capacity to implement the TFA (WTO, 2020).

Vietnam has been a member of the WTO since January 2007 and notified the WTO of its acceptance of the TFA in December 2015, immediately following its approval by the National Assembly through Resolution No. 08/2015/QH13. Previously, in July 2014, the country notified the WTO of the 15 Category A provisions that would be implemented once the TFA came into force. Vietnam's preliminary TFA assessment conducted in 2015 classifies 14 provisions as Category B and nine provisions as Category C and provides an action plan that identifies a period of implementation. In November 2018, Vietnam sent B and C notifications to the WTO. In general, Vietnam is on the right track to reach full TFA compliance but technical assistance is still required for some of the provisions to ensure the timely implementation and adoption of international best practices. However, there are concerns about the effectiveness and efficiency of Vietnam's TFA implementation, and trade

facilitation measures, given that the country ranked 104 out of 189 in the World Bank Doing Business Trading Across Borders indicator, lower than the regional average for East Asia and Pacific and far behind some of its neighbours (for example, China ranked 56, Thailand, 62, and Laos PDR, 78) (World Bank, 2019a; World Bank, 2019b).

According to the TFA's Article 7.4: Risk Management, trade compliance of an economic operator shall be recorded and evaluated to assess transaction risks for customs clearance decisions that concentrate customs control on high-risk consignments and expedite the release of low-risk consignments. Vietnam Customs has categorised Vietnamese exporters and importers into five groups subject to trade compliance records, to assist in applying its risk management program and control measures to every export-import transaction. Among these groups, Vietnamese Authorised Economic Operators (AEOs) are seen as the best operators, gaining many trade facilitation privileges, including 24/7 customs clearance, short release times, fewer document and data submission requirements and an extremely low rate of physical inspection (General Department of Vietnam Customs [GDVC], 2016).

In relation to Article 7.7 of the TFA regarding trade facilitation measures for authorised operators, all accredited AEO-verified enterprises (AEOs) in Vietnam must have good financial capability, with large import-export values. As stated in Circular No.72/2015/TT-BTC dated May 12, 2015 about regulation of application of priority policy in customs procedures, customs inspection and supervision for exported and imported goods of enterprise: "export and import companies must exceed USD100 million per year, enterprises that produce goods in Vietnam for export must exceed USD40 million per year, companies operating in the agricultural and fishery sectors must exceed USD30 million per year and customs brokers must make no less than 20,000 customs declarations per year." According to the GDVC (2020), at the end of 2020, there were 74 Vietnamese AEOs, mainly large firms consisting of the leading export industries in Vietnam but none were small and medium-sized enterprises (SMEs). Although they are only a small number compared to the total number of Vietnamese enterprises, their export and import value reached nearly USD100 billion and accounted for 26 per cent of the total export and import value of Vietnam in 2019 (GDVC, 2020).

By the end of 2020, Vietnam had 800,000 operating enterprises. SMEs accounted for 97 per cent, contributed 45 per cent of GDP, 31 per cent of total budget revenue and attracted more than five million employees. In exports and imports, Vietnamese SMEs accounted for nearly 98 per cent of the total number of international trade operators via the Vietnam Automated Cargo Clearance System/ Vietnam Customs Intelligence System (VNACCS/VCIS). Many studies and reports have shown that Vietnamese SMEs have faced many difficulties in doing business and in taking advantage of the TFA, as well as difficulties gaining the benefits of trade facilitation in Vietnam (WTO, 2016; Organisation for Economic Co-operation and Development [OECD], 2019; Global Alliance for Trade Facilitation, 2021). The subjective causes of this situation are:

1. a lack of financial and qualified human resources
2. very limited legal and business capabilities
3. that small-scale enterprises have difficulty in mobilising resources to invest in technology, management capability and high-quality human resources
4. that the perception of most SMEs is short-term, with neither a defined long-term vision nor actions with strategic thinking, nor compliance with laws (US Agency for International Development [USAID], 2021).

Therefore, although the WTO encourages that the member countries should not design AEO criteria to economic operators as well as to prevent the participation of SMEs that satisfy the basic conditions and requirements, no Vietnamese SME is verified as an AEO. This is widening the gap

between Vietnamese AEOs and SMEs regarding trade records, skills and knowledge of international markets, familiarity with border procedures, trade facilitation grants and effective participation in the global economy.

Arancha Gonzalez, former Executive Director, International Trade Centre (ITC), said “SMEs are the inclusive growth vehicles of the future and the world’s largest potential source of new jobs.” (ITC, 2014). It is noteworthy that, in this study, the authors apply a qualitative research method using basic statistical techniques to explain the factual trade compliance of Vietnamese businesses to determine whether Vietnamese AEOs gaining most trade facilitation privileges perform better than SMEs in terms of trade compliance. In other words, this study tries to determine if there is any difference between the largest businesses as AEOs and the SMEs in terms of trade compliance. Data on trade compliance of Vietnamese businesses was collected through a national survey in 2019 with the participation of different economic operators including Vietnamese AEOs and SMEs.

2. Literature review

There are several studies on the implementation of the WTO’s TFA as well as its technical measures for expeditiously moving goods across borders inspired by the best practices from around the world. Aiming at measuring the overall effectiveness of TFA implementation, for instance, the World Bank Group published annual reports covering around 190 economies with full scores and rankings in trading across borders based on time and cost to export and import (World Bank, 2020). In Vietnam, the introduction of the TFA as well as its opportunities and challenges were analysed by Trinh and Phan (2015). In the Vietnamese TFA implementation, Phan (2017a) also analysed the potential AEO mutual recognition agreement of Vietnam with the EU as an important trading partner. Furthermore, Phan (2017b) suggested recommendations to standardise Vietnam’s AEO program and promote AEO mutual recognition agreements with top trading partners such as the USA, the EU, Japan and the Republic of Korea from the perspective of policymaking and technical operations.

The World Customs Organization (WCO) (2018) published a comprehensive package on the implementation of the WCO SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework) with the WCO’s flagship Customs-Business partnership program with two pillars of compliance and facilitation. In this, trade compliance records provide substantial input data for risk management, customs controls and partnerships between Customs and stakeholders. The WCO (2014) introduced fundamentals of compliance management including theories and principles, operational and technical frameworks, methods of data recording and compilation, best practices, factors affecting compliance management and recommendations on enhancing the effectiveness of compliance management.

Annually, the World Customs Organization publishes a comprehensive package on the implementation of the WCO SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework) with standards and technical assistance supporting all members in the global uniform implementation of the TFA. The Asia-Pacific Economic Cooperation (APEC) (2016) indicated that every trade facilitation measure and program is configurable to the economy’s specific environment and socioeconomic development, so the participation of SMEs is quite different and no template or model can be used to benefit all economic operators.

Bonthonneau (2019) analysed the importance and contribution of SMEs in global trade but they face many non-tariff barriers, and limited competitiveness and global supply chain participation. Every country should aid SMEs through trade facilitation reforms from government to operational levels, including but not limited to measures resulting from National Trade Facilitation Committees (NTFCs), AEO, Single Window and International Cooperation.

The USAID's 2021 publication *The Trade Facilitation Agreement: A World of Opportunities for MSMEs* indicates that the value and benefits of the TFA to the business community and SMEs largely depend on its implementation by each WTO country member with different modalities and roadmaps. The USAID study analysed all the TFA measures in connection to trade transactions and global value chain participation of SMEs, then introduces best practices and recommendations that will benefit SMEs to expand their ability to engage in international trade, and thereby contribute to national economic growth and prosperity (USAID, 2021).

3. Survey description

Data on the trade compliance of Vietnamese businesses including AEOs and non-AEOs was collected through a survey conducted from March to December 2019. This survey aimed to examine the trade compliance behaviours of Vietnamese exporters and importers. Questionnaires were sent to the customs declarants at different customs clearance depots in north, central and south Vietnam. All questionnaires were hard-copy and completed by representatives of the responding companies. The survey was designed based on the legislation and practices of customs clearance for exports and imports in Vietnam. The questionnaires were measured using a five-point Likert scale. There were 399 respondents in the different business sectors. Those with 100 per cent domestic ownership accounted for 56 per cent of respondents, those with 100 per cent foreign ownership accounted for 41 per cent, and joint ventures accounted for three per cent. Regarding business size, large enterprises accounted for four per cent while 96 per cent were SMEs. Ten respondents were AEOs, accounting for only two per cent of the total number of respondents, but these 10 comprised nearly 14 per cent of the total number of Vietnamese AEOs at the time of the survey.

4. Results of the survey

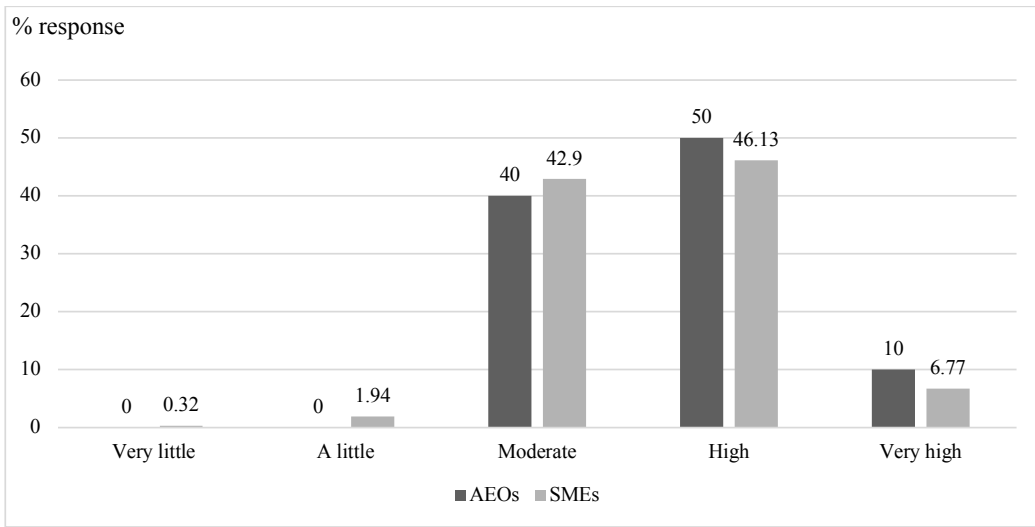
This study describes trade compliance behaviours that are core criteria for the granting of AEO status as encouraged by the WTO TFA and the WCO SAFE Framework of Standards. In this study, trade compliance means operating within the regulations of cross-border trade and customs. It focuses on the perception, practices and operational manner of Vietnamese exporters and importers to comply with the regulations and requirements on the cross-border movements of goods.

The survey results highlight the trade compliance of Vietnamese businesses including perspectives, practices and contributing factors.

4.1 Trade compliance behaviour in exports and imports

The survey results show several notable characteristics/behaviours of trade compliance. First, most of the respondents have a moderate or good understanding that trade compliance is a legal responsibility for exporting and importing (see Figure 1).

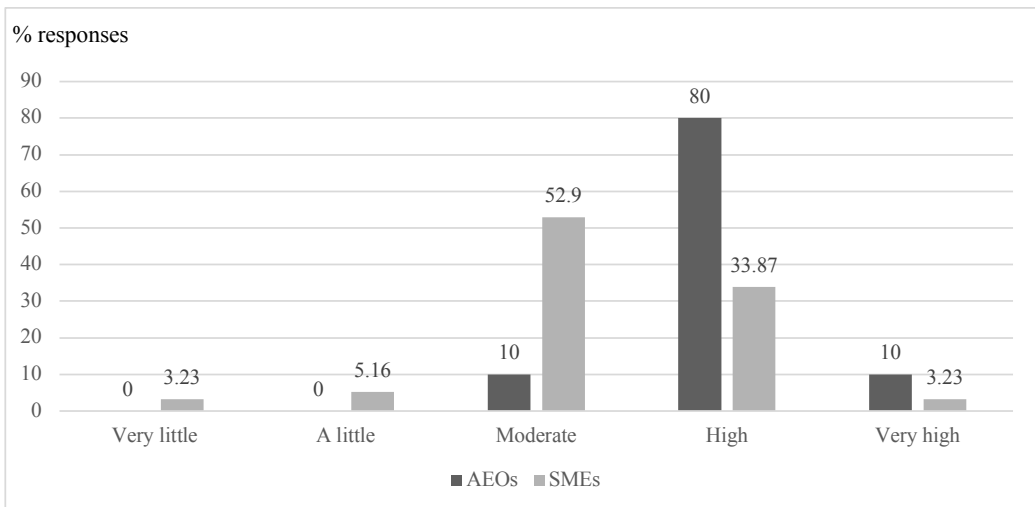
Figure 1: Perception of trade compliance in exporting and importing



Source: Authors

Figure 1 reveals that there is very little difference between the AEOs and SMEs in their perception of trade compliance in exporting and importing. To determine the legal capacity of Vietnamese enterprises, the survey results about knowledge, practices of cross-border trade regulations and customs formalities are illustrated in Figure 2. It is noticeable that 80 per cent of the AEO respondents understand cross-border trade regulations and customs formalities well, much higher than that of the SMEs (33.87 per cent). Similarly, a proportion of the AEO respondents (10 per cent) have a high degree of expertise in border procedures and customs formalities, much higher than that of the SMEs (3.23 per cent).

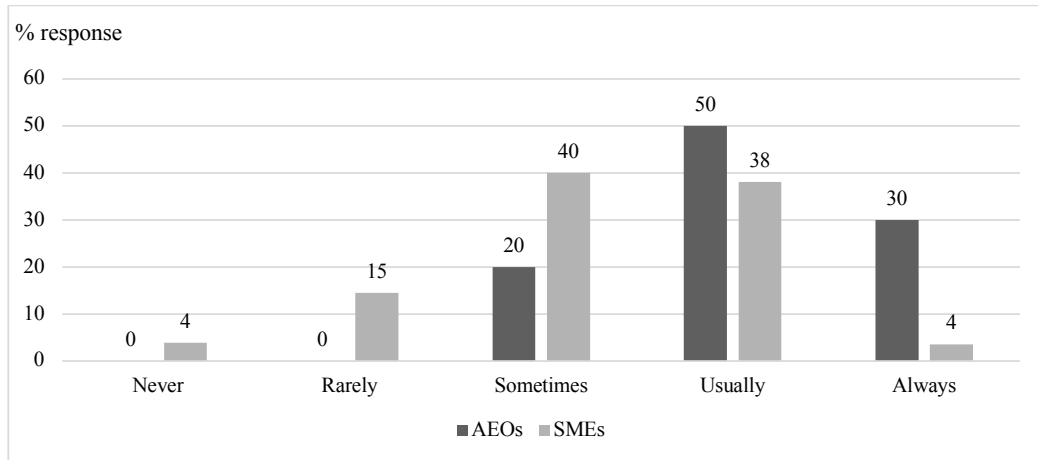
Figure 2: Knowledge of cross-border trade regulations and customs formalities



Source: Authors

To comply with regulatory requirements for customs clearance, the respondents sought legal consultancy and technical assistance. In Figure 3, the percentage of AEO respondents (30 per cent) who seek legal advice is much higher than that of SMEs respondents (only four per cent). In addition, all the AEO respondents understand the importance of legal consultancy and usually use this service. This is evidence that the Vietnamese AEOs are well-briefed in the benefits of trade compliance (facilitation privileges) while the SMEs lag well behind.

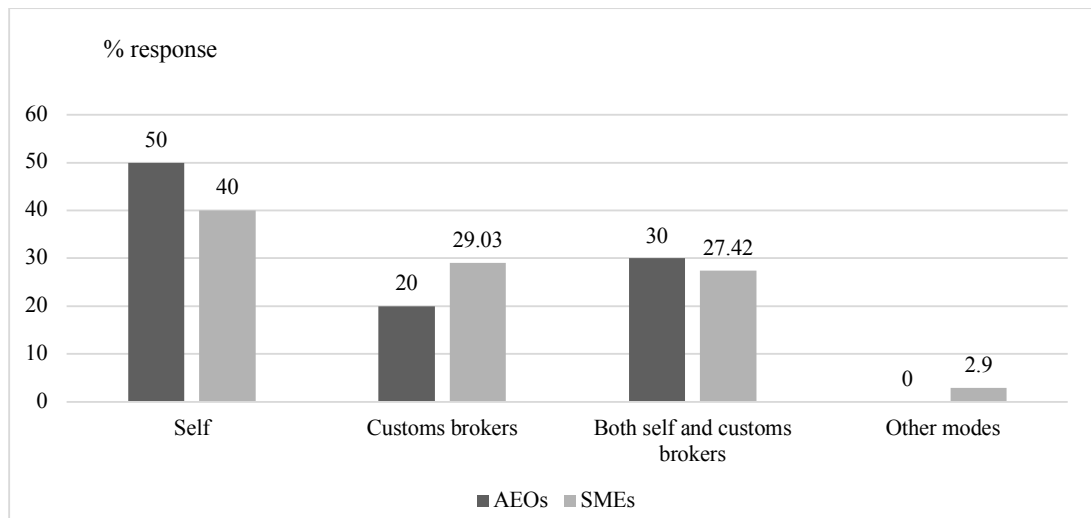
Figure 3: Frequency of use of legal consultancy in doing cross-border trade transactions



Source: Authors

Notably, a large proportion of the AEO respondents (50 per cent) perform customs clearance themselves for exports and imports, taking advantage of their AEO status and TFA implementation as trusted partners of Vietnam Customs (see Figure 4).

Figure 4: Modes of customs clearance for exports and imports



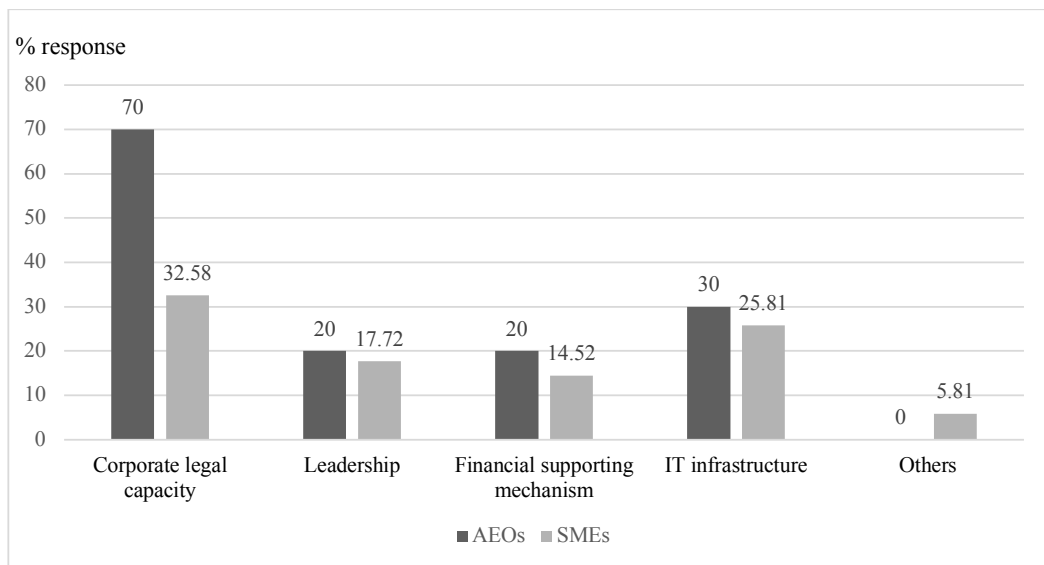
Source: Author

Nevertheless, Figure 4 shows that there is very little difference between the AEOs and SMEs in terms of performing customs clearance themselves. The big difference is that the AEOs take advantage of the priorities and benefits from trade facilitation due to their AEO status, meanwhile it is the authors' contention that limitations in human and financial resources make it more difficult for SMEs to comply with the various and sophisticated laws and regulations for trade and customs in Vietnam. Notably, a very small proportion of the SME respondents (2.9 per cent) did not reveal their method of customs clearance for exports and imports. This implies that some of the Vietnamese SMEs and traders may be using informal channels and operations in trade activities, which reduces income and transparency for the state.

4.2 Factors affecting trade compliance of Vietnam enterprises

Significantly, in most areas, both the AEOs and SMEs have similar difficulties in performing customs clearance for exports and imports in Vietnam.

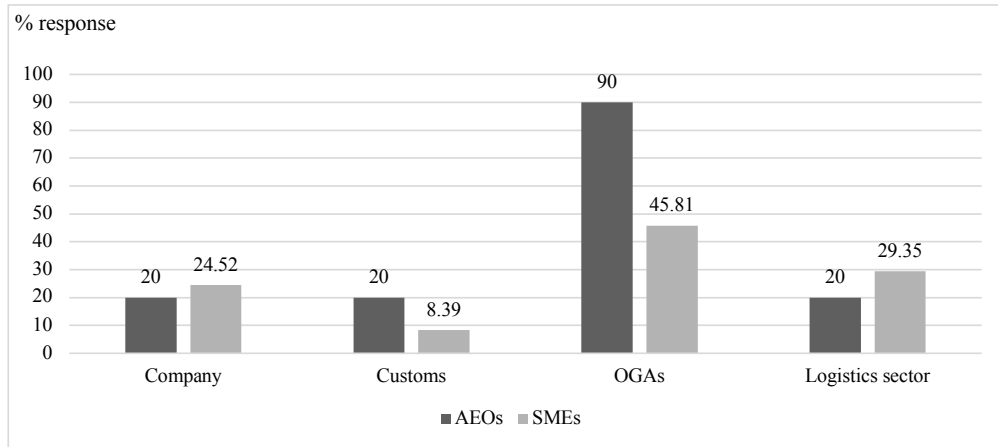
Figure 5: Difficulties in trade compliance for exports and imports



Source: Authors

Figure 5 reveals that the biggest difficulty experienced by AEO respondents in achieving trade compliance is legal capability (70 per cent), much higher than that of SMEs (32.58 per cent). The respondents were also asked about the reasons deterring Vietnamese enterprises from complying with cross-border trade regulations and customs procedures, as shown in Figure 6.

Figure 6: Factors contributing to difficulties in trade compliance for exports and imports

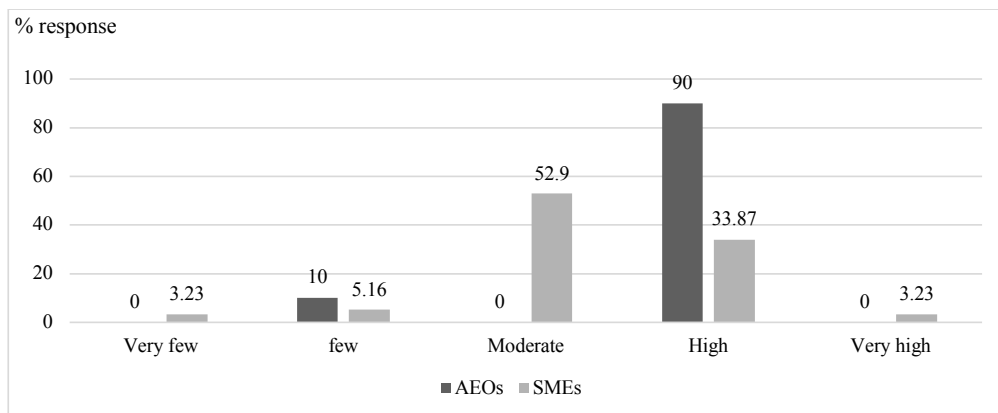


(OGAs: Other Governmental Agencies)

Source: Authors

As shown in Figure 6, a high percentage of AEOs (90 per cent) and SMEs (45.81 per cent) agreed that OGAs are the most problematic factor in trade compliance. Meanwhile, a small proportion of the AEO respondents (20 per cent) and SME respondents (8.39 per cent) believed that the difficulties come from customs agencies in cross-border clearance. These figures reflect an improvement in procedural customs facilitation from the perspective of Vietnamese businesses, especially the SMEs. In line with some specialised legal requirements on exports and imports as prescribed in the 2017 Foreign Trade Administration Law, customs declarants must submit permissions for following formalities, administrative procedures of regulatory bodies that are Ministries and OGAs. Regulatory bodies decide goods that are permitted to be imported, exported and transited; based on which customs authorities shall make decisions about granting customs clearance and releasing goods. Major inspections and specialised controls focus on “quality examination of imported goods”, “conformity assessment”, “issuing quality, technical safety and environmental protection certificates” and “issuing licences to export/import”. In particular, the respondents focused on the burden of inspection regulations and specialised controls, as shown in Figure 7.

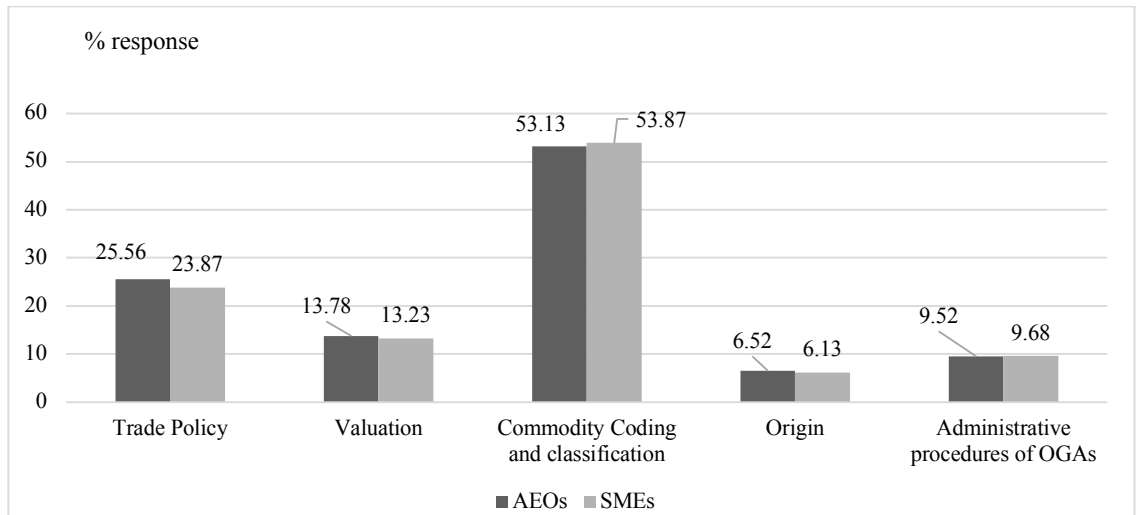
Figure 7: The burdens imposed by the laws and regulations on specialised inspections and controls for exports and imports in Vietnam



Source: Authors

Figure 7 shows that most AEO respondents (90 per cent) consider that there are incumbent regulations on specialised inspections and controls that are undertaken by OGAs in Vietnam (excluding customs agencies). Similarly, nearly 90 per cent of the SME respondents consider that laws and regulations on specialised inspections and controls pose considerable burdens on their trade compliance, if the results from the moderate, high and very high categories are combined (Figure 7). Furthermore, Figure 8 shows that there is a high similarity in the opinions of AEOs and SMEs when asked about the risks and challenges in conducting technical operations for customs clearance.

Figure 8: Challenges and risks in performing customs clearance for exports and imports in Vietnam



Source: Authors

In future, it is estimated that Vietnamese enterprises will face more challenges when new-generation (mega) FTAs come into force, which will include several technical and non-tariff barriers like EU-Vietnam Free Trade Agreement (EVFTA) and Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). It appears that it is harder for Vietnamese SMEs than for AEOs to overcome these barriers due to their different competency and trade behaviours.

5. Conclusion and policy implications

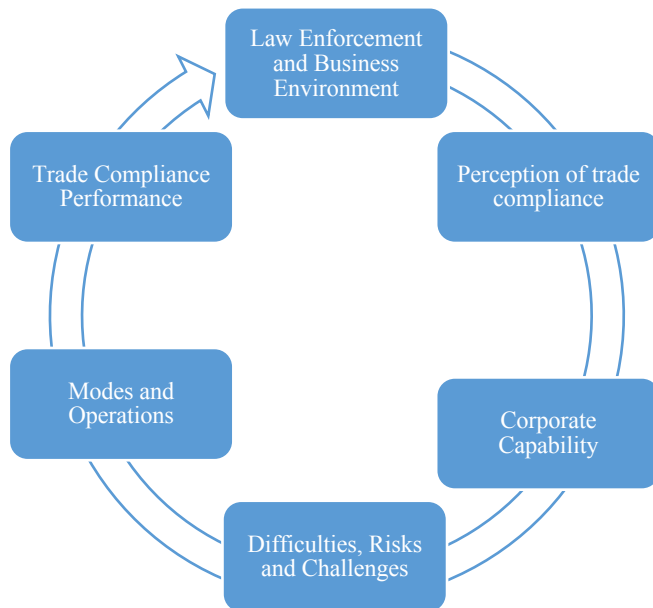
This study delivers empirical evidence that opportunities to gain the benefits and privileges of trade facilitation for large business and SMEs are not equally available with the implementation of the TFA in Vietnam. Notably, while facing the same challenges and difficulties, such as cumbersome specialised inspections and controls of many governmental agencies, highly technical trade operations, poor quality IT infrastructure or workforce, the Vietnamese AEOs and SMEs behave differently in relation to trade compliance. This is because their perceptions differ on the importance of regulatory capability, legal consultancy and modes of conducting customs clearance for exports and imports. As a result, it will be more challenging for Vietnamese enterprises, especially SMEs, to comply with the increasingly technical and non-tariff barriers in the context of Vietnam's accession to new-generation FTAs. However, the study indicates that if Vietnamese enterprises gain AEO verification, they may be able to apply better trade compliance practices.

Bonthonneau (2019) suggests that policy makers should implement the TFA and business environment reforms in a manner that benefits MSMEs. To enhance trade compliance of Vietnamese SMEs, some policy measures should be introduced. Firstly, it is necessary to extend trade facilitation measures

and programs like the AEO program in Vietnam to other economic operators, apart from importers, exporters and brokers as stipulated in the Circular No72/2015/TT-BTC dated May 12, 2015. Also, Vietnam's AEO program should not distinguish Vietnamese enterprises by the special AEO criterion of import-export volume. Secondly, government agencies should reduce the burden of specialised inspections and internal controls for imports and exports. Thirdly, Vietnam Customs and OGAs should organise training courses focusing on legislation, technical operations and compliance practices for SMEs, with support and connections to business associations and alliances. Socioeconomic changes, new laws and regulations on trade and customs should be updated, taught and applied in the business life of SMEs. Fourth, more improvements are needed in public-private dialogues, information sharing and exchange mechanisms between customs authorities, OGAs, SMEs and traders in Vietnam, for better law compliance. Trade facilitation platforms, websites, smart administrative solutions and information technology-driven measures should be user-friendly and convenient for SMEs. This should be fostered by all the border control agencies, together with Vietnam Customs, and regional and international cooperation. Finally, Vietnamese SMEs should acknowledge the importance and benefits of trade compliance in internationalisation and global trade, therefore enhancing the capability and qualifications of human resources and take advantage of being strategic partners of AEOs, Foreign Direct Investment (FDI) firms, multinational companies (MNCs) and other stakeholders in global supply chains.

In conclusion, this study maps a vicious circle of the factors affecting, and the impacts of, trade compliance for the whole economy as well as business performance, then concentrates on legislation reforms to benefit SMEs within the TFA implementation of Vietnam. This is illustrated in Figure 9 below.

Figure 9: The factors affecting, and the impacts of, trade compliance on behaviours of SMEs



This research could be expanded to include further direct surveys and interviews with Vietnam's customs officers as well as other government agencies. Their expertise and recommendations on trade compliance and facilitation for Vietnamese enterprises is a valuable resource. Other criteria, such as financial records, regulatory compliance profiles or supply chain security stipulated by Article 7 of the TFA, and Vietnamese regulations related to risk management, trade compliance and AEO programs, as well as the best practices worldwide should be taken into account in future research to deliver more comprehensive insights into trade compliance and facilitation in Vietnam under the flag of the WTO TFA.

References

- Asia-Pacific Economic Cooperation. (2016). *Study of APEC best practices in Authorized Economic Operator programs*. https://www.apec.org/docs/default-source/Publications/2016/5/Study-of-APEC-Best-Practices-in-Authorized-Economic-Operator-AEO-Programs/APEC-AEO-Best-Practices-Final-Report_May-2016.pdf.
- Bonthonneau, P. (2019). *Trade facilitation measures for enhanced MSME participation in trade*. Conference on Transport, Trade Logistics and Trade Facilitation, Seventh session: Trade facilitation and transit in support of the 2030 Agenda for Sustainable Development, 7–9 May, 2019.
- General Department of Vietnam Customs. (2016). *AEO implementation report*. Vietnam AEO Assessment Workshop, Hanoi, Vietnam.
- General Department of Vietnam Customs. (2020). *General Report of 2019 and orientation for 2020*. The 2019 annual meeting of General Department of Vietnam Customs, Hanoi, January 2020.
- Global Alliance for Trade Facilitation. (2021). *Small business, great opportunities*. Global Alliance for Trade Facilitation Lessons Learned Series. <https://www.tradefacilitation.org/content/uploads/2021/05/msme-lessons-2021-final-may-11.pdf>.
- International Trade Centre. (2014). *SMEs drive world trade and economic growth*. <https://www.intracen.org/layouts/2coltemplate.aspx?pageid=47244640256&id=47244644488>
- Organisation for Economic Co-operation and Development. (2019). *Helping SMEs internationalise through trade facilitation*. https://www.wto.org/english/tratop_e/msmes_e/oecd_tf_paper.pdf
- Phan, T. T. H. (2017a). *AEO program and expectation of AEO MRA with EU: Target and implementation of the Vietnam's trade facilitation progress*. Conference on Trade Facilitation: Experience from the EU and lessons for Vietnam, Hanoi, Vietnam.
- Phan, T. T. H. (2017b). Enhance trade benefits of Vietnam through AEO measure under the WTO's Trade Facilitation Agreement. *External Economics Review*, 98, 72-78.
- Trinh, T. T. H., & Phan, T. T. H. (2015, March). The World Trade Organization's Trade Facilitation Agreement: opportunities and challenges of Vietnam. *External Economics Review*, 71.
- United States Agency for International Development. (2021). *The Trade Facilitation Agreement: A world of opportunities for SMEs*. https://tfafacility.org/sites/default/files/a_world_of_opportunities_for_msme_final_version.pdf
- World Bank. (2019a). *Vietnam-Doing Business 2020*. <https://www.doingbusiness.org/content/dam/doingBusiness/country/v/vietnam/VNM.pdf>
- World Bank. (2019b). *China-Doing Business 2020*. <https://www.doingbusiness.org/content/dam/doingBusiness/country/c/china/CHN.pdf>
- World Customs Organization. (2014). *Voluntary Compliance Framework*. <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/voluntary-compliance-framework/voluntary-compliance-framework.pdf?db=web>

World Customs Organization. (2018). *SAFE Framework of Standards*. <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/safe-framework-of-standards.PDF?la=en>]

World Trade Organization. (2016). *Levelling the trading fields for SMEs*. World Trade Report 2016. https://www.wto.org/english/res_e/booksp_e/world_trade_report16_e.pdf.

World Trade Organization. (2020). *Third anniversary of Trade Facilitation Agreement sees increasing implementation rate*. https://www.wto.org/english/news_e/news20_e/fac_22feb20_e.htm]

Thi Thu Hien Phan



Associate Professor Dr Thi Thu Hien Phan is a senior lecturer of international business and cross-border trade at the Vietnam Foreign Trade University, Vietnam. She worked as a specialist in international business in the automobile industry in Vietnam before her academic career. She is known as an expert on international trade transactions and customs affairs, not only lecturing at her university but also training and supervising Vietnam's business community and customs officers. She is an active researcher in cross-border trade in Vietnam with typical projects including illicit trade, informal trade and customs in Vietnam, trade costs of Vietnamese enterprises and timber value chains in Vietnam. Currently she is also an associate researcher of the Cross-border Research Association in Switzerland, focusing on a study on global trade facilitation and supply chain security. ORCID iD: 0000-0003-3636-8360.

Thai Quang Bui



Dr Thai Quang Bui is a senior officer of Vietnam Customs. He has worked in the headquarters of Vietnam Customs for 35 years. His specialities include customs supervision and control, postcustoms audit, electronic customs, office administration and risk management. He also worked as a specialist in the economic management of international relations. During the last 30 years, he has been a lecturer in the Customs Institute and in other training academies. He is an active researcher in modern customs management and in the building of close relations with the business community and customs officers.

Compensation for cargo claims in reverse supply chains

Julia Hörnig and Martijn Schippers

Abstract

The circular economy is essential to combat climate change. As part of the circular economy, supply chains are converted into closed-loop supply chains as this prevents non-recoverable waste and is thus more sustainable than traditional linear supply chains. The reverse supply chain is the part of the closed-loop supply chain that represents the phase whereby goods, at the end of their life span, are sent to a recycling or recovery facility. It is essential that goods in reverse supply chains reach their destination instead of being discarded along the way. In this article the authors presume that the current compensation systems in the international transport conventions discourage carriers or participants to close the material loop. The reason for this is that the compensation systems in international transport conventions are primarily based on the value of the transported goods. Because an inherent characteristic of goods in a reverse supply chain is that they have a negligible or low value, a financial incentive is lacking for the carrier to take care of the goods and make sure they reach their destination. The authors found several solutions to overcome these flaws. One is including a financial incentive in the transport conventions by making use of the principles for determining the customs value of imported goods. Taking a bottom-up or top-down approach are two other solutions explored in this article. In the case of the bottom-up approach, private parties include different contract models to facilitate the successful closed material loop, whereas the top-down approach introduces legal instruments to governments to intervene if the value for the compensation between the parties is too low.

Keywords: customs valuation, circular economy, shipment of waste, reverse supply chain

1. Introduction

Resource scarcity has aggravated the existing crisis in global trade after the COVID-19 pandemic and led to serious disruptions of supply chains. There is a strong need for raw materials such as lithium, and its absence has caused production downtimes.¹ Materials such as lithium can be obtained through mining; another option, however, is the disassembly of computers and electronic devices at the end of their lifespan. Thinking beyond the end of a linear supply chain and creating a material loop is one of the cornerstones of the circular economy. The European Union released the circular economy action plan in 2020 and emphasised the importance of this material loop (European Commission, 2020).

Achieving this goal requires closed-loop supply chains – a combination of forward and reverse supply chains (see Section 2). It also means that all incentives contradicting a successful closing of the loop need to be removed. One of the obstacles we detected is the lack of an incentive to ship less-value or

no-value goods to the designated recycling facility given the compensation system of the transport conventions, which is entirely based on value. Goods at the end of their lifespan have naturally less value than newly produced goods. Further, in contrast to the forward supply chain an underlying contract of sale for the goods shipped is not always in place, hence an indication for a market value based on the respective invoice is usually missing. Thus, why should a carrier care about the cargo or even deliver it to the facilities if unloading and carrying high-value cargo would be more lucrative?

Based on our presumption that the current compensation system discourages carriers or participants to close the material loop, we will propose regulatory and contractual adjustments partly based on concepts that exist in customs law.

To that end, we will explain the methodology used in this paper (Section 2), whereafter the compensation regimes of international transport and the results of these systems are discussed (Sections 3 and 4). In these sections we explain that the current compensation regimes are not adequate and suitable for a desired change of supply chains from linear to circular and do in fact encourage carriers or participants to care less about the products in their pre-recycling stage. The paper continues with a discussion on the methodology to determine the customs value of imported goods (Section 5) and considers whether this methodology can be used as a solution for the current flaws in the compensation regimes of international transport (Section 6).

2. Methodology

To analyse and answer the problem statement we used a doctrinal as well as a legal comparative method. The flaws in the compensation regimes of international transport are considered a global phenomenon. It is therefore key to address the relevant international transport conventions as a preliminary step to tackling the global issue. Despite being relatively comprehensive, the transport conventions do, however, not cover every single aspect in relation to a carriage contract.² These gaps are to be filled in by the contracting parties to the conventions. Besides the international transport conventions and legislation of the World Trade Organization (WTO), we therefore included the legislation of one of the contracting parties, the European Union (EU). That also allowed us to discuss relevant court decisions of the European Court of Justice (CJEU) and court proceedings in EU Member States in the discussion.

In this paper we analysed whether customs valuation methods can be used to appreciate goods for the purpose of transport-related compensation systems provided by the conventions. This is because the former takes a differentiated approach on cargo value depending on the age and the degree of utilisation, and even takes possibilities of future utilisation into account. As the customs valuation rules are laid down in regulations that directly apply in the EU Member States and the CJEU is competent for interpreting EU customs law, this perspective was taken for the purposes of our analysis.

3. Reverse supply chains

Trade and supply chains are traditionally focused on the purchase of single-use products that are not intended for reuse or recycling (Ellen MacArthur Foundation, 2013). The invention of plastic in that regard caused a significant side problem: it is non-recyclable waste, and exists in the form of packing units, or is a product itself (Merceland, 2020). To facilitate the circular economy, products should not hinder recyclability or reuse. Additionally, traditional supply chains should be converted to also enhance reverse flows. In other words, there is a need to establish closed-loop supply chains. The following subsections introduce the basic concepts and legal implications of a reverse supply chain which forms, together with the forward flow, the closed-loop supply chain.

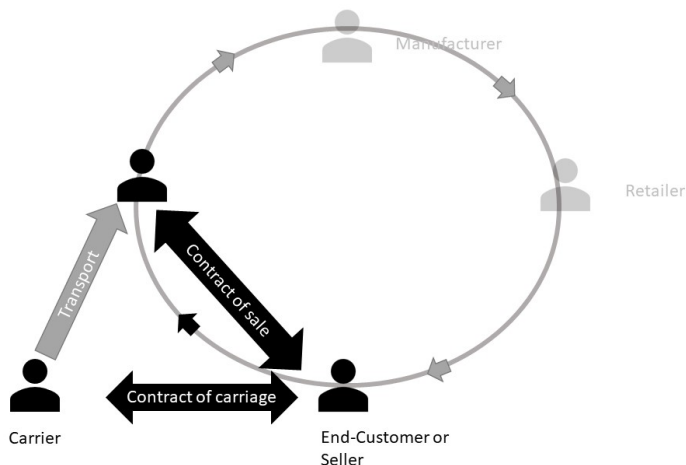
3.1 Operational concept

In contrast to the classic linear supply chain, circular economy-based supply chains are characterised by the fact that the focus is not on the beginning and end of the supply chain, but rather on the entire life cycle of a product, with the final intent being focused on reuse or recycling (Brears, 2018). In the event of a closed-loop supply chain, the conventional linear, forward supply chain is joined by a reverse supply chain (Govindan et al., 2015). While forward supply chains focus on the distribution of products to the customer, reverse supply chains encompass the collection and the inspection, as well as the disassembly and recovery of products for reuse (Kaoud et al., 2020). Reverse supply chains can be broadly divided into three categories: manufacturing, distribution and commercial returns (de Brito & Dekker, 2004). The first refers to the return of raw material and by-products, whereas distribution returns entail product recalls as well as, *inter alia*, stock adjustments. Commercial returns encompass warranty or guarantee-related returns, as well as end-of-life returns (de Brito & Dekker, 2004). An essential component of these reverse supply chains is reverse logistics, that is, a return-transportation of the product to the origin of its creation, usually to the manufacturer (Rogers & Tibben-Lembke, 2001). Thereby the value chain will operationally be closed, and waste can be avoided. This increases the effectiveness of resource use. However, one essential, necessary element of this chain is that the resources or products aimed for recovery procedure reach the recovery facilities. Given the fact that the percentage of import and export of plastic raw material is less than one per cent,³ it is important to ensure that the path from the location of the original end-buyer of the forward supply chain to the recycling facilities remains possible. Economic incentives which may put the success or lawful execution of transport of discarded goods⁴ at risk must be avoided to close the loop successfully.

3.2 Relevant contracts and the role of value

The previous section shows that in addition to the manufacturer, retailer and end customer there is a recycler involved. The supply chain is not linear but circular. The circulation of resources and material is usually covered by transport contracts, which can either be a contract of carriage or a contract of freight forwarding. Given the complexity the non-harmonised law of freight forwarding brings (Smeele, 2015), we decided to focus on carriage contracts only.

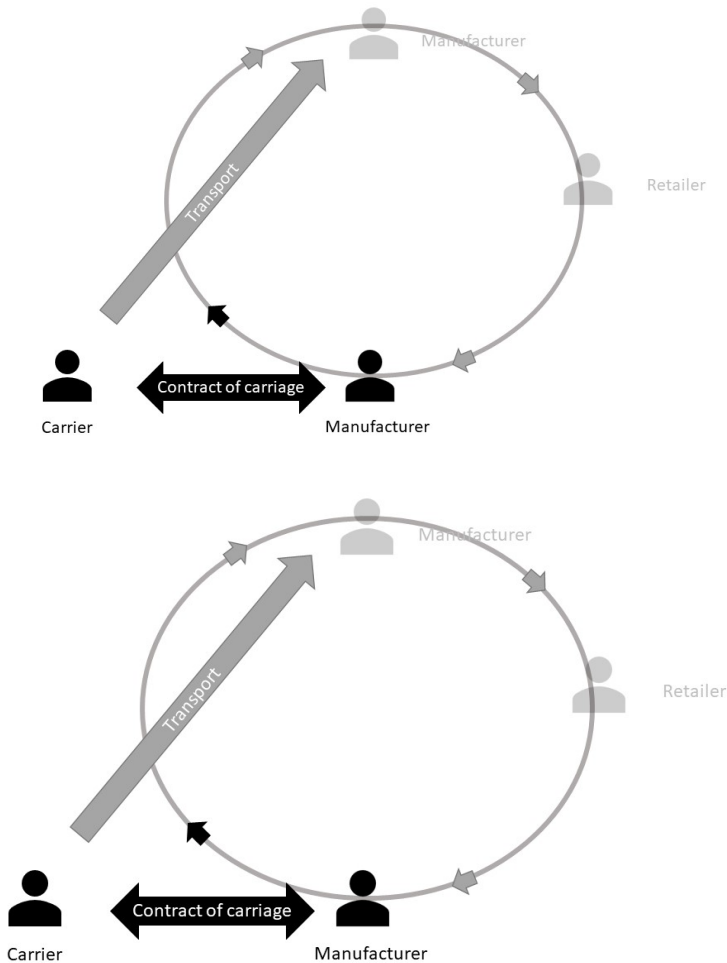
Figure 1: Reverse supply chain including sales transactions



Source: Authors

Like the forward supply chain, the reverse supply chain usually combines different contracts of sales and contracts of carriage as seen in Figure 1.⁵ The contract of carriage and the contract of sale must be considered as two separate contracts. A factual link and the fact that the purchase is often the occasion for the transportation cannot, however, be denied.⁶ The seller under a contract of sale is obliged to deliver the goods and transfer the ownership to the buyer.⁷ Usually the Incoterms, as generally accepted standard clauses in sales contracts, govern how all related costs are to be allocated and the moment when the risk of damaged arrival or loss of the goods passes from one contracting party to another.

Figure 2: Reverse supply chain without sales transactions



Source: Authors

One exception must be made in the case of waste or used materials being shipped as part of the movement of own goods (i.e. no change of legal title). As seen in Figure 2, a contract of sale is then missing. Depending on the complexity of the shipment and the capacity of the company, not even a contract of carriage with an external transport operator is required. Furthermore, if the waste is destined to be destroyed or recycled, the question arises whether there is a contract of sale (which requires transfer of ownership) or a mere (service) contract for work (transfer of ownership is absent).⁸ This mainly depends on the categorisation under national law. The type of contract and especially the contractual obligations that derive from a contract may have an impact on the customs valuation treatment of imported goods.⁹

The value of the goods that are sold, traded and transported is important for several reasons. It is the basis for the compensation in case of loss or damage to the goods under the carriage contract.¹⁰ Moreover, governmental charges and customs duties are based on a certain value of the goods traded.¹¹ Securities and insurance coverage are calculated based on the value of the goods.¹²

We focussed on the importance of the value of goods in the context of compensation for cargo claims and declared customs values. Whereas the value of the goods provides an undifferentiated basis under transport law, customs valuation rules require importers to make certain price adjustments and allow customs authorities in some cases to adjust the declared customs values. This may naturally be the case given the public law nature of customs law where authorities can interfere. However, public law regulations do already determine private law obligations, for example with regards to the carriage of dangerous goods (Reuschle, 2020).

4. Compensation regimes of international transport conventions

International transport conventions are uniform law, mandatorily¹³ applicable within their application scope. The paper focused on the Hague–Visby Rules for international carriage of goods by sea (HVR), the Budapest Convention on the Contract for the Carriage of Goods by Inland Waterways (CMNI), the Montreal Convention (international carriage by air, MC), the Uniform Rules on the International Carriage by Rail (COTIF-CIM) and the Convention on the International Carriage by Road (CMR). Despite their differences regarding the grounds for liability and provided exonerations as well as liability limits, almost all¹⁴ conventions rely on one central criterion as the basis for compensation: the value of the goods which were damaged or were lost. The following explanations provide for an overview of the differences between the provisions – content and ratio-wise.

4.1 Decisive time and location

The approaches pursued by the conventions are based on what value and at which time the compensation is calculated. The differences are mainly between the sea and water-related (maritime) transport convention and the ones for land transport. Further, only CMNI and COTIF-CIM provide rules for wastage, whereby the carrier is only liable for wastage if it does not exceed a certain degree of wastage.¹⁵

Conventions on the carriage of goods by sea and inland waterways refer to the so-called delivery value.¹⁶ This means that the value of the goods is a decisive factor at the time when the goods were delivered.¹⁷

For land transport, Articles 23 (2) and 30 COTIF-CIM refer to the concept of value in a similar way, but in contrast to the maritime approach it relies on the departure value. Contrary to the delivery value, any profits gained by the shipper during the transport as well as incurred freight charges and expenses do not form part of the value (Basedow, 1987).

4.2 Purpose of compensation

In general, there are two different approaches within contract law on how to calculate the compensation of the damages, that is, concrete and the abstract calculation methods (Kötz, 2017). The transport conventions chose the latter by relying on the value of the goods and excluding any consequential damages or loss of profits.¹⁸ Costs for necessary repair procedure or loss of profits are, *inter alia*, not covered by the rather abstract compensation system provided by the conventions (Jesser-Huß, 2020). However, an independent and abstract calculation is impossible considering the peculiarities of each individual transaction, the parties involved and the different market segments that may influence the value of a good (Koller, 2000). Beyond this degree of individuality, abstract and objective criteria prevail.

There are differences between land and maritime transport conventions given the differences in the calculative basis, as explained in the next subsections.

4.2.1 Land transport

The value at the time of takeover by the carrier allows for an abstract regime and protects the carrier from price fluctuations after the commencement of the transport. The system provides legal certainty for the carrier (Koller, 2000). The predictability of the damage relates to the ability of the carrier to choose diligent precautionary methods to comply with the duty of care (Koller, 2000). It also relates to the foreseeability of the damage as a basis for the compensation. This concept was introduced in the English landmark case in *Hadley v Baxendale*¹⁹ which referred to a delayed transport of a drive shaft of a mill and the compensation for delay in production and loss of profits. The loss of profits could not be claimed from the carrier as this was damage that was not foreseeable for the carrier. Certainly, this is a national concept which cannot apply directly to the conventions given their international character.²⁰ However, an abstract boundary of the amount compensable complies with the ratio of the compensation system of the conventions. *Inter alia*, the preamble of the Montreal Convention refers explicitly to compensation based on the principle of restitution which, based on an international linguistic comparison, shows that not an individual restitution in-kind but rather an abstract rebalance of financial cargo-related losses is required.²¹ All other conventions refer to the different value levels and the diminishment of value in case of damage of cargo.²² Moreover, the exclusive and limited character of the compensation and damages types recoverable under the conventions is, in some conventions, even expressed explicitly.²³ The carrier will not be overburdened with uncertain commercial risks between two commercial parties (seller and buyer) and a contract they are not party to (Basedow, 1987). Freight rates can be calculated in a predictable manner (Koller, 2000). Thus, the foreseeability of the extent of the compensation and legal certainty belong to the fundamental purpose of the compensation regimes under the transport conventions.

4.2.2 Maritime transport

The HVR, similarly to the CMNI, allows for a consideration of price fluctuations and increase of the value of the transported goods during the time of the voyage (Herber, 2020). This, however, does not mean that the compensation is unpredictable. This is due to the contractual nature of a claim for damage or loss of cargo under a contract of carriage, whereby contractual breaches can be predicted and the amount of damages estimated.²⁴ The type and amount of compensation must lie within the contemplation of the parties.²⁵ The test of reasonable foreseeability established in *Hadley v Baxendale*²⁶, as explained in Section 4.2.1, applies as well. The same line of argument was later reaffirmed in *Overseas Tankship (UK) Ltd v Morts Dock and Engineering Co Ltd*²⁷ where furnace oil leaked from the vessel *The Wagon Mound* while being docked in a wharf for repair. During the welding process, hot metal fell on cotton waste. A huge fire was caused to the wharf and ships. The Privy Council ruled that this damage was not foreseeable for a reasonable person in this situation – in this case, the crew that allowed the oil leak. Similar to the land transport conventions, within

a maritime context a price resulting from a subcontract of sale which was concluded several days before delivery took place cannot influence the compensation basis, as this is unpredictable for the carrier.²⁸ The specific moment and circumstance of sound delivery under Article 5(4) HVR lightens the carriers burden to submit evidence against a certain price at a certain hypothetical point in time (Baughen, 2015). Further, Article 5(4) HVR as well as Article 19 CMNI enable a restriction of the types of damages recoverable by naming loss and damage of cargo or ‘in connection with the goods’²⁹ explicitly. Despite being applied controversially sometimes,³⁰ the restriction of the types of damages recoverable is recognised.³¹ The compensation is thereby predictable and abstract.³² In this way the ratio that commercial risks connected with the sales transactions must not go to the detriment of the carrier holds true for the compensation for loss or damage to cargo under maritime conventions.

4.2.3 Conclusion

The compensation of transport damages and losses is based on an abstract calculation method, enabling the carrier to predict the amount of damage and to adjust the required precautionary measure to be taken to exercise the required due diligence.

4.3 General basis for calculation

Most of the transport conventions³³ provide for a three-tier scheme to calculate the compensation to be applied in the following prescribed hierarchal order.³⁴ As shown in Section 4.1, the decisive time and locations for the calculation differ between the conventions on land transport and sea transport. This is indicated as ‘delivery value’ and ‘pre-shipment value’ in Table 1.

Table 1: General basis for calculation of compensation per convention

Conventions	Compensation			Type of value
	Preferred	Second-best	Fallback option	
HVR (sea)	Commodity exchange price	Market price	Normal value	Delivery value
CMNI (inland waterway)	Commodity exchange price	Market price	Normal value	Delivery value
CIM (rail)	Commodity exchange price	Market price	Normal value	Pre-shipment value
CMR (road)	Commodity exchange price	Market price	Normal value	Pre-shipment value
MC (air)	No provision	N/A	N/A	Pre-shipment value

Source: Authors

4.3.1 Market price and its relation to invoices

For this paper the market value was of particular interest, because it shows the importance of customs law for the compensation for cargo claims as well, that is, that customs duties can form part of the compensation.³⁵ For all conventions, the invoice issued for the sales transaction has some indicative impact on the assessment of the market price.³⁶ For maritime conventions, the invoice only serves as a basis to determine the market price if the goods were sold upon arrival at the place of destination (Baughen, 2015).

Customs duties become due if goods are being imported into a different customs territory. These duties are directly included in the delivery value according to maritime conventions as the delivery usually only takes place after the border was crossed (Herber, 2020). Customs duties and freight therefore form part of the standard value. According to Article 19(5) CMNI, this is explicitly left to national law. One can, however, not deny the influence of customs duties on a market price of the product.

Even though land transport conventions rely on the pre-shipment value and thus before the goods enter another customs territory, customs duties can still play a role as well. Here, the decision of the House of Lords in the *Buchanan v Babco* case³⁷ is of importance. The case is about a shipment of 1,000 barrels of Scottish whisky shipped from England to Iran. In the English market a liquor tax of GBP30,000 was being imposed, which was absent in the Iranian market. The House of Lords rightfully relied on the whisky price at the Iranian market, which was significantly lower than the English one. Taxes thereby indirectly had an influence on the market price of the cargo. Further, taxes not yet paid, *inter alia* in case of a suspension from fiscal charges for consumption, do not form part of the value since at the time of taking over by the carrier they have not been paid.³⁸ Accordingly, only the country of importation is decisive for the market price.

4.3.2 Lack of rules on loss or damage of waste and used goods

Despite the absence of specific rules on valuing waste or used products, the rules provided by the conventions are in general suitable for waste and used goods. In the case of used goods, *inter alia*, the market level of the price a seller can get from the final customer is decisive (Koller, 2020). The fact that waste and used goods are diminished in value does not mean that a market price is entirely absent. Eurostat released an overview about price indexes of waste material such as glass, paper and plastic.³⁹ It was pointed out that these markets are less developed than, for example, scrap metal markets.

There is case law on how to determine the compensation of lost or damaged second-hand cargo. In general, there is a difference between the replacement value and scrap value. The German Reichsgericht once ruled that the replacement value is the crucial basis for compensation of damaged furniture during removal, instead of the value of the used furniture which was destroyed.⁴⁰ Thereby an abstract and hypothetical value basis was chosen to protect the owner of the furniture from an impossible burden to prove a particular value.

For the shipment of own, *inter alia*, used machinery or products destined for manufacturing, the same must apply: the replacement value is decisive (Koller, 2000). Another approach could be to rely on the scrap value. This was the approach taken by the Court of Appeal in the case of the second-hand vessel *The Alecos M*, which was sold without a required spare propeller.⁴¹ The Court of Appeal overruled the decision rendered by the Court of First Instance⁴² which relied on the replacement value of the spare propeller and deemed the scrap value of the missing propeller decisive instead.

In the case of waste and used products, the value basis certainly depends on the type of material. While steel scrap material has a certain value relying on a rather steady market, plastic and paper has not.⁴³ This mainly has to do with the uncertainty of recyclability. Plastic-paper combinations require difficult separation and may sometimes not even be recyclable at all. This usually depends on the expertise of the recycling company, the degree of inspection and mix of materials. Further, there is not even legal

certainty about the required recycling standards and conditions for the end-of-waste status within Europe (Umweltbundesamt GmbH (EAA) & ARCADIS Belgium NV, 2020). A replacement value is suitable in the case of second-hand material, thus used cargo which is not yet waste. The situation is comparable to furniture removal. In the case of waste, a replacement seems hard to envisage, so it is left to the invoice price. In the case of a transfer of own goods, this figure may not even be given. Thus, the value-based compensation system provides for an abstract compensation to a certain extent. In the case of waste material with a huge fluctuation, the desired predictability may not be provided for the carrier. On the other hand, waste without a realistic chance of full recovery may provide for a value of zero, letting the compensation system run dry.

5. Cargo value in customs law

Cargo values play an important role in determining the amount of customs duties dutiable. Customs duties become due if goods are released for free circulation in a customs territory (i.e. import duties) or if the goods are exported from a customs territory (i.e. export duties). For determining import duties, a distinction can be made between specific rights (i.e. the import duties are based on, e.g. the weight, volume or quantity of imported goods) and *ad valorem* rights (i.e. the import duties are calculated as a percentage of the value of the imported goods). Three elements are important for determining *ad valorem* import duties; these are the tariff classification, the origin and the customs value of the imported goods. In most customs territories such as the EU, the rules for determining the customs value are based on an internationally accepted system of the WTO called the Customs Valuation Agreement (WTO CVA).⁴⁴ The WTO CVA provides for the methods of valuation, which need to be applied in a prescribed hierarchical order. The transaction value is the primary and preferred customs valuation method which is used in 90–95 per cent of all imports (World Customs Organization [WCO], 2018). Based on Article 1(1) of the WTO CVA, the transaction value is the ‘... price actually paid or payable for the goods when sold for export to the country of importation ...’. A more detailed discussion on the application of the transaction value can be found in Section 5.1.

If the transfer of goods to another customs territory is not subject to a sale or the legal conditions for applying the transaction value are not met, the customs value should be based on one of the alternative valuation methods. These methods are to be applied in the order established by Articles 2 to 7 WTO CVA, as follows:

- The transaction value of identical goods (Article 2 WTO CVA)
- The transaction value of similar goods (Article 3 WTO CVA)
- The deducted value method (Article 4 WTO CVA)
- The computed value method (Article 5 WTO CVA)
- The fallback method (Article 6 WTO CVA).

The question is how these valuation methods apply to goods subject to reverse supply chains. This is not a simple question to answer since goods in reverse supply chains are typically not subject to a sale (upon their return) and, consequently, are to be valued based on an alternative valuation method. This question is expanded below and, in particular, answers the question of how the customs value of damaged or defective goods (Section 5.2), as well as waste and used products, (Section 5.3) should be determined. For that purpose, some non-binding instruments from the Technical Committee on Customs Valuation of the World Customs Organization (TCCV WCO) are also discussed as they shed light on the customs valuation treatment of damaged goods. For the EU specifically, some rulings of the CJEU as well as non-binding instruments of the Customs Expert Group, Valuation Section (CEG VAL) are also part of the discussion. Subsequently, we elaborate on the options the customs

administration has to adjust declared customs values as this is also relevant for using customs values for compensation purposes as explained in Section 3.2 (Section 5.4). As the transaction value method also remains the primary and preferred method in the case of reverse supply chains, the application of the transaction value method is discussed in greater detail (Section 5.1).

5.1 Application of the transaction value method

As discussed, the transaction value is the primary and preferred method to value imported goods for customs purposes. It is based on the price paid or payable for the goods sold for export to the country of importation adjusted by certain price elements⁴⁵ and can be used assuming that four cumulative conditions are fulfilled.⁴⁶

To apply the transaction value, it is essential that the goods are sold for export. The concept of ‘sale’ has not been defined in the WTO CVA, however, from non-binding instruments of the TCCV WCO it can be extracted that the concept of a ‘sale’ should be interpreted in the widest sense possible.⁴⁷ A sale is, in our view, any case where a party acquiring the goods bears at some point in time financial risk over the goods.⁴⁸ Financial risk over the goods is usually obtained if a party purchases the goods and thus obtains legal title to the goods. Passing of legal title is usually arranged by a contract of sale rather than, for example, a contract of work, hire or leasing.⁴⁹ Therefore, according to the TCCV, an arrangement whereby goods (i.e. waste or scrap) are being imported for destruction with the sender paying the importer for their services does not constitute a sale (for export) and, as a consequence, the customs value should in such instances be based on an alternative valuation method.⁵⁰ In the case of a series of sales, the TCCV has a preference to determine the transaction value on the price paid in the last sale occurring prior to the introduction of the goods into the country of importation (last-sale-for-export principle).⁵¹ While the EU applies the same principle,⁵² there are also countries in favour of applying the first-sale-for-export principle or other approaches.⁵³

5.2 Value of damaged or defective goods

On their international journey from one customs territory to another, goods may become damaged or defective. Upon arrival and before the goods are released for free circulation, it may be decided to send the goods back to the customs territory from where they have been shipped. In that case no customs debt arises in the intended customs territory of arrival, and thus no customs value needs to be determined. The damaged goods may, however, also be released for free circulation. In Explanatory Note 3.1, the TCCV WCO makes the distinction between damaged goods whereby upon importation the shipment is found to be: (i) totally damaged, having no value; or (ii) partially damaged, or having scrap value only.⁵⁴ In the first case, on the presumption of the existence of national procedures for the re-exportation, abandonment or destruction of the goods, the TCCV WCO held that there is no liability to duty. That also applies to the second case unless the importer takes delivery of the goods. In such cases the transaction value cannot be used (for the damaged part of the shipment) as the sales price was not settled for damaged goods according to the TCCV WCO. It is, however, arguable in our view that the transaction value can still be used for the imported damaged goods, but that an allowance in their value to the extent of the damage should be considered. For instance, if those goods are repaired post-import, it should be permitted to make an allowance in the value of the damaged goods equal to the repair costs into account, to the extent the repairs relate to the damage incurred prior to import are reasonable and well-documented.^{55/56} There are customs jurisdictions such as the EU that allow importers to consider an allowance, provided that some conditions are met.⁵⁷ Manufacturers may make a mistake during the production that increases the risk that a good becomes defective. The CJEU considers a manufacture-related risk that an imported product may actually become defective after importation already sufficient to allow importers to take into account an allowance.⁵⁸ The reason for this, according to the CJEU, is that the risk that the goods become defective has negative repercussions

on the economic value of the imported product and, accordingly, on its customs value.⁵⁹

Without undermining our view that the transaction value should in some cases also be acceptable to appraise imported goods that are partially damaged, the transaction value may in some customs jurisdictions be rejected if goods are partially damaged, and cannot be used if the damaged goods have scrap value only. In those instances, the customs value needs to be determined based on an alternative valuation method. As identical or similar goods cannot, in most of these cases, be identified, the transaction value of both identical and similar goods cannot be utilised. The deducted value method can only be used for partially damaged goods if these are sold after importation. Based on the deducted value method, the customs value is in such cases determined on the price per unit derived from a sale of goods after importation, adjusted by deducting an amount for the price elements provided for in Article 5(1)(a) WTO CVA.

If the goods are not sold after importation, it should be tested whether the computed value method can be applied. This is probably not the case, since the damaged goods are not manufactured or produced as such. Therefore, the customs valuation will be determined using the fallback method. In that regard, there are two options for valuing the goods for customs purposes: i) flexible application of the previous methods; ii) using another appropriate method which is consistent with the principles and general provisions of the Agreement and of Article VII of the General Agreement and based on data available in the country of importation.⁶⁰

For goods that are partially damaged, it can be defended that the customs value can probably be determined based on the initial sales price, whereby an allowance in the value of the damaged or defected goods is considered – not by using the transaction value directly, but via the fallback method ('modified transaction value'). For determining the customs value of goods having scrap value only, we refer to Section 5.2.

Where the goods are sent back because they are damaged or defective, the customs value of the goods also needs to be determined for the purpose of importing these goods in the country the goods are returned to. As the goods are at that point not or no longer subject to a sale for export,⁶¹ the goods need to be valued based on an alternative valuation method. Following the reasoning as set out above, the damaged or defective goods are likely to be valued using a modified transaction value under the fallback method. This modified transaction value is usually based on the sales price that was initially agreed upon between the sales parties, whereby an allowance in the value of the damaged or defective goods is to be considered.

5.3 Value of waste and used products

In principle, for valuing waste and used products for customs purposes, the same exercise should be performed as for damaged and defective goods in Section 5.2, as there are no special valuation rules for these goods. This means that also for valuing the goods, the customs valuation methods must be applied in the prescribed order as set out in the introduction to Section 6. In other words, if waste is subject to a sale for export, the customs value is to be established on the transaction value assuming the conditions for applying the transaction value are fulfilled. If not, it should be assessed which alternative valuation can be applied.

For assessing which customs valuation method applies in the EU, the CEG VAL makes a distinction between three types of waste and used products:

1. waste containing recoverable materials
2. waste to be further processed
3. waste to be destroyed/neutralised.

The first category of goods are likely to be appraised by using the transaction value method as typically this type of waste will be subject to a sale for export because it contains recoverable materials which have an economic value (e.g. scrap iron used for the production of steel).⁶² If the goods are to be further processed or reactivated (second category), the goods are typically placed under a suspension regime upon arrival before releasing the processed products that result from the waste (i.e. inward processing procedure in the EU). In the EU, the customs value will in that instance be based on either the customs value applicable to the imported goods at the time of acceptance of their customs declaration or the customs value of the processed products at the time they are released for free circulation provided that the goods are subject to a sale.⁶³ If this is not the case, the transaction value cannot be used unless the processed products are sold before they are brought under the procedure for releasing the goods for free circulation. In that case, the price paid or payable for those processed goods can be used as the basis to determine the customs value under the transaction value method. If such a sale does not occur, the alternative valuation methods should be applied in the order as described in the introduction to Section 6 (the assessment of the applicability of the alternative valuation for these instances is included below). As regards the third category, waste or used products that are brought to the EU for the purpose of being destroyed or neutralised are usually not subject to a sale for export according to the CEG VAL. It is usually the exporter that pays the importer for the service they will render, that is, destroying/neutralising the goods. You could therefore argue that the goods have a negative value, since the payment is made by the exporter rather than the importer. Hence, the transaction value cannot be used, and an alternative valuation method should be applied.

The specificity of waste as imported items makes it difficult to identify identical or similar goods for each of the three categories. Hence, the transaction value of identical or similar goods as well as the deducted value method cannot be used in most cases. An exception applies regarding the applicability of the deducted value method that can be used in instances where the waste is further processed, and the processed goods are sold after releasing them for free circulation. If that is not the case, the fallback method should be utilised as the computed value method cannot be used, since waste is not 'produced' as such. For the fallback method, the CEG VAL provides examples on how the customs value of waste can be established by using other appropriate methods. For waste that is going to be destroyed, a symbolic value (i.e. EUR1) is an acceptable way of appraising goods as in those instances the imported items do not represent any economic value. This is, however, only possible if a sale is lacking and, after the products are destroyed, no scrap remains that represents any value. In cases where processed goods are obtained from waste, which are considered commodities, the CEG VAL takes the view that the prices quoted on recognised commodity exchange markets in the country of importation can be used as a starting point to calculate the customs value under the fallback method. This seems in our view a fair and pragmatic approach for these instances.

5.4 Competence of the customs authorities to adjust declared customs values

Customs administrations are legally in the position to require (additional) information from the declarant for determining whether the declared transaction value forms a proper basis of value for customs purposes. This can be the case if a customs administration has reasonable doubts that the declared transaction value does not represent the total amount paid or payable for the imported goods or in case they have doubts whether the conditions for applying the transaction value have been met. If the doubts of the customs authorities are not dispelled after giving the declarant the opportunity to provide additional information, the customs administration in charge may reject the transaction value and adjust the declared customs value based on another customs valuation method. The decision of the customs administration should be properly reasoned, and they should adhere to the hierarchy established between the customs valuation methods. Also, where the declarant used an alternative valuation method to declare the goods for import, the customs authorities may request additional

information in case they have doubts about whether the conditions have been applied properly. If their doubts are not dispelled, the actions of the customs authorities are like instances where they reject the transaction value.

6. Results of the current compensation systems

The results of the current compensation regimes under the conventions strongly depend on the value of the goods. Loss of, or damage to, goods with a small or negligible value, or that even causes costs, may result in no compensation. Carriers are entitled to receive carriage charges for their transport services. The following scenarios show the consequences of loss and damage of goods with almost no value, also in relation to the carriage charges.

Moreover, the consequences differ between the different scenarios we described at the beginning, namely if a contract of sale was concluded or is absent. Further, a distinction must be made regarding whether the goods arrived in a damaged condition or were lost.

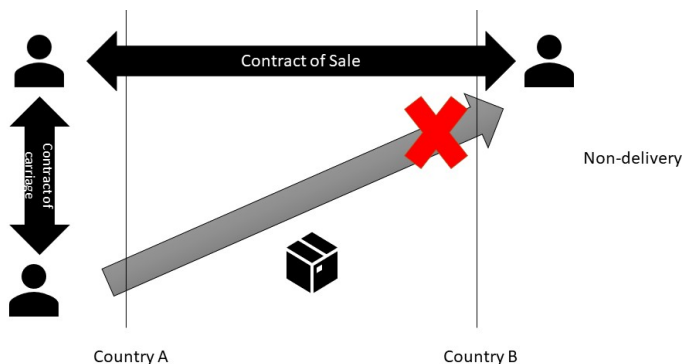
6.1 Two contracts

In Figure 1, as explained in Section 3.2, there is a contract of sale and a contract of carriage. For our assessment we focussed on two types of breaches of the contract of carriage. The carrier may either not deliver the goods (6.1.1) or deliver them in a damaged condition (6.1.2).

6.1.1 Non-delivery

For land transport, the consignor or shipper may reclaim the freight charge from the carrier that was already paid if the goods do not entirely or only partially arrive, according to Article 23(4) CMR, Article 30 § 4 COTIF-CIM (Figure 3). Furthermore, both provisions allow for a refund of customs duties from the carrier in such cases. According to the clear wording of the provision, freight charges cannot be recovered if the goods arrived in a damaged condition. Costs of reversed transport of damaged goods are neither recoverable under Article 23(4) CMR.⁶⁴ A carrier that does not transport the goods by rail or road until the agreed point of delivery will thereby be punished by the obligation to repay the freight charge independent from the compensation based on value. Such a concept does not exist for carriage by air under the Montreal Convention. In the case of maritime transport, the result does not differ significantly. Article 10 CMNI merely states that the shipper is obliged to pay the freight charges.

Figure 3: Non-delivery under two contracts



Source: Authors

In general, however, under common law but also under civil law, payment of freight charges is due at the end of the voyage, hence upon successful delivery and by the consignee.⁶⁵ The HVR does not specify the time when payment is due. However, freight prepaid clauses, whereby payment is due at the beginning of the shipment, are commonly incorporated in bills of lading (B/L) – that is, in the case of a sales contract on the basis of the Incoterm clause CIF (Rabe, 2018; Thume, 2020; Aikens et al., 2010).⁶⁶ Thereby, the consignee will be protected from illegitimate claims for freight charges.⁶⁷ The obligation to pay freight charges is already included in the purchase price and was thereby already charged by the shipper as seller from the consignee as buyer (Rabe, 2018). The payment by the shipper is considered an ‘irrevocable payment [instead of] a loan repayable’⁶⁸ and thus at the shippers’ risk, if no clause was included that speaks to the contrary (Williams, 2016).⁶⁹ Sometimes it is even included in the B/L that advance payment is not repayable (Dockray, 2004). Thus, in the case of loss of cargo, no reduction of the compensation to the extent of the freight charges or to the customs duties is possible (Herber, 2020).

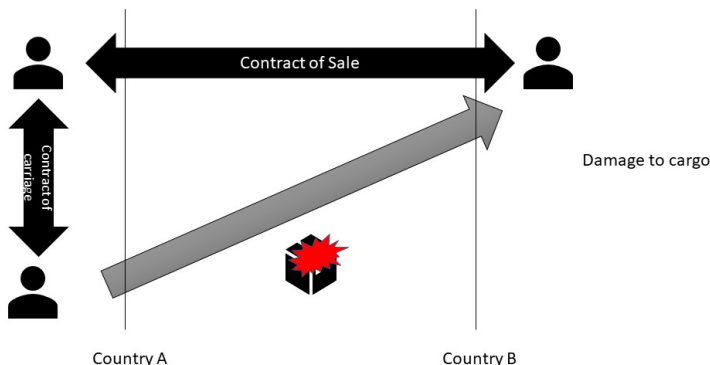
Article 19(5) CMNI explicitly leaves open which consequences damage and loss of cargo have to the payment of freight charges. This is left to national law according to Article 29 CMNI. Under the CMNI regime, it may therefore be the case that the freight charges are not recoverable even in the case of loss of cargo.

Given the presumption that the consignor or shipper concludes a contract of sale, damage claims in case of non-delivery will arise within the contract of sale. The shipper will then most likely seek recovery from the carrier in this event. This enhances the change that the carrier complies with the duty to deliver the goods.

6.1.2 Damage during shipment

Due to the existence of the contract of sale and potential damage claims by the buyer against the seller based on a certain purchase price, the carrier will also face recourse claims to a certain amount. Since the invoice issued based on the sales contract is a strong indication of the market price, the compensation will be calculated on this basis. It also means that compensation must be higher than zero. Consequently, the damage claims may discipline the carrier and its compliance with the obligations under the carriage contract (Figure 4).

Figure 4: Damage during shipment under two contracts



Source: Authors

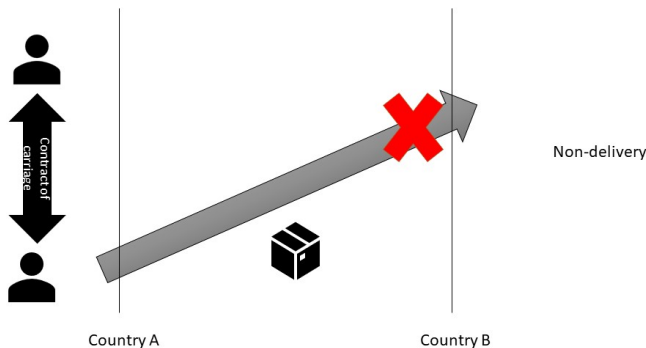
6.2 Movement of own goods

The situation is entirely different but rather severe if a sales contract is lacking. This is a common scenario for the shipment of waste, especially if the waste is to be destroyed/neutralised.⁷⁰ Also here, we focussed on two types of breaches of the contract of carriage, namely if the carrier does not deliver the goods (6.2.1) or delivers them in a damaged condition (6.2.2).

6.2.1 Non-delivery

In general, the consignor can reclaim the paid freight charges if the goods did not arrive after land or rail transport. In the case of maritime and inland waterways transport the freight charges are not chargeable. If a freight prepaid clause was agreed upon – which is customary practice – reclaiming the freight charge would be difficult. Consequentially, no incentive to deliver the cargo to the destined point of arrival exists (Figure 5).

Figure 5: Non-delivery in case of movement of own goods

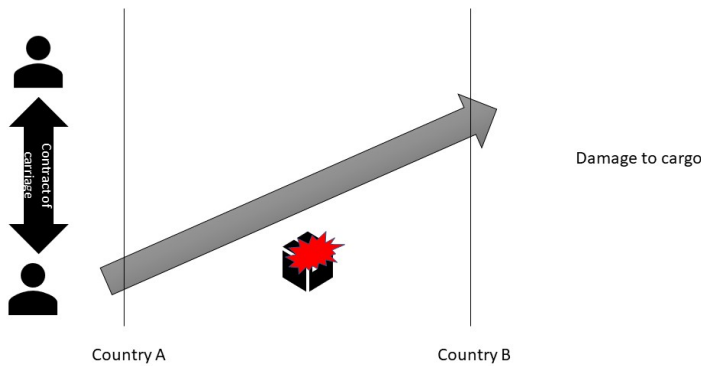


Source: Authors

6.2.2 Damage during shipment

Since the invoice of a contract of sale is missing, the strong indication for the market price is also lacking. If the value of the goods is close to zero, the cargo interest will suffer no or very little financial loss. Based on this no or little compensation can be claimed and no or few negative consequences arise for the carrier in the case that the goods' conditions worsen during the transport (Figure 6). The carrier has a duty to prevent the goods from any harm (Hörnig, 2019), and under the CMR, the carrier is obliged to exercise utmost care.⁷¹ This applies in a similar way to carriage by rail based on the almost identical wording of Article 23(2) COTIF-CIM compared to Article 17(2) CMR. A violation of this duty does not result in any financial detriment for the carrier if the value of the goods is too small. This applies similarly to carriage under the HVR and CMNI as they base their compensation systems on the value of the goods as well. While under Article 4(1) HVR the standard of care equals due diligence and reasonable care (Ramming, 2019), the carrier under CMNI must exercise utmost care (Jaegers et al., 2015). Therefore, where the conventions require a stricter standard of care, the lack of incentive to comply with the duty of care is even more delicate.

Figure 6: Damage during shipment in case of movement of own goods



Source: Authors

6.3 Consequences

The discussion above shows that the carrier will usually be punished for cargo loss by being obliged to repay the freight charges for the cargo to the extent the shipment was fulfilled. Also, customs duties that were paid in advance in the case of land transport must be repaid or cannot be charged in the case of sea carriage. Only in the latter case, where freight prepaid clauses were agreed upon, the loss of cargo may even be a business option for the carrier. Thereby, the risk of environmental pollution due to unlawful unloading exists. For all other scenarios there is at least a financial incentive for the carrier to carry cargo with small or no value to the agreed destination. This holds even more for shipments of own goods – the more usual case for waste shipments, where the indicative effect of an invoice of the sales transition is missing. If one considers the burdensome nature of waste, an illegal disposal may even be to the benefit of the cargo interest, too. The current legal status quo thereby contributes to environmentally undesired collaboration between shippers and carriers.

However, this is not considered true in case of damage. As shown above, the carrier is obliged to exercise a certain degree of care and protect the goods from any harm, otherwise they are, in general, liable and must pay compensation. In the case of low-value goods, the risk of compensation appears to be merely a theoretical one. A financial incentive to comply with the duty of care is missing, which causes the risk of efficient breaches of contract whereby non-compliance with the obligations seems more economically feasible than the original compliance (Birmingham, 1970). Thus, a secured reverse supply chain to the recycling facility cannot yet be provided by the current compensation model of the transport conventions.

7. Towards a more environmentally friendly compensation system

As mentioned in Section 1, the general aim is that waste will not be disposed unlawfully but will reach the recycling facilities successfully to be recovered and turned into a valuable resource. If waste or used materials become lost or damaged while being transported, the existing transport conventions provide for no or limited compensation. Therefore, an incentive for the transporter to transport its goods to the recycling facilities is lacking.

The customs valuation methods on the other hand aim to determine the economic value of the imported goods. Based on this principle it does not seem possible, from a customs valuation perspective, that goods will be given a negative value. Moreover, several rules are in place to ensure that goods are not undervalued; the customs authorities may adjust the declared customs values in some cases as set out

in Section 5.4. Therefore, customs valuation methods may be an appropriate means to determine the compensation and may evolve the compensation systems of the transport conventions towards a more suitable one for the circular economy.

The following section explains which customs valuation methods can serve as a basis to solve the errors in transport law (Section 7.1). These considerations will be used to propose a bottom-up and top-down approach (Section 7.2).

7.1 Adding a financial incentive

The question is in which scenarios customs valuation methods can play a role in determining the compensation of waste and used materials. The customs valuation methods do not provide for rules to value goods that are lost along the way, simply because a customs value does not need to be determined for goods that are not being imported (non-delivery, see Sections 6.1.1 and 6.2.1). In cases where waste and used products become damaged on their way to the country of importation, a customs value needs to be determined and thus the customs valuation methods can in those cases, in principle, be used (damage during shipment, see Sections 6.1.2 and 6.2.2).

As explained in Section 5.1, in such cases – also for waste and used products – the primary and preferred method to determine the customs value is the transaction value (‘price paid or payable’). Customs valuation methods offer several possibilities to objectify the declared customs value making it an appropriate basis to determine compensation. To ensure the goods are not undervalued, some price elements, for example, transport costs up to the customs border of the EU, need to be added to the price paid or payable for determining the customs value if they are not yet included in this price. Then there is also the possibility for customs authorities to reject the transaction value, for example, when the customs authorities have doubts about whether the declared customs value represents the actual price paid or payable.

Also, in cases where the transaction value cannot be used as a method to determine the customs value of imported waste or used goods, the alternative valuation methods may provide an appropriate basis to determine compensation. Some alternative valuation methods allow the use of price indexes to appreciate (part of the) imported waste or used materials,⁷² although in such cases an allowance for depreciation should be provided (Section 4.3.2). The only occasion when customs valuation methods cannot be used is when the transaction value can be used to appreciate waste or used materials upon importation and their intended use is to be neutralised or destroyed. In those cases, at least the EU allows importers to use a symbolic value (i.e. EUR1). This does not seem to be an appropriate basis for compensation, as it does not provide an incentive considering the low value that is given to the imported goods in such cases.

When a contract of sale is lacking, and the customs value is arrived at by using the fallback method, the value in a recycling contract could be considered as the basis for the customs value as well as the compensation system. In cases of shipment of waste, however, the Waste Shipment Regulation (WSR)⁷³ provides for take-back obligations in case the shipment cannot be completed as intended. This especially concerns cases where the recovery facilities reject a shipment received.⁷⁴ The costs for the transport, recovery or disposal in cases where the take-back obligation will be imposed by the authorities can be charged to either the notifier or other persons as appropriate.⁷⁵ Either way, costs will arise. This potential financial interest and a hypothetical recycling contract can be taken as a basis for the valuation. The operation based on hypothetical (sub-)contracts is a model which is also not new for transport law. In case of multimodal transport, the applicable liability system can be determined according to the network-system⁷⁶; a system that takes the hypothetical unimodal subcontracts into consideration.⁷⁷

7.2 Bottom-up vs top-down approach

To achieve an adjustment that prevents efficient breaches of contract, two alternative approaches are possible. The first aims for a bottom-up approach, where the private parties include different contract models to facilitate the successful closed material loop.

7.2.1 Bottom-up challenged by mandatory transport law

Before answering the question on what suitable voluntary contract options could look like, it is necessary to take the mandatory and restrictive nature of the transport conventions into account. This effectively prevents contractual arrangements deviating from the convention from being valid.⁷⁸ However, some room for contractual freedom exists – even under the CMR, which is the only convention that provides for a comprehensive mandatory regime where not even clauses burdening the carrier more than prescribed under the convention are allowed.⁷⁹

Article 27 MC allows for a greater liability and a more burdensome obligation for the carrier. This may even encompass an extension of liability rules (Freise, 2020). Although under Article 25 COTIF-CIM this special interest is only possible for timely delivery, Article 5 S.3 COTIF-CIM similarly allows for a greater range of obligations for the carrier. Thereby, an environmental obligation of care by the carrier may be agreed by the parties. This arrangement can even form part of the corporate sustainability strategy of the shipper's company or be added to the portfolio of the carrier. Further, some conventions allow for a declaration of a certain interest in delivery payable in addition to the compensation,⁸⁰ thereby recovering other types of damages. Here, an environmental interest can be declared, including a financial incentive to comply with the duty of care in the contract.

The HVR allows for a deviation from its regime only with regards to an allocation of obligations beyond the period of responsibility prescribed in the convention.⁸¹ In general, no further deviations and possibilities to specify extra charges are explicitly permitted. However, cost allocations are possible to a greater extent.

In conclusion, there are options to make amendments to the contracts. Increased responsibility of the carrier will, however, always be reflected in freight charges and costs charged by the carrier. This, in return, makes it rather unlikely that parties agree on these contractual options. Public pressure and visibility in corporate strategies may pay off and cause the seller and consignor, or shipper, to nevertheless include these clauses.

7.2.2 Top-down approaches

It is possible for importers to deviate from the customs valuation rules while declaring their goods for import. All stakeholders – importers, customs authorities and the judicial system – should adhere to the customs valuation principles, and these rules thereby regulate the valuation issue from a top-down perspective as they are imposing non-negotiable rules on the stakeholders.

With regards to the recommended intervention by courts, the focus should lie on contractual clauses that facilitate non-compliance. The freight prepaid clause constitutes a potential risk for compliance and here, restrictive application is suggested. In the case of the CMNI, the freight charges issues are left to the national law and therefore governmental actions seem more appropriate. It may be an option to interpret the standard of care for maritime transport of waste and used products in a stricter way; under land transport conventions, the utmost care is already the well-established standard of care. This may also be an option under the maritime conventions by restrictively interpreting 'due diligence', for example in Article 4(1) HVR.

Fines or separate ecological charges may be imposed for waste shipment to ensure a successful arrival. By adding price elements or making upwards adjustments to the value of the goods, national regulators may influence the amount for compensation for the better. The transport conventions do not permit an agreement based on compensation or a lump sum. However, they provide for the option to declare the value in the transport contracts.⁸² This option can be chosen to prevent the application of the limits of liability that usually apply under all transport conventions.⁸³ For example, an electronic device with an economic value of EUR700 is destroyed during transit. Then, the limit of the compensation payable by the carrier amounts to 8,33 Special Drawing Rights (SDR)⁸⁴ per kg. This results in a compensation lower than EUR100 in the case of lightweight electronic devices. By declaring the value of EUR700 in the transport contract, the full compensation for valuable goods can be assured. In the case of goods with a small or negligible value, the declaration of value does not, however, provide a solution for the parties. In that case a solution would be if the European legislator was granted power to influence the market price by using the notion of the declared value ('top-down approach'). Thereby, the European legislator can intervene where the parties are not permitted to conclude agreements on a compensatory basis. Such mechanisms already exist, for instance in form of the carbon price and emissions trading system for aviation.⁸⁵ In that case the pollution of the common negative environmental impact on 'air' by aviation was internalised and imposed on the airlines as a fee (Remeur, 2020, p. 3). Also, in this case a top-down approach is applied since governmental action is required (i.e. the internalisation is not left to the contracting parties). In addition, specific training to comply with a greater standard of care for waste shipment may be made mandatory for carriers of waste shipments. Here a parallel can also be drawn with aviation, where a secured supply chain is already a reality to protect the surface from potential aircraft crashes and terror attacks.⁸⁶ This model can thus in our view be transferred to ecological supply chain security.

7.3 Conclusion

The compensation systems provided by the conventions are far from perfect and may even facilitate environmental pollution. There are possible ways in which the parties can amend their contracts towards a more environmentally friendly and circular practice. This may be appreciated by customers. Furthermore, European, governmental and judicial actions should be considered. Environmental protection should be kept in mind when interpreting the conventions and making use of the provided contractual freedom. Thereby a closed value chain can be ensured, and resources may be protected from being disposed in a landfill; only then the transition towards a true circular economy can be achieved.

References

- Aikens, R., Lord, R., & Bools, M. (2010). *Bills of lading*. Informa Law (Routledge). Chapter 2, at para 273.
- Bahnsen, K. (2018). Annotation of § 502 HGB [section 502 German Commercial Code]. In D. Rabe & K. Bahnsen (Eds.), *Seehandelsrecht* (5th ed., para. 11). C. H. Beck. § 502 HGB.
- Basedow, J. (1987). *Der Transportvertrag: Studien zur Privatrechtsangleichung auf regulierten Märkten* [The transportation contract: Studies on the assimilation of private law in respect of regulated markets]. Mohr Siebeck.
- Baughen, S. (2015). *Shipping law* (6th ed.). Routledge.
- Birmingham, R. L. (1970). Breach of contract, damage measure, and economic efficiency. *Rutgers Law Review*, 24(2), 273–92.
- Brears, R. C. (2018). The circular economy. In R. C. Brears (Eds.), *Natural resource management and the circular economy* (pp. 1–30). Palgrave Macmillan.
- Budgen, P. M., & Lamont-Black, S. (2013). *Goods in transit and freight forwarding* (3rd ed.). Sweet & Maxwell.
- de Brito, M. P., & Dekker, R. (2004). A framework for reverse logistics. In R. Dekker, M. Fleischmann, K. Inderfurth & L. N. Van Wassenhove (Eds.), *Reverse logistics – quantitative models for closed-loop supply chains* (pp. 3–28). Springer.
- Dockray, M. (2004). *Cases and materials on the carriage of goods by sea* (3rd ed.). Cavendish.
- Dolde, K.-P., & Vetter, A. (1997). Abgrenzung von Abfallverwertung und Abfallbeseitigung nach dem Kreislaufwirtschafts-Abfallgesetz [Delimitation of waste recycling and waste disposal according to the Closed Substance Cycle Act and the Waste Management Act]. *Neue Zeitschrift für Verwaltungsrecht*, 937–943.
- Ellen MacArthur Foundation. (2013). *Towards the Circular Economy – Volume 1*. <https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf> (accessed 31 January 2022).
- European Commission. (2020, March 11). *Communication From The Commission To The European Parliament, The Council, The European Economic and Social Committee and The Committee Of The Regions. A new Circular Economy Action Plan for a cleaner and more competitive Europe*. COM/2020/98 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:98:FIN&WT.mc_id=Twitter
- Freise, R. (2020). Annotation of Article 5 COTIF-CIM. In *Münchener Kommentar HGB* (4th ed.). C. H. Beck. Article 5 COTIF-CIM para 3.
- Govindan, K., Soleimani, H., & Kannan, D. (2015). Reverse logistics and closed-loop supply chain: a comprehensive review to explore the future. *European Journal of Operational Research*, 240(3), 603–626. DOI:10.1016/j.ejor.2014.07.012
- Herber, R. (2020). Annotation of § 502 HGB [Section 502 German Commercial Code]. In *Münchener Kommentar HGB* (4th ed.). C. H. Beck. § 502 HGB, para 1.
- Hörnig, J. (2019). *The contractual liability regime on the multimodal transshipment in combination of road and aerial segments*. Stämpfli.
- Jaegers, M. (2015). Rechte und Pflichten aus nationalen Frachtverträgen für Straßentransporte [Rights and obligation stemming from domestic carriage contracts by road]. In J. Knorre, K. Demuth, R. T. Schmid, M. Jaegers, M. F. Kehl, P. Kollatz, J. B. Reimer, & W. Schenk (Eds.). *Handbuch des Transportrechts* (2nd ed.). C. H. Beck.

- Jesser-Huß (2020). Annotation of Article 23 CMR. In *Münchener Kommentar HGB*, (4th ed.). C. H. Beck. Article 23 CMR para. 3.
- Kaoud, E., Abdel-Aal, M. A. M., Sakaguchi, T., & Uchiyama, N. (2020). Design and optimization of the dual-channel closed loop supply chain with e-commerce. *Sustainability*, 12(23), 10117. doi.org/10.3390/su122310117
- Koller, I. (2000). Der Wertersatz im Transportrecht. *Festschrift 50 Jahre BGH 2000*, II., pp. 181–211.
- Kötz, H. (2017). *European Contract Law*. (G. Mertens, Trans.; 2nd ed.) Oxford University Press.
- Lamont-Black, L. (2012). Claiming damages in multimodal transport: A need for harmonisation. *Tulane Maritime Law Journal* 36(2), 707–724. <https://www.research.ed.ac.uk/en/publications/claiming-damages-in-multimodal-transport-a-need-for-harmonization>
- Mercelis, J. (2020). *Beyond Bakelite: Leo Baekeland and the business of science and invention* (Lemelson Center Studies in Invention and Innovation series). The MIT Press.
- Mistelis, L. A., & Raymond, A. (2018). Annotation of Article 3. In S. Kröll, L. A. Mistelis & P. Perales Viscasillas (Eds.), *UN Convention on Contracts for the International Sales of Goods (CISG)* (2nd ed.). C.H. Beck.
- Otte, K. (2018). Annotation of Article 23 CMR. In F. Ferrari, E-M. Kieninger & P. Mankowski (Eds.), *Internationales Vertragsrecht* (3rd ed.). C. H. Beck. Article 23 CMR, para. 16.
- Pongrácz, E., & Pohjola, V. J. (2004). Re-defining waste, the concept of ownership and the role of waste management. *Resource, Conservation and Recycling*, 40(2), 141–153. <https://www.infona.pl/resource/bwmeta1.element.elsevier-2911d4ef-6b3f-3cff-83a1-c1d6d9dd5d44>
- Schippers, M. L. (2018). A series of sales: determining the customs value under the union customs code. *Global Trade and Customs Journal*, 13(2), 36–48. https://www.academia.edu/42799848/A_Series_of_Sales_Determining_the_Customs_Value_Under_the_Union_Customs_Code
- Smeele, F. G. M. (2015). Legal conceptualisations of the freight forwarder: some comparative reflections on the disunified law of forwarding. *Journal of International Maritime Law*, 21, 445–459.
- Thume, K. H. (1995). Entschädigung nach Art. 23 CMR und Entgang einer Exportsubvention. *Transportrecht* 2, pp. 55–57.
- Thume, K. H. (2020) in *Münchener Kommentar HGB* (4th ed.). C. H. Beck.
- Rabe, D. (2018). Annotation of §521 HGB [Section 521 German Commercial Code]. In Rabe, D. & Bahnsen, K. (Eds.), *Seehandelsrecht* (5th ed.). C. H. Beck. §521 HGB, para. 11.
- Ramming, K. (2019). *Hamburger Handbuch zum Binnenschiffahrtsfrachtrecht* (1st ed.). § 15 Die Haftung für Ladungsschäden, para. 199.
- Remeur, C. (2020). *Carbon emissions pricing: Some points of reference*. European Union. [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649352/EPRS_BRI\(2020\)649352_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649352/EPRS_BRI(2020)649352_EN.pdf)
- Reuschle, F. (2020). Annotation of § 410 HGB [Section 410 German Commercial Code] in Ebenroth/*Boujong/Joost/Strohn, Handelsgesetzbuch*, (4th ed.). C. H. Beck. § 410 HGB para. 1 with reference to the ADR.
- Rogers, D. S., & Tibben-Lembke, R. (2001). An examination of reverse logistics practices. *Journal of Business Logistics*, 22(2), 129–148. <https://doi.org/10.1002/j.2158-1592.2001.tb00007.x>
- Umweltbundesamt GmbH (EAA) & ARCADIS Belgium NV. (2020, April 30). *Study to assess Member States' (MS) practices on by-product (BP) and end-of waste (EoW)* (Reference No. 070201/2018/793241/ENV.B.3). Directorate-General for Environment (European Commission). <https://op.europa.eu/en/publication-detail/-/publication/beb56eaa-9fc0-11ea-9d2d-01aa75ed71a1/language-en/format-PDF/source-130896232>

Williams, R. (2016). Flexibility in a voyage charter? In B. Soyer & A. Tettenborn (Eds.) *Charterparties, law, practice and emerging legal issues*. Informa Law (Routledge).

World Customs Organization. (2018). Guide to customs valuation and transfer pricing. <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/key-issues/revenue-package/wco-guide-to-customs-valuation-and-transfer-pricing.pdf?db=web>

Notes

- 1 <https://www.nytimes.com/2021/08/30/business/supply-chain-shortages.html>
- 2 So, *inter alia*, regarding the liability of the carrier in case of damage that was not caused by the goods they carried: Hoge Raad in RTT v. Cargofloor, 15 April 1994, ECLI:NL:HR:1994: ZC1333.
- 3 <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210429-1> (accessed 1 October 2021).
- 4 The Waste Framework Directive 2008/98/EC defines waste as ‘any substance or object which the holder discards or intends or is required to discard’. See Article 3 No 1 Waste Framework Directive.
- 5 We acknowledge that there are approaches to rely solely on a servicing contract instead of a sales contract, (Pongrácz & Pohjola, 2004). The current customary practice, however, relies on sales transactions as for example exemplified by the frequent use of the Incoterms, which are risk-passing clauses tailored to the contract of sale, <https://iccwbo.org/resources-for-business/incoterms-rules/incoterms-2020/> (accessed 23 January 2022).
- 6 *Inter alia* visible in Article 32 UN Convention on Contracts for the International Sales of Goods (CISG):
‘(1) If the seller, in accordance with the contract or this Convention, hands the goods over to a carrier and if the goods are not clearly identified to the contract by markings on the goods, by shipping documents or otherwise, the seller must give the buyer notice of the consignment specifying the goods.
(2) If the seller is bound to arrange for carriage of the goods, he must make such contracts as are necessary for carriage to the place fixed by means of transportation appropriate in the circumstances and according to the usual terms for such transportation.’
- 7 Article 30 CISG.
- 8 There may be sales contracts with elements of service or production, so-called mixed contracts. These are, *inter alia*, subject to the CISG under Article 3(2) if the sale part forms the preponderant part (Mistelis & Raymond, 2018).
- 9 The ECJ, for instance, decided in the Christodoulou case that an arrangement in a working or processing contract could still constitute a sale for export, see ECJ 12 December 2013, C-116/12 (Ioannis Christodoulou v Elliniko Dimosio), ECLI:EU:C:2013:825, para 60.
- 10 See Section 4.
- 11 See Section 5.
- 12 *Inter alia* with regards to liens Article 20 Salvage Convention.
- 13 Article 3 (8) HVR, Article 25 (1) CMNI, Article 5 COTIF-CIM, Article 41 CMR, Article 26 MC.
- 14 Except for the Montreal Convention, which lacks specific rules on the compensatory basis for loss or damage of cargo. Provision 22 of the Montreal Convention touches upon the limits of liability. A comparable provision to the ‘compensation in case of death or injury of passenger’ according to Article 21 Montreal Convention is, however, missing.
- 15 Furthermore, Article 19 (4) CMNI and Article 31 COTIF-CIM.
- 16 Article 4 (5) HVR and Article 19 CMNI, respectively.
- 17 *Taylor & Son v Bowden Transport (1966)* 1 Lloyd’s Rep. 287.
- 18 *Inter alia* visible in Article 23 (4) CRM ‘but no further damages shall be payable’ and Article 25 CMR ‘diminished in value’; Article 32 § 4 COTIF-CIM ‘to the exclusion of all other damages, to the cost of repair’.
- 19 (1854) 9 Exch. 341.
- 20 *Sandeman Coprimar SA v Transitos Y Transportes Integrales S.L and others [2003]* 2 Lloyd’s Rep. 172.
- 21 Spanish: una indemnización equitativa fundada en el principio de restitución; French: indemnisation équitable fondée sur le principe de réparation; German: nach dem Grundsatz des vollen Ausgleichs.
- 22 Article 25 CMR, Article 19 (2) CMNI, Article 32 §1 COTIF-CIM.
- 23 So *inter alia* in Article 23 (4) CMR and in detail Lamont-Black, 2012.
- 24 House of Lords, *The Heron II*, [1969] 1 AC 350.
- 25 Baron Rodger of Earlsferry, *Banque Bruxelles Lambert SA v Eagle Star Insurance Co Ltd.*, (sub nom. *South Australia Asset Management Corp v York Montague Ltd*), [1997] AC 1991.
- 26 (1854) 9 Exch. 341.

- 27 [1961] UKPC 2; [1961] A.C. 388.
- 28 *Inter alia* in The Arpad (1934) 50 Ll.L.Rep. 134 at 189.
- 29 Contrary to Article 4 (6) HVR: Goods of an inflammable, explosive or dangerous nature to the shipment whereof the carrier, master or agent of the carrier has not consented with knowledge of their nature and character, may at any time before discharge be landed at any place, or destroyed or rendered innocuous by the carrier without compensation and the shipper of such goods shall be liable for all damages and expenses directly or indirectly arising out of or resulting from such shipment.
- 30 *Inter alia* in Kings Bench, *The Ardennes*, [1951] 1 KB 55 where loss due to price fluctuations was granted; even *Transfennica v Schenker* 2015 where damage for substitute cargo loss was granted.
- 31 Herber, 2020; Baughen, 2015; Lamont-Black, 2012, also emphasising the lack of clarity in the travaux préparatoires of the HVR; an international reluctance for including consequential damage in the types of damages recoverable by the carrier was also expressed during the negotiations of the Rotterdam Rules, see UN Doc. A/CN.9/552, p. 8 para 26; p. 10 para 36 emphasises that only if the parties ‘made clear their intention’ consequential damage shall be recoverable by the carrier.
- 32 LG Hamburg, decision of 18.9.2006 – 415 O 44/04) HmbSeeRRep 2007, 225; appeal rejected.
- 33 Except for the Montreal Convention.
- 34 Article 18 (2) CMR or § 23 (2), Article 30 § 1 CIM 1999, Article 4 § 5b S. 2 HVR, Article 19 CMNI.
- 35 For the normal value the resale price is usually taken as a basis, see *Mayhew Foods Ltd v Overseas Container Ltd* [1984] 1 Lloyd’s Rep 173. This aspect may be relevant for used products. However, the existence of a market is assumed to be more likely.
- 36 Italian landmark case on Article 23 CMR: Civil Cassation section III, 23/01/1985, No 289; French perspective on Article 23 CMR: Cass. Com., 12 March 2013, No 09-12854; to the German commercial law Bahnsen (2018) in D. Rabe & K. Bahnsen (Eds.) *Seehandelsrecht* (5th ed.) Munich: C.H. Beck. § 502 HGB, para. 11. The provisions on carriage of goods by sea are almost equal to the provisions of the HVR; Thume (1995).
- 37 [1978] A. C. 141 = [1977] 3 All E. R. 1048 H. L. Also affirmed by the German literature: Koller (2000) and Jesser-Huß (2020). Article 23 CMR, para 10; Otte (2018) in F. Ferrari, E-M. Kieninger & P. Mankowski (Eds.), *Internationales Vertragsrecht* (3rd ed.). Munich: C.H. Beck. Article 23 CMR, para. 16.
- 38 Hof van Cass. 27 05. 2011 (Hawe Belgium nv/R.J. Reynolds Tobacco International, Security) C090618N-C090620N; Rb. Amsterdam 30.3.1977, S. & S. 1978 No. 36, ECLI:NL:RBAMS:1977:AJ1300, also 502 (4) German Commercial Code (HGB).
- 39 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Recycling_%E2%80%93_secondary_material_price_indicator#Price_and_trade_volumes
- 40 RG, RGZ 98, 150.
- 41 [1991] 1 Lloyd’s Rep 120.
- 42 [1991] 1 Lloyd’s Rep 82.
- 43 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Recycling_%E2%80%93_secondary_material_price_indicator#Price_and_trade_volumes
- 44 Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade 1994.
- 45 The price elements (e.g. royalty payments, free of charge or against reduced costs provided services or goods by the imported to the manufacturer (that is, assists), costs associated with the transportation of the goods) are enumerated exhaustively in the WTO CVA and should be considered for determining the customs value of the imported goods.
- 46 Article 1(1) WTO CVA.
- 47 WCO Advisory opinion 1.1. The concept of ‘sale’ in the Agreement. (Adopted, 2nd Session, 2 October 1981, 27.960). According to the ECJ, ‘sale’ should be interpreted broadly to prioritise the application of the transaction value method, see ECJ 12 December 2013, C-116/12 (*Ioannis Christodoulou v Elliniko Dimosio*), ECLI:EU:C:2013:825, para 45.
- 48 See for example ECJ 25 July 1991, C-299/90 (*Hauptzollamt Karlsruhe v Gebrüder Hepp GmbH & Co. KG.*), ECLI:EU:C:1991:334, para 13.
- 49 The ECJ held that a working or processing contract can also constitute a sale for export, see ECJ 12 December 2013, C-116/12 (*Ioannis Christodoulou v Elliniko Dimosio*), ECLI:EU:C:2013:825, para 60. This is, however, a somewhat controversial judgement and seems to be contradictory to earlier judgements of the ECJ and non-binding instruments of the TCCV, where for the existence of a sale (for export) financial risk over the goods should be transferred from one party to another.
- 50 WCO TCCV Advisory opinion 1.1. The concept of ‘sale’ in the Agreement. (Adopted, 2nd Session, 2 October 1981, 27.960).
- 51 WCO TCCV Commentary 22.1. Meaning of the expression ‘sold for export to the country of importation’ in a series of sales. (Adopted, 24th Session, 26 April 2007, VT0564).

- 52 See Article 128 Implementing Act to the Union Customs Code and Guidance on Customs Valuation, TAXUD/2623395rev2/2020, CEG-VAL/20/8/3.4.
- 53 The US applies the first-sale principle, while for example Canada applies the ‘purchaser in Canada’ approach, see Schippers (2018).
- 54 WCO TCCV Explanatory Note 3.1. Goods not in accordance with contract. (Adopted, 3rd Session, 23 March 1982, 28.560).
- 55 See for example US CBP HQ ruling 545192 dated 4 January 1995.
- 56 ECJ 19 March 2009, C-256/07 (Mitsui & Co. Deutschland GmbH), ECLI:EU:C:2009:167.
- 57 The conditions in the EU are laid down in Article 132, Implementing Act of the Union Customs Code.
- 58 ECJ 12 October 2017, C-661/15 (X BV), ECLI:EU:C:2017:753, para 40.
- 59 ECJ 12 October 2017, C-661/15 (X BV), ECLI:EU:C:2017:753, para 38.
- 60 Article 7(2) WTO CVA provides for an exhaustive list of values that cannot be used as customs value.
- 61 The returned goods have been sold for export to the country from which the goods are returned and not to the country the goods are returned to. Therefore, the transaction value method cannot be used. See also ECJ 9 November 2017, C-46/16 (LS Customs), ECLI:EU:C:2017:839, para. 25-37.
- 62 Commentary No. 15 of the Compendium on Customs Valuation – edition 2021.
- 63 Articles 85 and 215 UCC.
- 64 [1974] 1 Lloyd’s L. Rep. 203 = ETR 1974, 737 (746) – *William Tatton and Co. Ltd./Ferrymasters Ltd.* (J. Browne); OLG München 5.7.1989, Transportrecht 1990, 16 (17) = Neue Juristische Wochenschau – Rechtsprechungs-Report 1989, 1434 (1435).
- 65 Budgen & Lamont-Black (2013); also under German Law § 493 I HGB; for the Dutch perspective: [The Engelina] Rb. Amsterdam 1.10.1915, NJ 1915, 1230 et seq.; also based on Article 8:441-2 BW.
- 66 Even standard clauses like UCP 500 integrate the freight prepaid clause in Article 33 (b).
- 67 BGH Transportrecht 1987, 439 (441), OLG Hamburg, decision of 30.8.1990 (6 U 11/90), Versicherungsrecht 1991, 604.
- 68 Brett, J in *Allison v Bristol Marine* (1976) 1 App Ca 209 at 253.
- 69 House of Lords in *Allison v Bristol Marine Insurance* (1876) 1 App. Cas 209.
- 70 WCO TCCV Commentary No. 15 of the Compendium on Customs Valuation – edition 2021 and point VII of WCO TCCV Advisory Opinion 1.1 The concept of ‘sale’ in the Agreement issued by the WCO Technical Committee on Customs Valuation.
- 71 *Silber v Islander Trucking* [1985] 2 Lloyd’s Rep. 243; *Michael Galley Footwear Ltd. v Jaboni* [1985] 2 Lloyd’s Rep. 251.
- 72 This is especially the case for basic materials. These kinds of resources may in almost every case have a certain energy value, see Dolde & Vetter (1997).
- 73 Chapter 4, Articles 22-25 of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste.
- 74 Article 22 (1) WSR.
- 75 Article 23 (1) WSR.
- 76 *Inter alia Quantum v Plane Trucking*, [2002] EWCA Civ 350 (UK); OGH Vienna, 30.10.2016, Recht der Transportwirtschaft 2017, 281 (AT), Article 19 United Nations Convention on International Multimodal Transport of Goods 1980 (not in force).
- 77 That is, section 452 German Commercial Code: ‚Wird die Beförderung des Gutes auf Grund eines einheitlichen Frachtvertrags mit verschiedenartigen Beförderungsmitteln durchgeführt und wären, wenn über jeden Teil der Beförderung mit jeweils einem Beförderungsmittel (Teilstrecke) zwischen den Vertragsparteien ein gesonderter Vertrag abgeschlossen worden wäre, mindestens zwei dieser Verträge verschiedenen Rechtsvorschriften unterworfen, so sind auf den Vertrag die Vorschriften des Ersten Unterabschnitts anzuwenden, soweit die folgenden besonderen Vorschriften oder anzuwendende internationale Übereinkommen nichts anderes bestimmen.‘
- 78 Article 3(8) HVR, Article 25 (1) CMNI, Article 5 COTIF-CIM Article 41 CMR, Article 26 MC.
- 79 Article 41 CMR.
- 80 Article 22 (3) MC, Article 26 CMR.
- 81 Article VII HVR: ‘any agreement, stipulation, condition, reservation or exemption as to the responsibility and liability of the carrier or the ship for the loss or damage to, or in connection with, the custody and care and handling of goods prior to the loading on, and subsequent to the discharge from, the ship on which the goods are carried by sea.’
- 82 Article 24 CMR; Article 34 CIM; Article 22 (3) MC; Article IV (5)(a), (g) HVR; Article 20 (4) CMNI.
- 83 Article 23 (3) CMR; Article 30 (2) CIM; Article 22 (3) MC; Article IV (5)(a), (g) HVR; Article 20 (1) CMNI.
- 84 A weekly chosen exchange rate: <https://www.imf.org/en/Topics/special-drawing-right>

85 <https://www.iata.org/en/programs/environment/ace>

86 Based on Regulation (EC) No 300/2008 of the European Parliament and of the Council of 11 March 2008 on common rules in the field of civil aviation security and repealing Regulation (EC) No 2320/2002.

Julia Hörnig



Dr Julia Hörnig is an Assistant Professor in Commercial Law and academic coordinator of the master program Maritime and Transport Law at the Erasmus University Rotterdam. In her doctoral thesis she pursued an interdisciplinary approach by combining logistics innovation with the legal implication of multimodal transports and transshipments. Her PhD project was funded by the German Transport Law Association. Julia Hörnig publishes about transport and maritime law with a strong focus on sustainability and in particular closed-loop supply chain. This focus is also reflected in her lectures on carriage of goods and transport law which she gives at the Erasmus University as well as the master thesis she supervised. Julia Hörnig is the German Correspondent for the Centre for Maritime Law of the National University of Singapore (CML)/Comité Maritime International (CMI) Database of Judicial Decisions on International Conventions and guest lecturer at the University of Bayreuth (GER), the Europe University Frankfurt (GER) and for the German Lawyers' Academy courses for Specialist Transport and Trade Law.
ORCID iD: 0000-0002-1430-4430

Martijn Schippers



Dr Martijn Schippers is an Assistant Professor in EU Customs Law and Indirect Taxes at the Erasmus University Rotterdam, program coordinator of the prestigious Post-Master in EU Customs Law of EFS, Erasmus University Rotterdam, and he is part of the Global Trade & Customs group of EY Netherlands. He publishes frequently about customs and indirect taxes in Dutch and international journals and currently takes part as Dutch national reporter in the research program European Common Customs Evaluation (ECCE) financed by European Commission, OLAF (Hercule III program) and Alma Mater Studiorum – University of Bologna. Besides publishing extensively, he was one of the founding fathers of the Indirect Tax master program at the Erasmus University and he currently coordinates and teaches several courses within that program. He also gives guest lectures at the universities of Maastricht, Curaçao, Antwerp and Lund, and institutions like IBFD, NOB and PE Academy.
ORCID iD: 0000-0002-5335-5708

Combinations of goods and services and their treatment under World Trade Organization (WTO) law

Hanns-Thilo von Spankeren

Abstract

Recent years have seen an increase in goods-related services. Such services range from conventional maintenance contracts sold with goods, to database and data processing services as necessary parts of the Internet of Things. Indeed, the Internet of Things has increasingly blurred the distinction between goods and services insofar as the latter enable essential functions of the goods. Services such as production-related research and development (R&D) are also making an increasingly significant contribution to the final value of goods. On the other hand, the World Trade Organization (WTO) regulates the cross-border trade in goods and services separately in the General Agreement on Tariffs and Trade (GATT) and General Agreement on Trade in Services (GATS). Therefore, it is legitimate to ask if this approach is now outdated and a new mode of trade should be created. This paper provides some thoughts on these questions and is based on the author's dissertation which comprehensively deals with this topic.¹

Keywords: GATT, GATS, customs valuation, Rules of Origin, digital products

1. Combinations of goods and services

Before examining if GATT's approach to goods and services is still appropriate, it is necessary to categorise the way goods and services interrelate. The first combination of goods and services in the broadest sense are 'embodied services'. Such services form part of the production process (e.g. research and development (R&D), design or even transportation) and increasingly contribute to the final value of a product.² However, embodied services also include services where the goods are merely a carrier medium (e.g. an architect's blueprint). In this case, it is impossible to separate the embodied services from the product itself. The second combination of goods and services is product-related services. Examples are services which facilitate the sale or use of goods (e.g. financial, consulting and/or maintenance services) and services that modify sold goods by tailoring them to the customer's needs or incorporating them into other goods or services in order to extend their functionality. The Internet of Things provides a good example: integrating conventional goods into a system of data collection and processing endows them with entirely new functions. What all these types of product-related services have in common is that customers obtain ownership of goods and receive and consume a service. Unlike embodied services, goods and services therefore remain separate. The third combination of goods and services are usage/outcome-oriented systems. In these cases, customers do not obtain ownership of goods but simply acquire an option to use the goods or obtain their results. Examples of such usage-/outcome-oriented systems are operator models or services in the so-called 'shared

economy'. The goods are primarily intended to provide a service promised by the supplier (i.e. the possibility to use or obtain the result produced by those goods).

All these different combinations of goods and services can still be described using the traditional terms 'goods' and 'services'. In the case of embodied services, the final product is still a tangible product, regardless of the degree to which the services in the production process account for its value. In the case of product-related services one can even identify the individual goods and services which make up the whole package. This is also true of usage-/outcome-oriented systems where one can also distinguish between the goods and conventional services (usually rental services). However, in this case the payment model may have changed. For example, billing can now be based on the distance travelled or the yield produced by operating the goods.

None of these combinations suggest the conventional categories are no longer adequate or that a completely new category needs to be invented. Nevertheless, it is feasible to ask whether the General Agreement on Tariffs and Trade (GATT) or the General Agreement on Trade in Services (GATS) still do justice to these combinations of goods and services.

2. The treatment of embodied services

As far as embodied services are concerned, the products in which the services are embodied are still 'goods' within the meaning of GATT. The main criterion is still whether a product is tangible or not³ and the increased share of services in the content does not alter this. That said, the question arises whether the services embodied in the goods are traded and, if so, whether there is need for a new mode 5 of trade⁴ in embodied services. Since the definition of 'supply of a service' in Art. XXVIII (b) GATS also refers to the sale of a service, one might think that members also wanted to cover the resale of services detached from the service provider. In this case, one could argue that services embodied in a product are traded pursuant to Art. I (2) (a) GATS because they are resold as part of the products. However, the members did not want to include the resale of services by referring to the sale of services in the definition of 'supply of a service'. Rather, the definition was designed to cover the entire marketing process of a service from the actual supply, sale and final delivery (Wolfrum, 2008; GATT Group of Negotiations on Services, 1991). Accordingly, sale does not extend to 'resale'. This is also reflected by the fact that the GATS (unlike the GATT) provides special protection for the service provider (see Art. II, XVII GATS), since the members assumed that it would not be enough to simply protect the service transaction itself (Wolfrum, 2008). Accordingly, the provision of services is closely linked to the service provider, meaning that it is generally not possible to resell a service which has already been supplied. Nevertheless, there is no need to create a new mode of trade since the embodied services are already covered by the rules protecting the trade in goods in the GATT. Before services enter the production process, their actual supply may, of course, be subject to the rules of the GATS if cross-border trade takes place. After the initial supply of these services there is no subsequent supply as part of the sale of the goods in which they are embodied. In other words, the customer does not pay for the embodied services a second time nor does the service provider supply them a second time. Accordingly, there are no legal loopholes in the scope of GATT and GATS with respect to embodied services.

The only difference is where the service is provided to the consumer via goods (i.e. where goods function as a carrier medium). Such cases constitute an initial supply rather than a resale of a service. However, as seen in the case *Canada – Periodicals* (1997), the World Trade Organization (WTO) Appellate Body has held that the GATT also applies to such cases, provided the goods are subject to the measures of a WTO member. Since the GATT and GATS are mutually exclusive (i.e. it is impossible for one transaction to represent trade in goods and services simultaneously), the latter would cease to apply. Moreover, the GATT offers sufficient protection for such transactions, thereby rendering the GATS superfluous.

2.1. Embodied services and customs valuation

Since the services embodied in the goods contribute to their final value, they serve to increase customs duties, which are calculated on an *ad valorem* basis. However, if the embodied services are sold in isolation, no customs duties will be levied because services are not subject to customs clearance. One could therefore argue that the value of the services embodied in goods should be deductible (Antimiani & Cernat, 2017). However, this would automatically complicate the customs valuation, since the transaction value (which is the preferred calculation method precisely because it is relatively straightforward)⁵ would no longer be sufficient. Instead, the value of goods would have to be broken down into its individual components. This would contradict the essential objective of the GATT, that is trade liberalisation. Therefore the preferred method of trade liberalisation is the reduction of tariffs and not the artificial reduction of the customs value. To support the services industry, it is preferable to lower tariffs for goods with a high services content, especially in respect of final products which still have relatively high customs rates. Moreover, according to the economic theory of Customs (which also underlies the GATT), tariffs serve to equalise price differences due to production and labour costs when goods enter economic circulation (Witte, 2018). Thus, if embodied services were deductible, a significant part would be eliminated in order to legitimise the imposition of tariffs. Finally, Art. 8.1 (b) (iv) of the Customs Valuation Agreement (CVA) already mentions that some services form part of the customs value, which provides another argument against deducting them from the customs value. As a rule, therefore, the value of embodied services should not be generally deductible from the customs value of the goods.

2.2 Embodied services and rules of origin

As embodied services have an increasing impact on the value of goods and form an important part of their production process, it is also worth considering the treatment of services in the context of rules of origin (RoO). A distinction is made between preferential and non-preferential origin. While members enjoy almost unfettered freedom to agree preferential RoO (Inama, 2009), they are bound by the Agreement on Rules of Origin (ARO) concerning non-preferential origin.

Preferential RoO are used in trade agreements to determine the conditions certain goods must fulfil to benefit from preferential treatment. They also serve to implement economic policies by promoting the supply industries of the contracting states (Hirsch, 2011). By contrast, non-preferential RoO serve to implement other objectives of trade policy. Whereas all goods must have a non-preferential origin, they do not need to have a preferential origin.

Although their objectives differ, the RoO used to determine origin are generally based on the same criteria. In particular, the *last substantial transformation* rule is usually applied because it reflects global supply chains and the division of labour. The three main criteria for substantial transformation are *change in tariff classification*, *specified processing* and *value-added*.

The first two criteria require specific changes to the classification of the initial product or certain steps in the production process respectively: embodied services are generally not taken into consideration when determining origin. These criteria are relatively easy to apply (Inama, 2009) and are likely to prevail in the majority of cases (especially the *change in tariff classification*) (Felderhoff, 2018). By contrast, the *value-added criterion* requires a certain amount of value to be added to the goods in a certain country before they can be considered originating products. This is no easy task and various methods have been developed for this purpose. Thus, origin may either require that the share of foreign materials does not exceed a certain percentage of the total value of the goods (*import content method*) or that national materials and operations performed domestically must contribute a certain percentage to the value-added of the goods. In the latter method, the national value-added share is determined by either deducting all foreign materials used (*build-down method*) or by adding all materials of national

origin used together with all domestic production costs (*build-up method*). Of these methods, those based on the foreign content of the goods appear preferable. This is because it is easier to determine the value of foreign materials than it is the value of all national working processes and general costs and then attribute them to the manufactured goods in question (Hoekman & Inama, 2019).

Although the *value-added criterion* is the one most closely aligned with actual economic conditions, it is only applied in a small number of cases or in combination with the *change in tariff classification criterion* (Felderhoff, 2018). The disadvantages of this calculation method lie in its potentially large number of reference variables, the problems caused by fluctuating cost elements and exchange rates and its potential to distort trade.

Of these rules of origin, only the *build-up method* takes embodied services into account directly. However, examples such as the ASEAN Trade in Goods Agreement (ATIGA) show that embodied services alone cannot establish origin if the goods have not been worked or processed (see Art. 28 (1) (a) ATIGA). Therefore, even if embodied services originating in a certain country largely account for the final value, origin will only be conferred if the goods have been worked or processed in that country. By contrast, the *build-down method* or *import content method* only considers the value of foreign materials and not services.⁶ These methods only take embodied services into account indirectly without differentiating origin. This results in embodied services raising the national value-added (irrespective of their origin) because the total value of the goods also comprises the value of embodied services. However, only the value of foreign materials is considered in such cases. Overall, therefore, embodied services are not well represented in current RoO.

Considering the findings regarding the *build-up method*, the best way of recognising embodied services would be to identify where the goods received their greatest value-added in the entire production process. Even if this new method of determining origin sounds convincing in theory, it may be difficult to implement. As the preference for the *change in tariff classification criterion* illustrates, the method of determining origin must be kept simple. Although it may sound desirable to design RoO in a way that promotes national service industries, it appears that the more complex the rules for determining and proving preferential origin are, the less likely traders will use them.⁷ This is especially true of cases where general tariffs are already so low that the costs of determining preferential origin may well exceed the savings made by preferential treatment. Complex RoO therefore have exactly the opposite effect of that originally intended (i.e. to promote the relevant industries of the parties to the preferential agreement). In view of this, such RoO should only be applied as an alternative to conventional rules.

Non-preferential RoO do not suffer from this problem. Art. 3 (b), 9.1 (b) ARO state that current and future RoO are based on where the last substantial transformation took place. According to the new method suggested above, the determination of origin would instead be based on where substantial transformation (in the broadest sense) took place in general rather than where such transformation last took place. However, apart from legal arguments, it should be remembered that all goods must have a non-preferential origin. Therefore, the RoO must be relatively easy to apply and verify.

Incorporating the entire production process (including all embodied services from R&D to transportation), into the determination of origin does not meet these requirements. Therefore, although it may initially appear desirable to develop a new method of calculation that also considers the origin of embodied services, such a rule would not be able to achieve the goals pursued in practice.

3. Treatment of product-related services

Product-related services are divided into those that modify functionality (*modifying services*) and those that facilitate sale or use (*facilitative services*).

Modifying services can be carried out directly. As such, they are like *manufacturing services* insofar as the only result of the service is a product regulated by GATT. It is therefore disputed whether *manufacturing services* represent actual services.⁸ On the one hand, they are distinguishable from the final product itself; they are intangible (as with many other services) and *services incidental to manufacturing* are listed in the Services Sectoral Classification List (SSCL). On the other hand, since the supply of a service also refers to its sale and delivery (*de facto* the final product) in accordance with Art. XXVIII (b) GATS, it may be difficult to determine whether the GATT or GATS applies. Accordingly, the result of the service sold and delivered would be a product falling within the scope of GATT.

However, since GATS only covers *trade* in services, the risk of competing norms will not arise if there is no trade in such an activity (even if it is a service). In cases where *modifying services* are carried out on the product prior to its importation, a mode 2 trade in service (Art. I:2 (b) GATS) arguably takes place because the supply of a service also includes its sale (Art. XXVIII (b) GATS). Therefore, if a service were sold via internet or phone in one country to a service consumer of another WTO member without there being any cross-border movement of the service consumer or one of its goods, the result would arguably be a trade in a service. Under the GATS modes of supply, however, the actual provision of services should determine the classification of individual transactions. Otherwise, there would be a risk of classification problems arising if, for example the mode of supply applicable to the conclusion of a service contract were different to that applicable to the actual provision of the service. In addition, for modes 2 to 4 (Art. I:2 (b)–(d) GATS), the international link is established by a cross-border movement of the service provider or user. Thus, mode 2 also requires the service user themselves (or at least an object belonging to them) to move to the service provider.⁹ Therefore there is no trade in service within the meaning of the GATS where a service is carried out on sold goods prior to their importation because neither the consumer nor its goods crosses a border to the service provider. In this case, difficulties of scope will not arise. *Modifying services* performed on the goods after importation may be considered a mode 3 or 4 trade in service if such activities are seen as services. In such cases, it is possible to identify the point in time that the trade in goods and trade in services took place and the service does not result in the product (which is still unprocessed) actually crossing the border. Accordingly, no difficulties of scope would arise in these cases either. The GATT itself does not provide sufficient protection for such activities since its main focus is on the trade of goods rather than supporting activities. Therefore, if such activities modifying goods are not generally regarded as services, they will not be protected either by GATT or GATS. However, this would contradict the comprehensive approach of GATT and GATS and, for this reason alone, *modifying services* performed on the goods themselves should be deemed services potentially falling under GATS.

The SSCL also provides typical examples of *modifying services* which relate to goods indirectly (e.g. training or consulting and planning services). These are easily distinguishable from the goods and are therefore services. The same may be true of *facilitative services* such as financial services, insurance services, or installation and assembly work. Although some of these services are mentioned in the GATT and its related agreements on trade in services (e.g. Art. III GATT, Annex 1 CVA), they do not fall within its scope. However, such complementary services should not be excluded from the GATS, which covers all services (Art. I:3 (b) GATS).

As a result, if services are sold with goods, measures relating to one subject of trade may sometimes affect other subjects of trade. GATT and GATS can then be affected simultaneously.

3.1. Product-related services and customs valuation

In respect of customs valuation according to Art. 1.1 CVA, the transaction value includes only the price actually paid or to be paid for the goods in question. At first glance, product-related services do not appear to form part of the transaction value. However, according to para. 7 of Annex III CVA, the price actually paid or to be paid "...includes all payments actually made or to be made as a condition of sale of the imported goods...". Arguably, this means that all product-related services can be deemed part of the transaction value if they are a condition of sale of the imported goods. However, this is arguably too broad: while "charges for construction, erection, assembly, maintenance or technical assistance, undertaken after importation on imported goods [...]" and "the cost of transport after importation" are expressly excluded from the transaction value if they are distinguishable (para. 3 (a), (b) Note to Article 1 Annex I CVA), other costs for services such as commissions and brokerage, the cost of transport of the imported goods to the port or place of importation or the cost of insurance do form part of the transaction value (Art. 8.1 (a) (i), Art. 8.2 (a), (c) CVA). Therefore, the costs included in customs valuation usually form part of the seller's price calculation and are thus part of the goods' value; in addition, they have also contributed to the good's value prior to import. Accordingly, only those services which are a condition of sale should be included in the customs valuation if they usually form part of the retail price of the goods and have an influence on their value prior to importation.

Services expressly excluded from customs valuation may also form part of a condition for sale. There does not appear to be any good reason for excluding them while other services (which are not directly linked to the goods either), are included in the customs valuation simply because they are part of the sale conditions (Vonderbank, 2019). This argument corresponds to the principle of economic Customs, according to which customs duties are intended to regulate prices when foreign goods enter economic circulation. Therefore, changes in the price of a product after it has entered foreign economic circulation should not be considered in respect of customs valuation.

3.2. Product-related services and RoO

As far as RoO are concerned, product-related services have almost no effect on the origin of goods. In respect of the *change in tariff classification criterion* and the *specified processing criterion*, one can hardly imagine cases where such services influence origin. The exception would be where the origin is determined by applying the *value-added criterion*, whereby the calculation of value-added is based on customs value of foreign materials used in the production process. Thus, the customs value of foreign materials may also contain the costs for transportation, insurance or related services which form part of the customs value, as stated above.

Including services in the customs value because they have increased the value of the materials themselves corresponds to the principles of the *value-added criterion* to determine origin, since the materials are also included in the manufactured goods with the increased value as a result of the service. Including services mentioned in Art. 8 CVA in the customs value of the materials also corresponds to the aim of the *value-added criterion*, namely to determine origin using the last significant value-added.

The calculation of the price for the manufactured goods usually includes all production-related costs. Therefore, if the costs of the services referred to in Art. 8 CVA were not included in the value of the foreign materials, they would ultimately benefit the national value-added, despite the fact that these services were not provided domestically.

4. Treatment of usage-/outcome-oriented systems

Last but not least, there are usage-/outcome-oriented systems. As far as the applicability of GATS is concerned, the services involved in such systems can be found in the SSCL (e.g., *Rental/Leasing Services* or *Services incidental to manufacturing*), which are subject to the rules of GATS in accordance with Art. I:2 GATS. Since the GATT applies irrespective of the reason for cross-border movements,¹⁰ its rules generally apply to the goods in question even though they are not sold. However, one may ask whether only the rules of GATS should apply since the goods are only imported to provide related services, as China similarly argued in *China – Audiovisuals* (2009). In this case, the Appellate Body decided that, irrespective of their later use, the goods are still goods since they are subject to customs procedures on importation. Of course, customs duties may also be collected on importation. Since only the GATT contains rules concerning customs duties and restricts the freedom of WTO members to raise them, it should still apply even if the goods are only imported to provide a related service. This is also supported by the fact that members are obliged under Art. 10 para. 9.1 of the Trade Facilitation Agreement (TFA) to exempt goods in whole or in part from customs duties if they are only temporarily imported for a specific purpose. This obligation appears directly relevant to the case in question. Thus, if a rule that is part of the multilateral agreements governing the international trade in goods applies in a case where goods are only imported temporarily for a certain purpose (e.g. to provide a service), it appears contradictory to exempt those goods from the GATT. Therefore, GATT and GATS may both apply to usage-/outcome-oriented systems where a measure concerning the goods or service element also affects trade with the other part.

As far as customs valuation and RoO are concerned, no peculiarities arise. However, it must be kept in mind that there is no sale for importation in such cases so that the transaction value cannot be used in customs valuation. However, as there are several other subordinate rules for customs valuation in the CVA there is no need to introduce any new rules.

5. Treatment of digital products

Concerning the relationship between goods and services and their treatment under WTO law another quite important topic is the classification of so-called ‘digital products’, namely products which used to be traded as tangible goods such as CDs, DVDs and books but are now tradable digitally as data downloads from the internet. WTO members still cannot agree on their classification after more than 20 years of discussion.¹¹ On the one hand, digital products are (unlike almost all other goods apart from electricity)¹² intangible. On the other hand, they may be, for example, saved on a hard disk and can therefore (unlike many other services) be stored and consumed independently of their production.

GATT and GATS themselves do not define the terms ‘goods’ and ‘services’ either, which can cause problems when new products appear on the market. In addition, only the GATT contains rules on customs duties, whereas customs duties on services are unusual (if not impossible). Levying customs duties on digital products as on conventional goods also appears impractical, since it would require analysing incredible amounts of data in real time. Moreover, it might be easy to circumvent customs duties by storing the data on a national server following importation and reselling it afterwards. In this case, levying customs duties on each new transaction after initial storage on a national server might conflict with national treatment under Art. III:2 GATT.

As far as classification under the Harmonized System (HS) and the SSCL is concerned, neither instrument covers digital products explicitly: the HS only contains the storage media irrespective of its digital content¹³ whereas the SSCL only refers to certain services which create the digital product, for example ‘software implementation services’¹⁴ (which also cover software development¹⁵), or ‘motion picture and video tape production and distribution services’¹⁶ or ‘sound recording.’¹⁷ However, one could argue that selling the digital product includes the sale and delivery of these services and therefore

also the supply of a service pursuant to Art. XXVIII lit. b) GATS (WTO, 2003). Another argument for the classification of digital products is technological neutrality, namely that digital products should not be treated any different from their physical counterparts (Baker et al., 2001). That said, even the GATT differentiates between, for example, cassettes and CDs. Thus, there is no technological neutrality since the same content may be treated differently depending on its physical carrier media.

Since it is not wholly clear whether digital products should be classified as goods or services, the following examines whether the GATT or GATS is better suited to apply the fundamental principles of the WTO to digital products. Concerning principles of non-discrimination and open markets, members have tried to strike a balance between the general interest in trade liberalisation on the one hand and the interest in regulating the access of foreign goods to their national market (which is granted to the members in principle)¹⁸, on the other. Under GATT this balance is mainly due to its focus on levying customs duties as the preferred method for trade regulation. Thus, many GATT rules are focused on customs duties. Since levying customs duties on digital products is not practicable, this balance will be disturbed if members are not free to make use of other possibilities for trade regulation due to digital products not being considered goods under GATT.¹⁹ By contrast, GATS gives members more freedom in this respect, subject to the commitments in their GATS schedules. Additionally, GATS provides a broader scope for liberalisation since it also covers service suppliers²⁰ and might therefore be better suited for trade liberalisation in the long term when more commitments will be made. Regarding the principle of sovereignty, a distinction must be drawn between audiovisual digital products (where comprehensive liberalisation is primarily opposed by cultural policy interests) and digital software (where measures primarily reflect security and consumer protection considerations). With regard to audiovisual digital products, the GATT does contain individual culture-specific regulations (e.g. Art. III:10, IV, XX (f) GATT) but these are severely limited in scope. Since the levying of tariffs on digital products does not seem practicable, members have hardly any freedom under the GATT to pursue their cultural policy interests regarding digital products. The GATS offers greater flexibility in this respect – provided that the member has not made any concessions to the contrary. Nevertheless, it should be noted that the GATS has so far not provided for any cultural policy exceptions and that once concessions have been made, they are hardly reversible.²¹ Nevertheless, the GATS appears to be more suitable in this respect because of the freedoms to pursue cultural interests that exist in principle. With regard to digital software, a major advantage of the GATT is that, with the Agreement on Technical Barriers to Trade and the Agreement on Subsidies and Countervailing Measures, there are already binding rules for goods which counteract hidden protectionism in the form of security regulations and which reconcile the promotional interest of the members with the interest of the other members in the freest possible market access. In this respect, the GATS contains hardly any regulations so far and the members have only committed themselves to working out a corresponding framework.²² At the same time, however, it must be considered that the principle of sovereignty allows members to pursue trade policy goals, albeit only under certain conditions. Categorising digital software as goods, however, would largely deprive them of this sovereign right since they would essentially be referred to levying customs duties, which (as already explained) is impractical.

All in all, it would appear better to qualify digital products as services under GATS. The main reason for this is that, on the one hand, there is already a well-established understanding of goods (which would be unduly weakened by categorising digital, intangible products as goods), whereas the concept of services is still very broad and by no means as well-established. Moreover, regarding the (impractical) levying of customs duties on digital products, additional special regulations would have to be agreed under the GATT to do sufficient justice to the essential principles in this respect. This would not, however, be necessary under the GATS.

5.1. Digital products and customs valuation

Since digital products (especially software) can, in principle, be traded together with goods in all the constellations described above, reference can generally be made to the preceding statements. However, as far as customs valuation is concerned, some special issues may arise in relation to software. Generally speaking, software may be installed on the goods prior to their importation or installed after importation. If the software is pre-installed, its value must be included in the customs value since the software generally raises the value of the goods by adding functions. However, if the software was provided by the buyer free of charge, special rules apply. In this case, the software is to be classified as an intangible component of the goods within the meaning of Art. 8.1 (b) (i) CVA, since, in contrast to Art. 8.1 (b) (iv) CVA, it is directly included in the goods after installation and does not require any additional transfer. As a result, the exception in Art. 8.1 (b) (iv) CVA, according to which its value is not to be added if it was produced domestically, does not apply to software. The fact that the outward processing procedure is only available for conventional materials²³ provides a potential loophole for software. However, this should be ruled out because there is no apparent reason why software alone should not be treated favourably if it was produced domestically. This could be achieved by making the outward processing available for software (Vonderbank, 2019). This would also comply with the economic concept of Customs since there will be no need to compensate any price differences regarding domestically developed software. Whether the outward processing procedure should also be introduced for services in general has not yet been the subject of discussion and requires further research. If the software is pre-installed at the time of import but requires subsequent activation, any activation costs should only be added to the customs value of the goods if the software must be paid for and activated according to the conditions of the purchase transaction, or if the software is absolutely necessary for the functioning of the goods (Vonderbank, 2019). It is true that, in these cases, the goods still lack the corresponding functions when imported. From an economic point of view, however, the value of the goods has already increased at the time of importation because of the mandatory prompt activation of additional functions without requiring additional substantial steps. If the software is only installed on the goods after importation, the value of the software should not be added to the customs value. This is because there has been no corresponding increase in the value of the goods on importation and additional substantial steps are also required. In addition, the importation of goods and additional related materials must be viewed separately rather than as a single import as regards customs valuation.

5.2. Digital products and RoO

Regarding the consequences of the classification of digital products as services for the origin of the goods, it must first be noted that, in contrast to most other embodied services, there are no inconsistencies with the wording of Art. 3 (b), 9.1 (b) ARO, since the uploading of digital products can be assigned to a specific production stage whereby the goods are changed and granted further functions. The uploading can thus be described as working or processing in the broadest sense, which can also be essential depending on the point of view. However, since the recording itself is insignificant compared to the production of the digital product, the origin of the digital product must also be considered when determining the goods' origin. In this respect, the *value-added criterion* is of prime importance (although economies of scale in relation to the digital product must also be considered due to the arbitrary possibilities of duplication), as well as the *specified processing criterion* (which must be limited to cover only the essential recording processes for the finished product). However, potential difficulties in determining both the origin of the digital product and its value in the goods made from it mean that there will always have to be an alternative rule for determining origin.

6. Relationship between GATT and GATS

In cases where a measure affects both trade in goods and trade in services (e.g. product-related services and usage-/outcome-oriented systems), the question arises whether the GATT or the GATS or both apply. In *EC – Bananas III* (1997), the Appellate Body held that ‘measures that involve a service relating to a particular good or a service supplied in conjunction with a particular good [...] fall within the scope of both the GATT 1994 and the GATS’. This means that both agreements apply to measures falling within their scope. In this context, ‘affecting’ is interpreted broadly so that both agreements can apply even if the effects are only minor or indirect.²⁴ This may give rise to conflicts considering the differences between the GATT and GATS. For example, where a certain measure is forbidden under GATT but the member has made no corresponding specific commitments in the relevant service sector or where a certain measure is forbidden by one agreement but covered by an exception in the other.²⁵

To solve such conflicts, international law provides for several conflict rules. However, the *lex superior* and the *lex posterior* principle do not provide any assistance in such cases because GATT and GATS are of equal standing and the GATT 1994 and the GATS were agreed at the same time. Moreover, the *lex specialis* principle is unsuited to solving such conflicts²⁶ since it does not consider the broad application of both agreements. Sometimes, it can also be difficult to identify the purpose of a measure. Moreover, since the GATT and GATS are not mutually complementary (i.e. in the sense that one agreement establishes a basic rule which is further defined in the other agreement by additional conditions or consequences), the more specific rule has to be determined based on a subjective evaluation of the measure and its purpose, thereby creating additional uncertainties. However, adopting a more restrictive interpretation of the term ‘affecting’ is not the answer²⁷ because it would contradict settled case law and unnecessarily restrict the general application of the agreements.

However, such conflicts can be solved by interpretation. There are two types of potential conflict: the first is where a measure is prohibited under the GATT but no corresponding commitments have been made under GATS. In this case, it is important to remember that the commitments have formed part of the negotiations. Accordingly, if one member has not made any commitments in a particular service sector and the other members accept this, the sovereignty of one member has effectively been prioritised over the general interest in trade liberalisation to the extent set out in its list. It follows that the members must also accept the inevitable trade disruptions that result therefrom (Vranes, 2009). Concerning the conflicts mentioned above, this means that members should not have the right to complain that a measure of another member violates a GATT prohibition under the following conditions: 1) the member in question must not have made any or only limited commitments in its GATS schedule, 2) adverse effects on trade in goods are to be expected in this services sector, 3) the disputed measure serves to regulate the services sector and 4) the member could not have pursued its rights under the GATT in any other way without or with less adverse effects on the rights of other members under the GATT. Otherwise, members who have accepted the other member’s lack of commitments would be acting inconsistently if they attack this acceptance again because of an adverse effect on trade in goods via the GATT that necessarily results from the missing or limited commitment. A similar solution is proposed for the second type of conflicts resulting from the different exceptions in the GATT and GATS. In these cases, the exception should also include violations of obligations under the other agreement²⁸ if it is not possible to protect the interest covered by the exception in any other way. After all, the exemptions are based on the notion that individual interests can take precedence over the goal of the greatest possible trade liberalisation. However, limiting the exemptions to one agreement would imply that the other agreement attached a greater importance to trade liberalisation, thereby contradicting the equal importance that the GATT and GATS attach to their subjects. However, the differences in the rules of the two agreements simply reflect the peculiarities of their respective

trade subjects rather than differing priorities. This approach makes it possible to resolve conflicts between the two agreements, although increasing commitments made under the GATS is likely to reduce the potential for conflict in the future.

7. Conclusion

Overall, the GATT and GATS still regulate the relationship between goods and services effectively. As far as embodied services are concerned, there is no need for a new mode of trade since they are already sufficiently regulated by the GATT when they are traded as part of goods. Concerning digital products, their classification requires greater clarification and they should also benefit from the outward processing procedure. This could also be an option for services in general, although such a proposal requires further research. The different treatment of trade in goods and trade in services is not problematic since it is possible to solve any conflicts which arise. However, it remains to be seen whether the members will solve such conflicts themselves by means of formal rules or leave this task to the Appellate Body.

References

- Antimiani, A., & Cernat, L. (2017). *Liberalizing global trade in mode 5 services: How much is it worth?* (Chief Economist Note 4/2017). DG Trade, European Commission. https://trade.ec.europa.eu/doclib/docs/2017/july/tradoc_155844.pdf
- Baker, S. A., Lichtenbaum, P., Shenk, M. D., & Yeo, M. S. (2001). E-Products and the WTO. *Int'l Lawyer*, 35(1), 5–22.
- Canada – Periodicals, WT/DS31/AB/R (WTO-Appellate Body June 23, 1997).
- Cernat, L., & Kutlina-Dimitrova, Z. (2014). *Thinking in a box: A 'Mode 5' approach to service trade* (Chief Economist Note 1/2014). DG Trade, European Commission. https://trade.ec.europa.eu/doclib/docs/2014/march/tradoc_152237.pdf
- Chase, C. (2012). Norm conflict between WTO covered agreements – real, apparent or avoided? *Int. Comp. Law Q.*, 61(4), 791–821. <https://doi.org/10.1017/S0020589312000358>
- China – Audiovisuals, WT/DS363/AB/R (WTO-Appellate Body December 21, 2009).
- China – Raw Materials, WT/DS394, 395, 398/R (WTO-Panel July 5, 2011).
- China – Raw Materials, WT/DS394, 395, 398/AB/R (WTO-Appellate Body December 30, 2012).
- EC – Bananas III, WT/DS27/AB/R (WTO-Appellate Body November 9, 1997).
- Felderhoff, K. H. (2018). Die Ursprungsregeln in modernen EU-Freihandelsabkommen. In W. Summersberger, M. Merz, H. Jatzke, & M. Achatz (Eds.), *Aussenwirtschaft, Verbrauchsteuern und Zoll im 21. Jahrhundert: Festschrift für Hans-Michael Wolfgang zum 65. Geburtstag* [Foreign trade, excise duties and Customs in the 21st century: in honour of the 65th birthday of Hans-Michael Wolfgang] (pp. 233–260). Otto Schmidt.
- GATT Group of Negotiations on Services. (1991, October 15). *Definitions in the draft General Agreement on Trade in Services, MTN.GNS/W/139*. https://www.wto.org/gatt_docs/English/SULPDF/92130039.pdf
- Geneva Ministerial Conference. (1998, May 25). *Declaration on global electronic commerce, Adopted on 20 May 1998, WT/MIN(98)/DEC/2*.
- Hirsch, M. (2011). The politics of Rules of Origin. In T. Broude, M. L. Busch, & A. Porges (Eds.), *The politics of international economic law* (pp. 317–336). Cambridge University Press.

- Hoekman, B. M., & Inama, S. (2019). Rules of Origin as non-tariff measures. In J. F. Francois & B. M. Hoekman (Eds.), *Behind-the-border policies: assessing and addressing non-tariff measures* (Vol. 39, pp. 209–245). Cambridge University Press. <https://doi.org/10.1017/9781108751698.010>
- Inama, S. (2009). *Rules of Origin in international trade*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511551949>
- National Board of Trade Sweden. (2016). *The servicification of EU manufacturing: building competitiveness in the internal market* (No. 2016.4). National Board of Trade Sweden. https://www.kommerskollegium.se/globalassets/publikationer/rapporter/2016/publ-the-servicification-of-eu-manufacturing_webb.pdf
- Peng, S. (2020). A new trade regime for the servitization of manufacturing: rethinking the goods-services dichotomy. *JWT*, 54(5), 669–725.
- Vonderbank, S. Fach 4270. In K. P. Müller-Eiselt & S. Vonderbank (Eds.), *EU-Zollrecht/Zollwert*. C.F. Müller (122nd ed.).
- Vonderbank, S. (2019). Zollwertrechtliche Behandlung von Entwicklungskosten für Software: Anmerkung zum Vorlagebeschluss des FG München vom 6.6.2019 [Costs for the development of software: remarks on the decision of the FG Munich from 6 June 2019]. *ZfZ*, 95(12), 369–373.
- Vranes, E. (2009). The overlap between GATT and GATS: a methodological mate. *Legal Issues of Economic Integration*, 36(3), 215–238.
- Witte, P. (2018). Einführung. In P. Witte (Ed.), *Zollkodex der Union (UZK): Mit Durchführungsrechtsakten, delegierten Rechtsakten und Zollbefreiungsverordnung*. C.H. Beck (7th ed.).
- Wolfrum, R. (2008). Art. II GATS. In R. Wolfrum, P.-T. Stoll, & C. Feinäugle (Eds.), *WTO – Trade in Services*. Martinus Nijhoff Publishers.
- World Trade Organization. (2003, May 9). *Work programme on electronic commerce, classification issue, submission from the European Communities, WT/GC/W/497*.
- World Trade Organization Committee on Specific Commitments. (2001, April 24). *Report of the meeting held on 28 November 2000, note by the Secretariat, S/CSC/M/18/Rev. 1*. <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/S/CSC/M18R1.pdf&Open=True>
- World Trade Organization Council for Trade in Services. (2001). *Guidelines for the scheduling of specific commitments under the General Agreement on Trade in Services, S/L/92: Adopted by the Council for Trade in Services on 23 March 2001*.

Notes

- 1 Verbindungen aus Waren und Dienstleistungen im Recht der WTO unter besonderer Berücksichtigung zollwert- und ursprungsrechtlicher Fragen [Connections of goods and services in WTO law with special consideration of customs valuation and origin law issues], published in Mendel-Verlag/EFA-Schriftenreihe (Vol. 69) 2022.
- 2 See National Board of Trade Sweden (2016), (pp. 14–16).
- 3 See for example *Canada - Periodicals* (1997), (p. 17); *China - Audiovisuals*(2009) (para. 379).
- 4 The term ‘mode 5 Services’ was first used by Lucian Cernat and means those services that are embodied in a good, that is, which are an inseparable part of the production process of a manufacturing good (Cernat & Kutlina-Dimitrova, 2014).
- 5 See Art. 1.1 Agreement on Implementation of Article VII of the GATT 1994 (CVA).
- 6 See, for example, Art. 4.5 United States-Mexico-Canada Agreement (USMCA), Art. 29 (1) lit. b) ATIGA, Note 4.2 Annex 3-A to Japan-EU Free Trade Agreement (JEFTA).
- 7 Cf. Inama (2009), (p. 360)
- 8 See only: WTO Committee on Specific Commitments (2001).
- 9 See: WTO Council for Trade in Services (2001).
- 10 This is reflected by the use of the terms “importation” and “exportation” in i.a. Art. I:1 lit. b), Art. III:1, Art. XI:1 GATT. These go beyond the understanding of simple “trade” meaning the exchange of goods or services for consideration.
- 11 Members first agreed on establishing a respective work programme in 1998, (Geneva Ministerial Conference, 1998).
- 12 Electrical energy is listed as an optional heading in the Harmonised System (HS) under Heading 2716.00.
- 13 See for example Books (HS 4901.10, 4901.99), CDs and DVDs (HS 8523.49), Audio- and Video-Tapes (HS 8523.29).
- 14 See 1. B. b. SSCL.
- 15 See No. 842 in the UN Provisional central product classification 1991: “All services involving consultancy services on, development and implementation of software”.
- 16 See 2. D. a. SSCL.
- 17 See 2. D. e. SSCL.
- 18 This is reflected as far as goods are concerned for example by the fact that members are still allowed to levy customs duties and as for services, that members are free to make specific commitments for individual service sectors as far as market access (Art. XVI GATS) and national treatment (Art. XVII GATS) are concerned.
- 19 See Art. XI GATT.
- 20 See Art. XVI:1, Art. XVII:1 GATS.
- 21 Cf. Art. XXI:2 lit. a) GATS.
- 22 Art. VI:4, Art. XV:1 GATS.
- 23 See Art. 10 para. 9.2 Trade Facilitation Agreement.
- 24 see only: *EC - Bananas III* (1997) (p. 220).
- 25 similar: Vranes (2009) (p. 234).
- 26 See for example Chase (2012) (p. 809). Similar: Peng (2020) (p. 715).
- 27 However, this solution is proposed by: Vranes (2009) (pp. 229–230).
- 28 However, the *Panel* decided, that exceptions should generally only be applicable for the respective agreement: *China – Raw Materials* (2011)(para. 7.153). Confirmed by: *China – Raw Materials* (2012) (p. 304).

Hanns-Thilo von Spankeren



Hanns-Thilo von Spankeren is a trainee lawyer at the Higher Regional Court Celle, Germany. He studied law at the University of Münster, Germany and holds a Doctor of Laws (Dr. iur.).

Is blockchain technology a silver bullet for a customs environment?

Hüseyin Yaren

Abstract

This paper focuses on how blockchain technology's implementation may have possible drawbacks in a customs environment. To argue this, blockchain technology and its features are summarised, then three indicators of customs duties (tariff classification, origin and value) and several case studies are used to illustrate these drawbacks.

Keywords: blockchain, customs, tariff classification, origin, value

1. Introduction

It is beyond dispute that blockchain technology will bring new opportunities to the table. Companies and governments have already started to cultivate the benefits of this technology. On the other hand, can it be claimed that blockchain technology is a flawless tool?

There are several studies indicating that blockchain technology has both implicit challenges and challenges due to its implementation.

Lielacher (2018) lists five challenges that need to be overcome before the mainstream adoption of blockchain technology: initial costs, integration with legacy systems, energy consumption, public perception, privacy and security. Marr (2018) also noted that blockchain has an environmental cost, its lack of regulation creates a risky environment and its complexity means end users find it hard to appreciate the benefits. Blockchains can be slow and cumbersome, and the 'Establishment' has a vested interest in blockchain failing (Marr, 2018).

The challenges above are implicit in blockchain technology, thus they will be discussed using case studies in a customs context. Firstly, blockchain and its features are summarised, then the indicators of customs duties are elaborated. Finally, the potential drawbacks of blockchain's implementation in a customs environment are argued via these indicators and several case studies.

2. Understanding blockchain technology

Yaren (2020) notes that 'Blockchain is a transaction platform, working in a peer-to-peer network – which eliminates the need for a trusted third party – that allows users to create and share data which has a timestamp and unique cryptographic signature. As a result of the creation and validation processes, the data created in blockchain is nearly unhackable' (p. 129). Yaren (2020) adds that 'it [blockchain] provides a transaction platform with shared, distributed, sequential and timestamped data that can be updated only by consensus between the nodes of the system. This reveals immutable, irreversible, unalterable data that provides higher transparency, traceability and, because of these, higher auditability. Also, it reduces costs and risks while increasing speed, dependability, sustainability and flexibility' (p. 131).

According to Yaren (2020), ‘The benefits of using blockchain technology in customs transactions can be summarised as follows: blockchain can be considered as an information pipeline with a single source of truth that is verifiable and immutable, and provides an opportunity for paperless trade, better risk assessment, lower administrative cost, real-time tracking and transparency for customs clearance. As a result of these attributes, blockchain can help mitigate fraud, improve compliance with regulations and documentation, and enable customs officials to distinguish legitimate and illegitimate trade and fraudulent practices’ (p. 133).

3. Indicators of customs duties

To illustrate the possible drawbacks of implementing blockchain technology in a customs environment, it is beneficial to understand how customs duties are calculated.

There are three main elements of customs duties:

1. tariff classification of goods
2. origin of goods
3. value of goods.

3.1. Tariff classification of goods

According to the European Union Customs Code (2013), Article 56 – Common Customs Tariff and surveillance, ‘1. Import and export duty due shall be based on the Common Customs Tariff.’ Article 57, the Tariff classification of goods, states ‘1. For the application of the Common Customs Tariff, tariff classification of goods shall consist in the determination of one of the subheadings or further subdivisions of the Combined Nomenclature under which those goods are to be classified.’

The European Commission (2018a; ‘Classification of goods’ section) elaborates the tariff classification of goods by explaining how it is also used for applying non-tariff measures:

The term ‘tariff classification of goods’ is defined in Article 57 of the Union Customs Code (UCC).

It means determining the subheadings or further subdivisions of the Combined Nomenclature (CN) under which the goods will be classified.

Classification is not just used to determine the customs duty rate for a specific subheading. It is also used to apply *non-tariff* measures.

So, even if all goods were zero-rated for customs purposes, classifications could still be necessary if you need to:

- apply for an import or export licence
- find out if import or export restrictions apply
- issue a certificate of origin
- claim an export refund or similar
- determine whether or not a product is liable to excise duty
- find out if a reduced value-added tax rate applies (insofar as the CN is used as a basis of reference).

3.2. Origin of goods

The European Commission (2018b; ‘What this section is about: the concept of origin’ section) explains origin as follows:

Origin is the “economic” nationality of goods in international trade. There are two kinds, non-preferential and preferential.

Non-preferential origin confers an “economic” nationality on goods. It is used for determining the origin of products subject to all kinds of commercial policy measures (such as anti-dumping measures, quantitative restrictions) or tariff quotas. It is also used for statistical purposes. Other provisions, such as those related to public tenders or origin marking, are also linked with the non-preferential origin of the products.

Preferential origin confers certain benefits on goods traded between particular countries, namely entry at a reduced or zero rate of duty.

In terms of regulation, the European Union Customs Code (2013; in Article 60, the Acquisition of origin section) details origin as:

1. Goods wholly obtained in a single country or territory shall be regarded as having their origin in that country or territory.
2. Goods the production of which involves more than one country or territory shall be deemed to originate in the country or territory where they underwent their last, substantial, economically-justified processing or working, in an undertaking equipped for that purpose, resulting in the manufacture of a new product or representing an important stage of manufacture.

3.3. Value of goods

According to the European Union Customs Code (2013; in Article 70, the Method of customs valuation based on the transaction value section):

1. The primary basis for the customs value of goods shall be the transaction value, that is the price actually paid or payable for the goods when sold for export to the customs territory of the Union, adjusted, where necessary.
2. The price actually paid or payable shall be the total payment made or to be made by the buyer to the seller or by the buyer to a third party for the benefit of the seller for the imported goods and include all payments made or to be made as a condition of sale of the imported goods.

The European Commission (2018c) explains the value of goods in the customs context as ‘Customs valuation is the determination of the economic value of goods declared for importation’ (in the ‘Introduction to Customs Valuation’ section).

Having a standard set of rules for establishing the value of goods is of great importance for several reasons. Customs duties and value-added tax (VAT) are calculated as a percentage of the goods’ value. Economic operators and customs authorities need to have clear rules on how to make this assessment, as a commonly agreed and accurate measuring standard is vital for the purposes of:

- economic and commercial policy analysis
- application of commercial policy measures
- proper collection of import duties and taxes
- import and export statistics.

The value of imported goods is also one of the three ‘elements of taxation’ that provides the basis for assessment of the customs debt, which is the technical term for the duty that has to be paid, the other ones being the origin of the goods and the customs tariff classification. Once these elements are determined, customs duties can be calculated.

4. Analysis of blockchain technology in a customs environment via case studies

4.1. Wood supply chain case study

Figorilli et al. (2018) combined blockchain, RFID (Radio-frequency identification) and different kinds of IoT (Internet of things) to create a solution for the traceability of wood along the whole supply chain. In this study, ‘the entire forest wood supply chain was simulated in the Calabria Region in Southern Italy, from standing trees to the final product passing through tree cutting (felling, harvesting, processing) and sawmill process’ (Figorelli et al., 2018, p. 3).

According to Figorilli et al. (2018, p. 4) the journey starts with the timber marking phase and ends with the final consumer:

- Timber marking: application of the first RFID (RFID1) of the Class 1 Gen 2 (coin shaped with central hole) above the cut at the moment of the tree identification. This first tag associates the information on the database of the standing tree: tree marking date, tree GPS point, species, diameter at breast height, qualitative class, other information;
- Cutting: additional RFID (RFIDn) tags (one for each derived log; the same used for the timber marking), were applied on the cutting portion for each log (excluding branches and pieces of lesser quality). Each RFID is uniquely associated with the tree, thus preserves the association with the RFID information applied in the first phase, and adds the following data related to each single log: cutting date, log length, log average diameter, wood quality categories, other information.

Figorilli et al. (2018) notes the other phases as stacking, transport, sawmill processing, production and selling, and final consumer (p. 4).

This system is perfect for traceability of wood along the supply chain, because blockchain technology allows users to be confident about the details of data entry, for example, the time it occurred and who entered the data into the system. Also, the system provides security and trust because the data cannot be changed or altered by any of the participants in the system. So, blockchain technology is perfect for securing data after it has been entered into the system.

This means that, whether the data entered is correct or not, the system will transmit the data entered. The system relies heavily on the accuracy of the very first actor who enters the data. In the above example, the first action is entering the tree marking date, the tree GPS point, species, diameter at breast height, qualitative class and other information into the system. Potential drawbacks of this issue in the customs environment can be explained by the three indicators of customs duties.

4.1.1. Tariff classification of goods

As previously mentioned, classification is important because it used to determine the customs duty rate and to apply non-tariff measures. To more easily illustrate the potential drawbacks of using blockchain technology in the context of tariff classification it is beneficial to imagine two fictional countries

and two types of trees with different tariff classifications; country X as the exporter, country M as the importer and tree 'Pure', with high quality and high value, and tree 'Cuz' with low quality and low value.

As stated above, entering accurate data initially is crucial – if incorrect information is entered into the system, it will be there until the end of the process. In terms of tariff classification, entering false information may result in fraud in a customs environment, as follows:

- a. In exporter country X, if there is an export incentive (like a tax deduction, financial aid, or export refund) for exporting Pure, the export company may cut Cuz and enter information about it in the blockchain system as if it was Pure. Until an audit reveals the truth, blockchain will keep the information as if Cuz was Pure.
- b. To protect nature and natural resources, countries limit the trade of some goods by imposing licence obligations. Companies that desire to trade these type of goods must fulfil several requirements, which is generally costly. If there is a licence obligation for both export and/or import of Pure, the initial information entered into the blockchain system can again be falsified as if the good was Cuz. In this way both exporter and importer avoid the procedures to obtain these licences.
- c. Woinarski, Burbidge and Harrison (2015) noted that endemic Australian land mammal fauna have suffered an extraordinary rate of extinction (>10% of the 273 endemic terrestrial species) over the last ~200 years because of the animals that arrived with European settlement (p. 4531). These types of experiences force governments to protect the local fauna and flora by using import and export restrictions.

Another reason for restrictions can be the rarity of a good – countries may want to limit its international trade to retain it. Let's assume Pure is a type of tree that the country in which it is indigenous does not want to be subject to international trade. The same process can be repeated in this example – the initial data entered into blockchain could identify Pure as Cuz, and the authorities trusting the blockchain data can be misled.

- d. Another example is where Pure is subject to excise duty because of its features. This time the misrepresentation may work by presenting Pure in the blockchain system as if it was Cuz. Thus, if import country authorities accept blockchain data as the only truth and do not, for example, scan or audit due to a false sense of security, problems may arise.

4.1.2. Origin of goods

In the above cases, GPS technology means that the origin of the goods is the least vulnerable to misrepresentation of the three indicators. When compared to tariff classification and value of goods, it is hard to hide or disguise the real origin of the goods.

4.1.3. Value of goods

As a result of its features, Pure should be more expensive than Cuz, so under normal conditions that means Pure would have a higher customs value to be declared. When the same manipulation process mentioned above is repeated, the first actor that enters the information into the blockchain system can manipulate the value of goods, which will result in lower customs duties and VAT.

4.2. Coffee bean supply chain case study

Verhoeven, Sinn and Herden (2018) use five blockchain cases, 300Cubits, BanQu, Bext360, Kouvola Innovation and Walmart (in cooperation with IBM), to analysis blockchain and supply chain relationships.

Instead of focusing on all these cases, it is beneficial to focus on the ones that may show the possible drawbacks of using blockchain technology in supply chains within the context of customs.

While discussing the Bext360 case, Verhoeven, Sinn and Herden (2018) mention:

The supply chain relevant problems Bext360 tries to address within the supply chain for coffee beans can be put under the title fairness. On the one hand, farmers of coffee beans are treated badly on a regular basis. They receive either low wages, delayed payments or even no payments at all for their beans. In addition, intermediaries and resellers often take more than their fair share of the product. On the other hand, consumers must rely on the little information they get when buying coffee. The chain of information regarding authenticity of the proclaimed coffee quality or if farmers were paid and treated fairly is incomplete and vulnerable to falsification.

The supply chain relevant solution Bext360 is proposing is supposed to solve the unfair treatment by developing a complete chain of information. They propose that a robot automates the quality evaluation of coffee beans and assigns a fair price. Bext360 plans to use a blockchain implementation to bind the data from this transaction to a token per bag of coffee and, therefore, offers traceability from source to consumer down to the bag of coffee beans. With access to the information on the token they would be able to track the actual transaction of beans and payment, proving a price, which is supposed to be fair to ensure an actual living wage for the farmers, as well as the origin of the beans. (pp. 11–12)

As explained in Section 4.1, the following sections discuss how the three elements of customs duties represent potential drawbacks of blockchain technology in a customs environment.

4.2.1. Tariff classification of goods

As in the wood supply chain case study, the same problem arises here; blockchain can secure the data in the system but is vulnerable to falsification if the first data entered into the system is manipulated. This means when the first data that conflicts with the true situation is entered in the system, blockchain will secure the ‘already manipulated’ information throughout the chain.

Let’s imagine a situation in which two fictional coffee beans have the quality of A and B, where A is of a high grade and B is of low grade quality. In addition to the examples given in Section 4.1.1, the following may also occur in a customs environment:

- a. A-type high-quality coffee beans can be imported as if they were B-type low-quality beans to avoid, for example, high customs duties, VAT and excise duty collected due to the value of imported goods.
- b. one type of coffee can be entered in the system as if it was the other type to avoid tariffs and quotas.

4.2.2. Origin of goods

As mentioned in Section 3.2, there are two types of origin: non-preferential and preferential. The European Commission (2018b) notes that preferential origin confers certain benefits on goods traded between particular countries, namely entry at a reduced or zero rate of duty.

Let’s imagine three fictional countries, with the importer country A and the exporter countries B and C. Between countries A and B there is a preferential origin relationship, while between countries A and C this relationship is non-preferential. This means that if country A imports coffee from country B, the importer company will benefit from a reduced or zero rate of duty. On the other hand, if country A imports coffee from country C, the importer will not benefit from these advantages.

In this case, again, the initial data entered into the blockchain is crucial, as, if manipulated, the chain may start as if the coffee beans were produced in country B, rather than originating from country C.

4.2.3. Value of goods

In the above example, in terms of value of goods, B-type low-quality coffee beans may be exported as if they were A-type coffee beans with a high customs value, to take advantage of export incentives like tax refunds. On the other hand, in the import process, A-type coffee beans may be imported as if they were B-type, low customs value, beans.

In the coffee bean example described by Verhoeven, Sinn and Herden (2018), blockchain is a great tool to secure data, but problems may start during data entry. To solve this, the use of robots is discussed in the quality evaluation of coffee beans and in assigning them a fair price.

However, even using robots, it cannot be known if someone changes the bags or changes the contents of the bags after the robot has specified the quality of the coffee beans. In addition, even if it is documented that farmers were paid fairly, this may not represent the actual situation, as farmers can be forced to admit that they got paid. It is also possible that some part of their payment could be taken back from them by hand, which means that it cannot be detected in the system.

While crediting this system, Verhoeven, Sinn and Herden (2018) also underline the possible drawbacks as follows:

By making sure the data input is automated and, therefore, genuine, the quality of the saved data can be assured. It is, however, unclear how data manipulation at later steps of the supply chain is handled. Although manipulation or simple lack of data at this stage only influences the tracking quality and not the proof of the farmer's pay, the consumer might not have full insight into the supply chain.

...The idea only offers true benefits if the "real life" application works as planned. In detail, farmers must actually receive the pay that is documented in the blockchain and the tokenized bags of coffee beans have to contain beans of the stated quality. It is not explained how Bext360 is going to make sure of those issues. (p. 12)

4.3. Food supply chain case study

Staples et al. (2017) outlines the AgriDigital Company's product, which focuses on the early stages of grain supply chains:

...the supply chain starting with the grain being loaded onto a truck. When the truck arrives at the buyer's site, it passes a first weighbridge and a sampling station. The information from the weighbridge is the gross weight, that is the weight of the grain as well as the truck and trailers. The sampling station picks a sample of grain, which is processed in an adjacent lab to assess the quality of the grain. The quality of the grain determines the price per ton; together with the gross weight, an upper bound of the price can be calculated. The data (gross weight, quality, price) is sent to the AgriDigital frontend, which creates a blockchain transaction containing this information...

...Then the truck physically unloads the grain into the buyer's silo. Subsequently, upon leaving the buyer's site, the truck passes a second weighbridge. Here the weight of the empty truck, the *tare weight*, is measured. The second weighbridge forwards that information to the AgriDigital frontend, which in turn creates another blockchain transaction with that data. Invoked by the second transaction, the smart contract calculates the *net weight*, that is, gross weight minus tare weight. The price for the grain is then recalculated as net weight times price per ton for the grain's quality, and a title for the grain with its net weight and quality is created. The final price is transferred to the grower, and the grain ownership title is transferred to the buyer...

... The main goal of the trial was to show that the truck's appearance on the weighbridges triggered all system interactions, which was achieved. Steps that are yet to be automated are: (i) establishing that the weighbridges fulfil the conditions (having been inspected by authorities within the past 12 months and not recalibrated), and (ii) automated generation of the quality assessment message, which is currently entered manually by a technician in the sampling station's lab...

... As mentioned above, the data entry from the sampling station was done manually into the AgriDigital frontend. Ethereum is currently limited in its handling of decimal values, and thus some rounding error occurred as expected. (p. 19)

It is obvious that in this case using blockchain technology will revolutionise transactions in the early phases of the food supply chain, for example, it will lower the cost and provide shared data.

The initial data entry stage, again, is the most vulnerable of the system, as discussed in previous case studies.

In a fictional country that uses a similar system, the fraud may occur in the sampling phase. Firstly, as data entry from the sampling station is manual, data that do not represent the actual features of the grain can be entered into the system in error or on purpose. Secondly, even if it is automated as in the previous coffee bean supply chain example, the sampling phase automated system can be falsified by several techniques. All these may lead to situations in which the data of the goods in the system and the goods themselves do not match until revealed by screening or auditing, for example.

When this vulnerability is considered in a customs environment, potential drawbacks related to the tariff classification, origin and value may also appear in this example.

5. Conclusion

It is obvious that blockchain will – and has already started to – revolutionise every industry that relies heavily on data and data transfer. Supply chain management practices and the customs environment are just two examples.

As explained previously, blockchain offers shared, distributed, timestamped and immutable data, which will boost trust between user parties by virtue of increased transparency and traceability. It will be easier to switch to paperless trade, lower the costs on international trade and decrease the time consumed in customs transactions.

On the other hand, with all these new opportunities brought to the table, blockchain may have some drawbacks especially in a customs environment. As discussed above in the three case studies, in conjunction with the three indicators of customs duties, there are several vulnerabilities in blockchain technology that need to be considered.

In all three cases, blockchain technology is presented as a useful tool to secure data and share it with all users. On the other hand, the veracity of the data may be questionable. The vulnerability of blockchain starts when the initial data is entered into the system. If the data completely reflect the actual truth about the traded good, then it will be perfect for all agents in the international trade transaction. However, as outlined in the case studies, if the very first data entered into system do not reflect the actual truth about the traded good (either through error or on purpose), blockchain technology may serve only to transmit and keep secure false data about that good.

After discussing the use of blockchain (or distributed ledger) technology (DLT) in several cases, Ferrarini, Maupin and Hinojales (2017) noted that 'In principle, anything that can be reliably measured can be tracked via a DLT and reflected in a product's ultimate price' (p.19). The main emphasis in this sentence should be on the words 'reliably measured' because the vulnerability of blockchain

starts exactly at this point. If the parties in the blockchain cannot be sure about the reliability of the data, blockchain will be used simply as a transaction platform that keeps the data secure, even when falsified.

Weernink et al. (2017) mention that blockchain can add value to port logistics and digitalisation of ports regarding trust, security, visibility, network expansion and integration of supply chain flows. On the other hand, the authors raise the same question of blockchain vulnerability that is discussed above, 'In a nutshell, implementing blockchain technology raises questions concerning the reliability of data provided by the suppliers and customers: is the data provided by the supply chain partners reliable?' (p. 13). In this situation, blockchain will be just a ledger in which every agent in the system can easily see the details of the data, but if the data are not correct, it will only help in obtaining false data.

While explaining the potential drawbacks of using blockchain technology in excipient supply chain management, Shireesh and Nikolai (2016) underline blockchain technology's vulnerability, as discussed above, as the following:

While the veracity of transactional records (as distinct from actual transpired events), the chain of custody is unalterable, this fact, in and of itself, is no indication that an excipient has remained unaltered in transit or at the point of source. Indeed, just as in current supply chain verification methods, where rogue collusion exists within the supply chain there can be no guarantee that what is transacted in the blockchain (such as the attributes of a certificate of analysis) is actually congruent with the chemical make up of the excipient or material. Similarly, a chain of custody transaction records is no guarantee of the actual physical whereabouts of the material en route from supplier to end user. Just because a transacted record is computerised and 'blockchained' does not necessarily imply that its physical world counterpart material of commerce has not been tampered with; all it implies is that the transaction record cannot, and has not, been tampered with. (p. 77)

Thus, starting with false or falsified data is the main vulnerability of blockchain technology.

Pugliatti and Gain (2018) mention that blockchain presents some major challenges that go beyond technology, like fraud, 'Organized networks often operate through a complex system of false companies that create false descriptions of goods or false invoices. They could simply start a blockchain of false data' (para. 9).

To avoid these types of circumstances, Shireesh and Nikolai (2016) offer an audit mechanism, 'Of course, block chain veracity is reliant on appropriate audit processes to verify each transactional record to ensure it is accurate at the time it is entered into the blockchain' (p. 77). In the case of the examples above, the idea offered by these authors should be considered.

As discussed, it is safe to say that blockchain technology's main vulnerability lies in the hands of its users, and mainly the ones that enter the data into the system. The Organisation for Economic Co-operation and Development (OECD, 2018) explain this issue with the term 'Garbage in garbage out', adding that 'the information entered on the blockchain is only as good as its source' (Table 2).

In conclusion, blockchain technology has a wide usage in several industries, especially industries working with data. Companies related to supply chain practices and customs authorities seek ways to cultivate the benefits of this technology. Successful implementation by both the public and private sector encourages others to try this phenomenon. However, as discussed in the above case studies, blockchain technology is vulnerable at the data entry step. If the data entered into the system reflect the actual details about the good, it will be beneficial for all agents in the chain, but if the very first data entered are false or falsified, blockchain technology will serve just as a tool to share and keep secure the false/falsified data. To take blockchain technology one step further, from being a data transmitter to the single version of the truth, data entry should be designed properly and in essential cases it should be supported with audit processes.

References

- European Commission. (2018a). *Classification of goods - Taxation and Customs Union*. https://ec.europa.eu/taxation_customs/business/calculation-customs-duties/what-is-common-customs-tariff/classification-goods_en
- European Commission. (2018b). *Taxation and Customs Introduction – Introduction*. https://ec.europa.eu/taxation_customs/business/calculation-customs-duties/rules-origin/introduction_en
- European Commission. (2018c). *Taxation and Customs Union - What is Customs Valuation?* https://ec.europa.eu/taxation_customs/business/calculation-customs-duties/what-is-customs-valuation_en
- European Union Customs Code. (2013). <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02013R0952-20161224&from=EN>
- Ferrarini, B., Maupin, J., & Hinojales, M. (2017, December). *Distributed Ledger Technologies For Developing Asia*. Asian Development Bank Working Paper Series (No. 533). <https://www.adb.org/sites/default/files/publication/388861/ewp-533.pdf>
- Figorilli, S., Antonucci, F., Costa, C., Pallottino, F., Raso, L., Castiglione, M., Pinci, E., Vecchio D. D., Colle, G., Proto, A. R., Sperandio, G., & Menesatti, P. (2018). A blockchain implementation prototype for the electronic open source traceability of wood along the whole supply chain. *Sensors* 18(9), 3133. <https://www.mdpi.com/1424-8220/18/9/3133/pdf>
- Lielacher, A. (2018, January 3). *Five challenges blockchain technology must overcome before mainstream adoption*. <https://www.nasdaq.com/article/five-challenges-blockchain-technology-must-overcome-before-mainstream-adoption-cm899472>
- Marr, B. (2018, February 19). *The 5 big problems with blockchain everyone should be aware of*. <https://www.forbes.com/sites/bernardmarr/2018/02/19/the-5-big-problems-with-blockchain-everyone-should-be-aware-of/#51d7f2ad1670>
- Organisation for Economic Co-operation and Development. (2018). *OECD blockchain primer*. <https://www.oecd.org/finance/OECD-Blockchain-Primer.pdf>
- Pugliatti, L., & Gain, B. (2018, June 5). Can blockchain revolutionize trade? *World Bank Blogs*. <http://blogs.worldbank.org/trade/can-blockchain-revolutionize-trade>
- Shireesh, A., & Nikolai, P. (2016). *Will blockchain technology revolutionize excipient supply chain management?* *Journal of Excipients & Food Chemicals*, 7(3). <https://jefc.scholasticahq.com/article/910-will-blockchain-technology-revolutionize-excipient-supply-chain-management>
- Staples, M., Chen, S., Falamaki, S., Ponomarev, A., Rimba, P., Tran, A. B., Weber, I., Xu, X., & Zhu, J. (2017, June 6) *Risks and opportunities for systems using blockchain and smart contracts*. The Commonwealth Scientific and Industrial Research Organisation. <https://doi.org/10.4225/08/596e5ab7917bc>
- Verhoeven, P., Sinn, F., & Herden, T. (2018). Examples from blockchain implementations in logistics and supply chain management: Exploring the mindful use of a new technology. *Logistics*, 2(3), 20. doi:10.3390/logistics2030020
- Weernink, M. O., Engh, W. V. D., Francisconi, M., & Thorborg F. (2017) *The blockchain potential for port logistics*. http://smart-port.nl/wp-content/uploads/2017/06/Bijlage-6_White-Paper-Blockchain.pdf
- Woinarski, J., Burbidge, A., & Harrison, P. (2015). *Ongoing unraveling of a continental fauna: decline and extinction of Australian mammals since European settlement*. *Proc Natl Acad Sci USA*, 112(15), 4531–40. doi:10.1073/pnas.1417301112
- Yaren, H. (2020). Implementing blockchain technology in the customs environment to support the SAFE Framework of Standards. *World Customs Journal*, 14(1), 127–138.

Hüseyin Yaren



Hüseyin Yaren is Head of Customs Brokers Department at the Turkish Republic Ministry of Trade. He graduated from the Ankara University Faculty of Political Science Public Finance in 2007 and completed an MBA with Supply Chain Concentration at the Claremont Graduate University, The Peter F. Drucker and Masatoshi Ito Graduate School of Management in 2018.



Section 2

Special Report

The United Nations Office on Drugs and Crime (UNODC) and the World Customs Organization (WCO) established the UNODC – WCO Container Control Programme (CCP) to support the development of risk management, supply chain security and trade facilitation in seaports, airports and land border crossings to prevent the cross-border movement of illicit goods.¹

Last year, the CCP, in collaboration with the Australian Border Force, provided female customs officers in Asia and the Pacific with an opportunity to strengthen their leadership skills and build their international networks in this male-dominated area through the CCP Women’s Professional Development Program. The following papers, which have been contributed by organisers and participants, provide thought-provoking insights into the principles, benefits and outputs of the program.

¹ See <https://www.unodc.org/unodc/en/ccp/ccp-programme-details.html>

Get ready for a new mindset on women in customs leadership

Anita Dodds, Aneka Farrington, Phillip Dowler, Joel Carruthers, Michelle Bond, Anne Linn Jensen and Ulrich Meiser

Abstract

Around the world, progressive customs administrations recognise the importance of strengthening their gender balance. In the past decade, the deliberate efforts of contemporary leaders have resulted in positive organisational changes focused on equitable opportunities to prepare women and men for customs leadership. We know that customs administrations are capable of large-scale and rapid transformation – the COVID-19 pandemic has clearly demonstrated just how adaptive and responsive they can be. We contend that customs administrations are well-placed to drive timely, organisation-wide change that will make gender diversity a reality. This paper highlights the need for diversity in administrations and introduces the Container Control Programme – Women’s Professional Development Programme (CCP – WPDP) that is designed to significantly advance diversity in agencies to strengthen their organisational effectiveness.

Keywords: Customs, leadership, women, adaptive, inclusive, cooperation

What is the current situation for women in Customs?

Women play a critical role in global security (Tafili, 2021). However, like other national law enforcement agencies (including police and immigration), Customs continues to be a male-majority profession. In 2021, the World Customs Organization (WCO) reported that 37 per cent of the global customs workforce are women and 16 per cent of senior customs roles are held by women (WCO, 2021). In the Asia–Pacific region, women’s representation in frontline and leadership roles in national customs administrations is expected to be even lower.

Facilitating the legitimate movement of goods across international borders requires a quality workforce. Gender diversity at all levels within customs administrations ensures more effective outcomes for operational procedures, global trade facilitation and national security (Outram, 2021).

Increasing women’s representation and leadership in Customs has been linked to better Customs outcomes, systemic organisational improvements, greater integrity and improved disruption of corrupt practices. ‘When women lead, we all win’ (Brandolino, 2021).

What positive steps can we already see for women in Customs?

In the past decade, international stakeholders, including the WCO, the United Nations Office on Drugs and Crime (UNODC) and customs agencies around the world have actively shown a practical commitment to advancing gender through efforts to enhance conditions and opportunities, which allow women and men to have the same rights based on their skills (WCO, 2019). This has resulted in positive steps towards addressing the barriers women face in both joining and pursuing a career in Customs, including recruitment, working conditions, workplace safety and career progress.

‘Around the world, we see national defence forces and the private sector are already championing equality and taking impressive steps to build inclusive workplaces’ (Dowler, 2021). Let us reflect on our national customs administrations. If we have active gender policies, inclusive recruitment processes, specialised training programs and affirmative opportunities for women and men, we are already on the right track. But international data confirms that, in Customs, we are at the beginning of our journey. With 84 per cent of Customs leadership roles held by men (WCO, 2021), agencies need to quicken the pace of change. This need not seem like an insurmountable task. A vast array of international tools already exists to support organisations to take confident and proactive steps towards strengthening gender diversity.

The Container Control Program (CCP) Women’s Network is a prime example of an innovative initiative supporting customs administrations to actively embrace gender diversity. Established in 2015 with the overarching objective of promoting women’s participation and leadership in law enforcement professions, the CCP Women’s Network has coordinated with national authorities to foster an inclusive dialogue, encourage new workplace measures, evaluate gender representation, deliver gender sensitisation training and a range of other activities. These initiatives have contributed to a higher percentage of women engaged in Port Control Units (PCUs) and Air Cargo Control Units (ACCU) across the world, including more women appointed to leadership roles in customs administrations.

Time to shake things up! How do we escalate women’s engagement in Customs?

We need to be proactive. We need to engage women. If we are not actively creating opportunities for women in all levels of our customs administrations, we are failing to reach 50 per cent of the best talent (Fitzsimmons, 2021).

We all have a role to play in advancing women and men in our customs administrations. Sometimes the terminology around gender diversity seems complicated. Other times, the measures might appear too complex. However, the actual steps are simpler than we realise. Consider your agency’s policies, practices and activities. An important starting point is having a practical and active gender policy which is shared and well-understood at all levels of the agency. The policy needs to be actively applied to ensure women and men are actively engaged at all levels of recruitment, training, decision-making and career progression. The organisation should also provide a safe work environment, that understands and addresses gender-based challenges and biases. Then, there are personal actions we can all undertake to positively shape our agencies. The first action? A mindset that gender inclusivity in Customs requires us to realise that positive change isn’t someone else’s responsibility – it begins with each of us.

In August 2021, the Australian Border Force (ABF) united with the UNODC and the WCO CCP Women’s Network to deliver the inaugural Container Control Programme – Women’s Professional Development Programme (CCP – WPDP). This was no ordinary training program: delivered through the Royal Melbourne Institute of Technology (RMIT) Transnational Security Centre (TSC), 58 emerging female Customs leaders from 11 countries across South Asia, South-East Asia, the Pacific

and Australia united for a four-week, online, part-time, innovative and immersive experience focused on building leadership capabilities, technical skills and international connections. The four core modules examined adaptive leadership, the future customs landscape, trusted customs networks and 'realising our full potential'. The CCP – WPDP was committed to inspiring and upskilling female customs officers to become capable, confident and future-ready leaders.

Mindful of the persistent obstacles to women's advancement in Customs, the CCP – WPDP was designed to bring positive change for emerging women leaders. While this was a groundbreaking initiative to advance women's engagement in leadership, the methodology applied by the partners is an easily transferable model that can be replicated by agencies seeking to proactively redress women's under-representation. There is no secret formula – the partners simply shared a united commitment and backed this with practical efforts to:

- work in partnership with customs administrations to identify emerging women leaders
- purposefully create training opportunities which advance women's leadership skills
- create a platform for women to engage with positive leadership role models
- establish a trusted network enabling women to engage with international customs partners.

What was different about the CCP – WPDP?

Future customs leaders are curious and active learners who seek engagement, interaction and robust discussion with positive role models. They crave practical learning tools, opportunities for partnership and contemporary perspectives to prepare for the rigours of Customs management and leadership. The CCP – WPDP successfully exceeded the participants' expectations through the following methodology.

Critically, the CCP – WPDP was designed as a leadership program for women (not a gender program for women). This represented a definitive change in mindset. We already know that women are underrepresented in Customs, so we decided to get straight to business by intentionally offering women an opportunity to participate in advanced leadership training that would build their confidence and skills to manage the complexities of the future customs landscape. The four-module curriculum immersed participants in contemporary themes building their capabilities as innovative, collaborative, inclusive, proactive and adaptive leaders.

The CCP – WPDP applied creative learning tools to engage participants, ensure active participation and drive immediate and enduring outcomes for the participants' leadership journeys. Importantly, follow-up included leadership mentoring, community cafes and ongoing professional development opportunities.

Partnership approach

'Together we are stronger' (Outram, 2021) was proposed by Commissioner Michael Outram (Head of the ABF) as the guiding motto for the CCP – WPDP. Indeed, the overarching theme of trusted partnerships was relevant at many levels.

From the outset, a strong foundation of cooperation was established by the partner agencies. To ensure effective implementation and stay ahead of possible challenges, the CCP Women's Network and ABF created an active Working Group. The collaborative nature of the Working Group enabled an integrative approach and smooth coordination ensuring the partners' shared goals were achieved through the CCP – WPDP.

In addition, the CCP – WPDP actively promoted partnerships with international customs stakeholders, governments, UN Agencies, policy institutes, academia, the private sector and law enforcement agencies. Forty-nine leaders and experts shared thought-provoking perspectives and personal insight to enhance the participants' technical knowledge and leadership skills thereby further building a cohort of confident and capable leaders.

Participants also actively recognised that the customs threat landscape has changed remarkably during the COVID-19 pandemic. The acceleration of drug manufacturing, changes in trafficking patterns, containerised trade and parcel post, and new developments in the movement of illicit goods affirm that cooperation is more important than ever before (Douglas, 2021). For most participants, this program was their first opportunity to engage with customs officers in other countries. The resulting network has already become self-sustaining, providing a powerful platform for participants and partners to exchange experiences and intelligence. Most importantly, the participants formed a trusted network with their international customs counterparts. The participants' feedback speaks about the value of these Customs-to-Customs connections:

‘Connecting with my sisters from different countries is truly overwhelming’. (CCP – WPDP participant, Maldives)

‘I have already started scanning onshore detections from CCP – WPDP participating countries and I am working on processes to share this information’. (CCP – WPDP participant, Australia)

‘Transnational criminals don't respect borders. The best way to be ahead of them is to share information with international Customs partners’. (CCP – WPDP participant, Fiji)

What did we achieve through the CCP – WPDP?

A key objective of the CCP – WPDP was to empower emerging women leaders to advance their leadership journeys in Customs. The participants' qualitative and quantitative feedback indicates they experienced a significant and valuable increase in their confidence to lead, influence, and make decisions in their professional roles, which is now positively impacting border security:

Even when I was contemplating signing up for this program, I almost talked myself out of it because I didn't think I was capable enough or skilled enough to join such a prestigious program, and I didn't think I would be able to keep up with the course. However, this program has shown me that big words such as innovation, adaptive mindset and resilience are not to be feared and they are not as difficult as they sound! The program has given me very practical guidance and ideas on how to improve myself and work on my leadership, and that has boosted my confidence so much, as now I am able to think to myself, ‘hey, it's not that hard!’ Leadership is no longer an abstract, difficult to understand concept, but a realistic goal with practical and achievable strategies and steps. (CCP – WPDP participant, Malaysia)

Participants attest that they graduated from the CCP – WPDP with a new mindset about their own capabilities and a determined readiness to apply adaptive, proactive, inclusive, collaborative and innovative approaches as they progress in their leadership roles:

CCP – WPDP is an excellent program where women officers realise their full potential and become future leaders in their respective agencies; it allows active engagement with notable and respected leaders of various organisations...and the most important part of the program is everyone is treated as family, and it's so much fun! (CCP – WPDP participant, Philippines)

We need diversity (Kvigne, 2021). The CCP – WPDP opened a pathway for women to explore their future leadership directions. This step is a critical launching pad as we transform the diversity in administrations, and there's no reason to wait. It's a goal we should all aspire to now. This sentiment is shared by Dr Kunio Mikuriya, Secretary General of the WCO (WCO, 2021) who states:

Promoting diversity and inclusion in the workplace encourages innovation, and improves both individual and organisational performance, since people with different backgrounds bring different perspectives and ideas to the table. It is a question of human rights, sustainable development and wellbeing.

So, what are you going to do?

The future customs landscape is complex and uncertain. The pressures in our operating environment continue to rise. Customs administrations are a cornerstone of national revenue and are increasingly asked to do more with less. Criminals are constantly looking for opportunities in the international supply chain. As we strive to facilitate international goods movement and address security at our borders, we need our best team and our best talent.

We all need to be champions who are committed to positive change for women in Customs. It's 2021! It's what we should be doing! Women make up 50% of society. Law enforcement professionals should mirror that - it's not even a question! (Amberg, 2021)

So, what is the current situation for women and men in your administration? If women are not close to 50 per cent of your workforce and your leadership – now is your chance to take positive and practical actions.

'We need women in the room' (Stevenson, 2021). The CCP – WPDP provided an empowering opportunity for women officers in Asia and the Pacific to advance their career pathways in their national customs administrations. It wasn't hard. There was nothing complex about the concept. It was a simple, determined effort by key Customs stakeholders to deliver a program outside the usual format, which truly made a difference for women in Customs and enhanced women's future ability to be in the room, alongside their male counterparts, actively contributing to the future decisions and directions of their administrations.

References

- Amberg, R. (2021). *Welcome to the CCP Women's Network*. Video speech delivered by UNODC Programme Manager Ricarda Amberg during the CCP – WPDP Training Program on 16 August 2021.
- Brandolino, J. (2021). *World Customs Organization opening address*. Video speech delivered by UNODC Director, Division of Treaty Affairs John Brandolino during the CCP – WPDP Opening Ceremony 1 August 2021.
- Douglas, J. (2021). *Let's cooperate to combat customs crime*. Video speech delivered by UNODC Regional Director Jeremy Douglas during the CCP – WPDP Training Program on 16 August 2021.
- Dowler, P. (2021). *Customs leadership – adaptive mindsets*. Live video session discussion by Director of RMIT University Transnational Security Centre Phillip Dowler OAM on 3 August 2021.
- Fitzsimmons, S. (2021). *Inclusive leadership pathways*. Live video session delivered by Resilience NSW Commissioner Shane Fitzsimmons on 25 August 2021.
- Kvigne, K. (2021). *Are you ready to lead?* Video speech delivered by Norway NCIS Director General Kristin Kvigne during the CCP – WPDP Training Program on 1 August 2021.
- Outram, M. (2021). *Australian Border Force opening address*. Video speech delivered by Australian Border Force (ABF) Commissioner Michael Outram APM during the CCP – WPDP Opening Ceremony on 1 August 2021.
- Stevenson, C. (2021). *Cultivating an adaptive mindset: customs leadership*. Video speech delivered by New Zealand Customs Service (NZCS) Comptroller Christine Stevenson during the CCP – WPDP Training Program on 1 August 2021.
- Tafili, E. (2021). *Why are we here?* Video speech delivered by WCO Deputy Director for the Capacity Building Directorate Ebenezer Tafili during the CCP – WPDP Training Program on 1 August 2021.
- Trevino, R. (2021). *World Customs Organization opening address*. Video Speech delivered by WCO Deputy Secretary General Ricardo Trevino Chapa during the CCP – WPDP Opening Ceremony 1 August 2021.
- World Customs Organization. (2019). *Gender Equality Organisational Assessment Tool (GEOAT)*. <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/capacity-building/activities-and-programmes/gender-equality/gender-equality-assessment-tool.pdf?la=en>; <https://etradeforall.org/news/wco-releases-new-customs-tools-to-advance-gender-equality-and-diversity/>
- World Customs Organization. (2020). *Annual Report 2019-2020*. http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/annual-reports/annual-report-2019_2020.pdf
- World Customs Organization. (2021). *Annual Report 2020-2021*. http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/annual-reports/annual-report-2020_2021.pdf
- World Customs Organization. (2021, September 24). *Gender equality and inclusion in Customs at the forefront of high-level discussions* [Press release]. <http://www.wcoomd.org/en/media/newsroom/2021/september/gender-equality-and-inclusion-in-customs-at-the-forefront-of-high-level-discussions.aspx>

Anita Dodds

Anita Dodds, Order of Australia Medal (OAM), is a facilitator in RMIT University's Transnational Security Centre. Anita is a criminology, management and education specialist with 30 years' experience providing training and leadership support for police, immigration, Customs and defence with a focus on serious organised crime and illicit transnational people/goods movement. Anita has worked directly on criminal justice and management issues in Australia, Asia, Africa and the European Union. Anita holds degrees in criminology, management and education. She also holds a Master of Arts and a Master of International and Community Development.

Anneka Farrington

Anneka Farrington is a facilitator in RMIT University's Transnational Security Centre. Anneka has more than 25 years' experience in the private sector, local government, the UN, not-for-profit organisations, and peak bodies both within Australia and internationally. Anneka's skills include educational design and delivery, facilitation, event management, research and evaluation, program management and stakeholder engagement with a focus on transnational crime, social welfare and social policy. Anneka holds a Bachelor of Applied Science, a Bachelor of Social Work, and a Master of International and Community Development.

Phillip Dowler

Phillip Dowler OAM is the Head of Campus for RMIT University in Hanoi (Vietnam) and the Director of the RMIT University Transnational Security Centre. Phillip also has 12 years' experience with an Australian helicopter rescue service, participating in over 400 rescues/medical retrieval operations. He was awarded an OAM in 2015 for his service. Phillip holds degrees in commerce, education and risk management and is currently studying a Master of Criminology and Justice.

Michelle Bond

Michelle Bond is an inspector within the International Operations and Coordination Branch of the ABF. Michelle has 20 years' experience in customs compliance, liaison, operations and enforcement positions. Michelle has served in multiagency taskforces and in roles involving offshore disruption in the cargo supply chain, capacity building and strategy development. In her current role, Michelle supports Pacific Island countries to enhance their border management and border security capabilities.

Joel Carruthers



Inspector Joel Carruthers is the ABF First Secretary posted to the Australian Embassy, Thailand. His current role focuses on operational cooperation and support to Customs and law enforcement counterparts in the Mekong subregion. He has a background in civil maritime security, maritime intelligence and risk management. He holds a Bachelor of International Relations.

Anne Linn Jensen



Anne Linn Jensen is a programme officer at UNODC. Since 2015, she has worked for the UNODC – WCO CCP in Vienna, Austria. Having contributed to the establishment of the CCP’s Women’s Network, she continues to be an active member of the network. Anne Linn joined UNODC over 10 years ago and, in addition to posts in headquarters, she has worked at UNODC’s Regional Office for the Middle East and North Africa in Egypt. She holds a Bachelor of Social Anthropology and a Master of Science in Human Rights.

Ulrich Meiser



Ulrich Meiser is the UNODC Regional Coordinator of the UNODC – WCO CCP, responsible for South Asia, Southeast Asia and the Pacific. Ulrich has 13 years’ experience with German Customs and worked 10 years as senior technical officer in the Compliance and Facilitation Directorate of the WCO. As the UNODC CCP Programme Coordinator for Afghanistan, he implemented and backed the CCP in the country for almost four years. Ulrich holds a Bachelor of Public Finances.

Women in customs leadership: why does it matter?

Sreya Hong, Michelle Bond, Losalini Lesu, Melani Madhubhashini, Senali Lokubalasooriya and Dini Ratnasari

Abstract

While positive efforts to advance women have been made, women remain significantly underrepresented in customs leadership. This paper explores the challenges facing women in Customs in the Asia-Pacific region by conducting a survey with women from the authors' administrations. Based on this research, we offer concrete recommendations to promote women in customs leadership. The findings identify a range of barriers, with some shared and some particular to individual agencies and/or countries. The article concludes that ensuring the safety of women should be the first priority, followed by the development of policies and instruments to promote women, and that leadership and professional development programs should be conducted for all women in Customs around the world.

Keywords: women, Customs, leadership, development, promote, recommendations, barriers

1. Introduction

During the 1995 Fourth World Conference on Women, the United Nations (UN, 1995) highlighted that 'without the active participation of women and the incorporation of women's perspective at all levels of decision-making, the goals of equality, development and peace cannot be achieved'. Almost 30 years after this statement, the presence of women in law enforcement leadership, and particularly in customs administrations, remains low with especially low numbers in developing countries. The World Customs Organization (WCO) states that in 2020-21, men occupy 84 per cent of Heads of Customs positions globally versus 16 per cent for women, and that the total percentage of female customs officers globally is only 37 per cent (WCO, 2021b, p. 52). Customs is still primarily a male-dominated field.

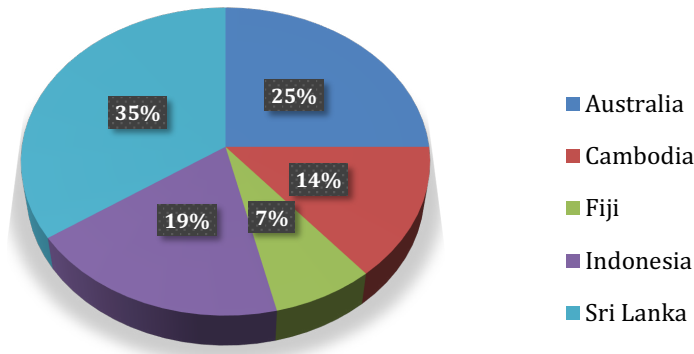
This article emphasises why it is crucial to advance women in Customs. It first examines the current status of women in customs administrations globally and particularly in South Asia, South-East Asia, the Pacific and Australia using examples from Australia, Cambodia, Fiji, Indonesia and Sri Lanka. Then, it identifies key barriers hindering women's progression into leadership roles. Finally, it concludes with potential policy options to make customs leadership roles more accessible to women worldwide.

2. Methodology and scope

We used a desk-based study to collect data from existing documents and reports. Findings were also supported through a survey which addressed key obstacles faced by women customs officers

pursuing professional advancement. The survey was conducted through questionnaires delivered to 136 female officers from all ranks and positions from customs administrations in Australia, Cambodia, Fiji, Indonesia and Sri Lanka, serving as a representative sample for South Asia, South-East Asia, the Pacific and Australia. Figure 1 shows the geographical breakdown of the 136 responses received.

Figure 1: Survey responses received from each country



Source: Authors

3. Why do women belong in customs leadership?

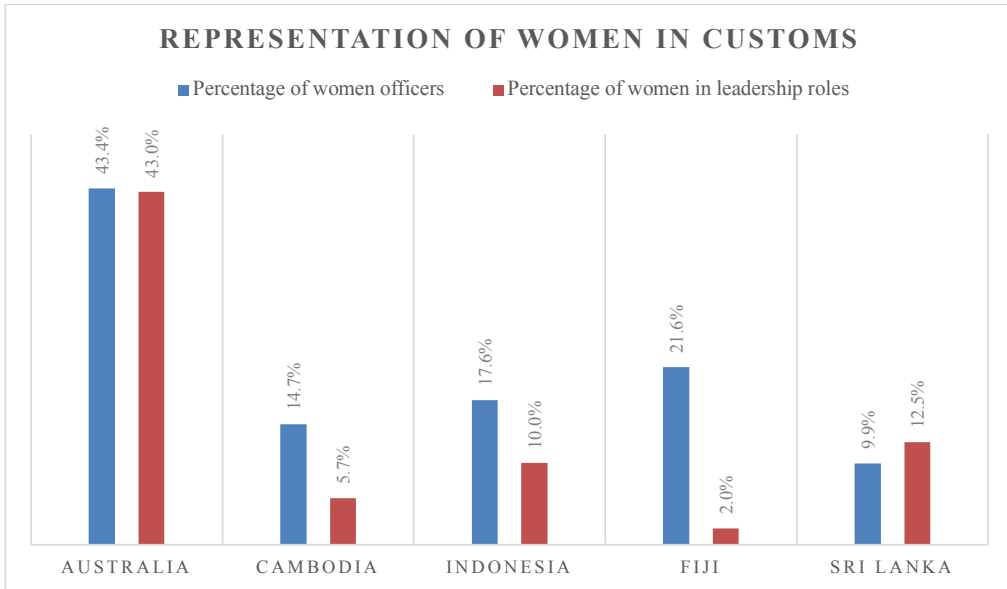
Gender balance can enable resilience, innovation and growth within Customs (Clanok, 2021). In the 2021 WCO virtual event on ‘Women in Customs’, Dr Kunio Mikuriya (WCO Secretary General) emphasised that ‘Promoting diversity and inclusion in the workplace encourages innovation and improves individual and organisational performance since people with different backgrounds bring different perspectives and ideas to the table’ (WCO, 2021a). In support of this statement, other progressive senior customs leaders have also expressed their commitment to encourage women’s representation at all levels of Customs.

Women belong at all levels of Customs, including senior management positions. Administrations that actively address gender diversity tend to perform better because they can mobilise new perspectives and ideas within their human resources (WCO, 2013). It is not only about fairness but about working towards sustainable growth, high performance and being inclusive organisations. ‘We need to be proactive, we need to engage women. If we are not engaging women, we are missing out on 50% of the best people’ (Commissioner Shane Fitzsimmons, 2021).

4. What is the current situation of women in customs leadership?

In 2021, the WCO reported that women hold 16 per cent of customs leadership roles and 26 per cent of senior management roles. Worldwide, 37 per cent of the global customs workforce is female (WCO, 2021b, p. 52). Women’s representation in customs administrations varies geographically, being significantly lower in the Asia-Pacific region than in Australia. The chart below illustrates the percentage of women officers and leaders in customs administrations in Australia, Cambodia, Fiji, Indonesia and Sri Lanka.

Figure 2: Current representation of women in customs



Source: Authors

The Australia Border Force (ABF) has worked actively and steadily over the past decade to become a gender-balanced administration with the highest percentage of women among all surveyed countries. Women's leadership in ABF is heading towards gender parity with 40 per cent representation at the executive level and 46 per cent at the senior executive level (Department of Home Affairs, 2019, p. 183). This commitment to building a diverse workforce ensures that ABF senior leadership equitably represents the communities they serve.

The percentage of women officers in the Asia-Pacific region is extraordinarily low. As of 2021, the percentage of women officers in customs administrations surveyed in South-East Asia, South Asia and the Pacific averages 7.4 per cent. A small pool of women officers in frontline roles has repercussions for leadership, and even fewer women have been promoted to leadership positions. Almost all director and chief levels are occupied by men, with women representing between 2 per cent to 12.5 per cent of management level positions in Cambodia, Fiji, Indonesia and Sri Lanka. Most of the women promoted only reach deputy levels.

It is noted that women's engagement in officer ranks in Fiji Customs has grown significantly from 4.3 per cent in 1995 to 21.6 per cent in 2020. However, male officers still form the overwhelming majority at the highest levels. The figures are also disproportionate in Sri Lanka Customs where only 9.9 per cent of officers are women and 12.2 per cent of leadership positions are held by women. Moreover, Sri Lanka Customs sets limits on women's participation, effectively restricting the total number of women officers within the institution to 10 per cent of the workforce.

5. What is stopping women in Customs from progressing in their careers?

Women in Customs face common hurdles that are typical in male-dominated workplaces. Cultural and social barriers, unconscious gender bias, low self-confidence and motivation and inadequate safety measures are some of the main obstacles identified in the survey, which will be analysed in detail below.

Firstly, 72 per cent of respondents identified social preconceptions, such as the expectation for women to take care of the household, as the main obstacle to women's professional advancement within Customs. Gendered responsibilities include looking after elderly parents and children and being in charge of household chores. These time-consuming obligations limit women's opportunities to invest in their professional and personal development. Furthermore, women with young children (0–3 years) seem to struggle if they do not have someone to look after their children while at work. Sixty-five per cent of respondents identified the lack of available childcare facilities in the workplace as a specific challenge, leaving some women no choice but to leave their customs workforce until their children reach school age.

Secondly, unconscious biases towards women and gendered stereotypes can hinder women's progress into leadership positions. Over 60 per cent of the women surveyed believed that they or other women in their agency may not be selected for some positions due to perceptions they have limited physical strength or that certain work is not suitable for women. Furthermore, almost half of all respondents believed that women's voices are not heard in meetings or decision-making situations, believing that male leaders are listened to, valued and respected more than female leaders. Both men and women need to be aware of such biases and stereotypes and work together to minimise them.

The survey results also illustrate that lack of self-confidence and motivation are further barriers that need to be addressed. More than half the respondents believe that women tend to underestimate their capabilities and experience, while half think that women are more risk-averse. Such responses were common to all countries participating in the survey, with 90 per cent of respondents in Australia identifying it as a key barrier to women's professional progress.

Lack of safety and sexual harassment at the workplace are obstacles for women in Customs in Sri Lanka and Fiji. These barriers can directly affect women's professional confidence, effectiveness and career engagement, which may drive them to leave their employment. The impact on mental health can be severe. Over 62 per cent of respondents identified night shifts and safety factors in isolated offices as key barriers. Customs administrations work 24/7 to facilitate international trade, and night shifts cannot be eliminated. Moreover, customs work commonly requires officers to perform their duties from isolated offices situated in remote locations. Such settings can prove especially difficult for women unless their administrations resolve personal safety and logistical issues.

6. What is being done well around the world?

In 2013, the WCO Secretariat encouraged the advancement of women in leadership roles within Customs during the *Women in Customs, Trade, and Leadership* conference. As an outcome of this conference, the WCO *Gender Equality Organisational Assessment Tool (GEOAT)* was launched. The GEOAT aims to assist customs administrations in assessing their policies, practices and activities, helping them to explore how gender equality can be further incorporated into their reform and modernisation agendas. In 2017, the WCO stepped up its efforts to launch new initiatives to promote gender equality as well as broader diversity and inclusiveness issues in Customs. Further to this,

a blended training package, *Advancing Gender Equality in Customs* was developed and includes a one-week workshop and an e-learning module on raising awareness on gender equality within Customs.

‘Gender Equality and Diversity is not only a question of human rights, but also considered a prerequisite for achieving sustainable development, growth and competitiveness’ (WCO, 2020, p. 6). The WCO has documented good practice experiences and methodologies of global customs administrations who are successfully advancing the gender equality and diversity agenda. According to WCO (2020), a number of countries have achieved positive steps in advancing women in customs leadership by:

- implementing action plans, frameworks, policies and procedures to support gender equality and women’s advancement in the workplace
- developing gender networks to help drive and progress initiatives, increase advocacy, participate in strategy and policy development, and provide leadership on how to achieve improved gender equality at all levels of customs administrations
- identifying gender gaps in pay standards, recruitment processes and other demographics to determine whether women are proportionately represented at all levels
- recognising ‘You can’t be what you can’t see’, and improving the gender balance within leadership structures
- implementing strategies and goals to support women progressing into leadership roles, including networking and mentoring programs, training and capacity building programs and ensuring transparency and equal opportunity for career development and promotion.

It is hoped that these practices will inspire others to promote the growth of women leaders in customs administrations.

7. What are our recommendations?

When considering national-level responses, there is not a one-size-fits-all approach. The survey revealed variations according to cultural, political and social circumstances in each country, including:

- a proposal by Cambodian, Fijian and Sri Lankan officers that ensuring safety for women in the workplace is their most important strategy to promote women’s leadership in their customs administrations
- the identification by Indonesian officers that the development of policies and instruments is their most important step in promoting women’s leadership in their customs administrations
- the identification by Australian officers that encouraging and supporting women to pursue their career goals is their most important measure to promote women’s leadership in their customs administration.

7.1. Promoting and supporting women in Customs

Policies promoting equal representation in leadership positions across customs administrations should be encouraged. This can be accomplished by ensuring that management roles offer an appropriate work-life balance and by attracting and recruiting new managers using a competency-based management approach. Male champions are vital to women’s voices being heard in the workplace,

and a positive way for them to show their support is through targeted workplace policies. According to the survey, Indonesian officers identified this as their most important recommendation for promoting women's leadership in Customs. Lastly, customs administrations should ensure a fair distribution of resources and opportunities regardless of gender. A fair and supportive work environment and facilities are key factors to encourage women to have confidence in their capabilities and to strive for better career opportunities. This includes enhancing women's access to professional settings such as conferences, external network meetings and other major events that enable them to try different roles and positively reassess their self-worth.

7.2. Leadership training and mentoring programs for women

Customs administrations can overcome traditional limitations and promote women's advancement into leadership roles by implementing the following practices:

- mentoring and sponsorship programs: to provide guidance, lessons learned and successful approaches, assist in growth opportunities, help advocate visibility in the organisation and identify opportunities, and provide assistance in moving towards future positions
- networking: to provide opportunities for women officers to communicate with national and international colleagues, nurturing a sense of belonging and building rapport and relationships to assist in career advancement
- leadership and training programs: to provide access to specialised training programs that enhance capacity, build confidence, advance professional development, promote collaboration within a supportive community and empower women as they proactively advance their careers in Customs.

According to the survey, implementing mentoring programs, delivering leadership training courses and supporting women to build confidence were rated as practical and achievable solutions for women overcoming barriers and progressing into leadership positions.

7.3. Ensuring safety for women in the workplace

When considering the national survey responses, many women from Asia and the Pacific highlighted safety as a key barrier to women's advancement, while Australian respondents rated safety as their least important priority. This is possibly due to prevailing social and cultural norms in the respective societies. In addition, the International Labour Organization (2020) has also identified the cruciality of ensuring safety in the workplace. This element can definitely improve the morale, effectiveness and engagement of women employees, resulting in better career development. The following recommendations should be considered to ensure safety for women in the workplace:

- introducing policies that strictly prohibit and punish sexual and verbal harassment
- establishing clear disciplinary procedures
- providing training on awareness, good practices and responsibilities
- installing surveillance cameras
- introducing mechanisms to report incidents and to monitor and provide support if needed.

8. Conclusion

Despite the fact that the crucial role played by women in Customs is generally well recognised, social norms and expectations, gender stereotypes and unequal domestic responsibilities seem to significantly hold women back from dreaming big, pursuing their goals or even considering their own career advancement. In some countries, women even face insecurity and harassment at work, which becomes yet another challenge to overcome. Regardless of the region, ensuring safety for women should be the first priority. Policies and environments that support women in Customs are undeniably necessary. A mentoring/leadership program created particularly for women can empower them, equipping them with the necessary skills and knowledge to pursue their own professional goals and help build confidence and self-belief to accomplish them.

Gender diversity matters in Customs. Our administrations are at the forefront of international efforts to manage international goods movement. We should also be at the forefront of promoting diversity in our workplaces. Women's inclusion in leadership positions is not only about fairness but also about providing the best possible opportunity for our administrations to reach their highest potential through diversity, innovation and inclusivity. Certainly, the steps towards achieving gender parity began in our agencies decades ago. Now is the time to pick up the pace and advance our efforts to include and promote women in the customs sector. It simply starts with us. What are we waiting for? We can all play a role in 'achieving an equal future in a COVID-19 world' (Mikuriya, 2021). The positive gender decisions that we and our customs administrations make today will certainly strengthen our organisations in preparation for better managing the future customs landscape. If not us, who? And, if not now, when?

References

- Clanok, N. (2021, October 6). *Women in Customs: How gender balance can make customs more resilient, credible, and representative*. European Commission Taxation and Customs Union. https://ec.europa.eu/taxation_customs/news/women-customs-how-gender-balance-can-make-customs-more-resilient-credible-and-representative_en
- Department of Home Affairs of Australia. (2019). *Annual report of Department of Home Affairs 2018-2019*. <https://www.homeaffairs.gov.au/reports-and-pubs/Annualreports/home-affairs-annual-report-2018-19.pdf>
- Fitzsimmons, S. (2021). *Inclusive leadership pathways*. Video speech delivered by Resilience NSW Commissioner Shane Fitzsimmons during the CCP – WPDP Training Program on 25 August 2021
- International Labour Organization. (2020). *Safe and healthy Working environments free from violence and harassment*. https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_751832.pdf
- Mikuriya, K. (2021). *Message of WCO SG on the occasion of International Women's Day 2021* [Video]. YouTube. <https://www.youtube.com/watch?v=PfSSedPI6Jk>
- United Nations. (1995). *Report of the Fourth World Conference on Women*. <http://www.un.org/esa/gopher-data/conf/fwcw/off/a--20.en>
- World Customs Organization. (2013). *Women in Customs, Trade, and Leadership Conference*. <http://www.wcoomd.org/-/media/wco/public/global/pdf/events/2013/women-in-leadership-conference/20130711-conference-proceedings-final-en-with-bios.pdf?la=en>
- World Customs Organization. (2020). *Compendium on gender equality and diversity in Customs*. http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/capacity-building/activities-and-programmes/gender-equality/gender-equality-compendium_en.pdf?la=en

World Customs Organization. (2021a). *Gender equality and inclusion in Customs at the forefront of high-level discussions*. <http://www.wcoomd.org/en/media/newsroom/2021/september/gender-equality-and-inclusion-in-customs-at-the-forefront-of-high-level-discussions.aspx>

World Customs Organization. (2021b). *WCO Annual Report 2020-2021*. http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/annual-reports/annual-report-2020_2021.pdf

Sreya Hong



Sreya Hong is a Customs Officer at Sihanoukville International Port, the only mega seaport in Cambodia. She has been recognised by the United Nations Office on Drugs and Crime (UNODC) and the WCO as a trainer for the Container Control Programme. Sreya is also a risk management specialist for the Cambodia Customs Modernisation Project. Her professional experience and research are centred on customs control, risk management, customs valuation and international affairs. Sreya was a New Zealand scholar and graduated with merit from Victoria University of Wellington with a Master of Public Policy.

Losalini Lesu



Losalini Lesu is a Senior Customs Officer with the Fiji Revenue and Customs Service. She has gained various qualifications from UNODC, Australian Border Force, University of Canberra and Oceania Customs Organisation and is an active member of UNODC CCP – WPDP. She has spent over 20 years in Fiji Customs, gaining diverse experience in the Customs Compliance Audit, Revenue and Border Division. She has a lifelong passion for advancement in learning.

Dini Ratnasari



Dini Ratnasari is a Customs Analyst at the Customs and Excise Office at Soekarno Hatta International Airport, Indonesia. Dini started her career as a Customs Auditor in the Directorate General of Customs and Excise headquarters in 2014. Subsequent roles included client coordination, tax assessment and enforcement analysis. She is currently engaged in the task force responsible for accelerating imported goods for COVID-19 at Soekarno Hatta and an active member of the CCP – WPDP.

Senali Udeshila Lokubalasooriya



Senali Udeshila Lokubalasooriya is an Assistant Superintendent of Customs at Sri Lanka Customs. Senali has a Bachelor in Engineering and a Master in Customs and International Trade. Her current field placement focuses on investigation into illegal cross-border movements and enforcing the law on incompliant traders and illicit trade while facilitating compliant trade.

Melani Madhubhashini



Melani Madhubhashini is an Assistant Superintendent at Sri Lanka Customs. She has served in the Customs Department since 2015 and is currently working at Colombo Port as an Assistant Preventive officer. Melani has a degree in Plantation Management with a specialisation in horticulture, and she is currently undertaking a Master in Public Administration. Melani is an active member of the CCP – WPDP.

Michelle Bond



Michelle Bond is an Inspector within the International Operations and Coordination Branch of the Australian Border Force. Michelle has 20 years' experience in customs compliance, liaison, operations and enforcement positions. Michelle has served in multi-agency taskforces and in roles involving offshore disruption in the cargo supply chain, capacity building and strategy development. In her current role, Michelle supports Pacific Island countries to enhance their border management and border security capabilities.

Strengthening integrity by building integrated systems: a comparative case study of Indonesia and the Philippines

Nidia Putri Kusumawardhani and Jenny Puno Diokno

Abstract

This paper outlines the strategies that the Indonesian Directorate General of Customs and Excise and the Philippines' Bureau of Customs have employed to combat corruption in their respective administrations. These strategies have enabled both countries to improve internal procedures, strengthen integrity within their organisations, curb corruption and promote good governance. These systems provide a more transparent service to the transacting public and limit face-to-face interactions between traders and customs officers, thus minimising opportunities for corruption. This paper also outlines measures undertaken by both customs administrations to enhance integrity and ensure public accountability for customs officers who fail to faithfully discharge their duties and responsibilities. Both customs administrations have adopted systems that enable more effective operations and better supervision over customs officers and other involved parties, ultimately enhancing efficiency and improving public trust.

Keywords: Customs, integrity, corruption, transparency, Indonesia, Philippines.

1. Introduction

Customs administrations around the world play a vital role in trade facilitation, collection of lawful revenues, border security and protection. In many developing countries, customs administrations are becoming increasingly proficient thanks to widespread reforms designed to better serve local communities and their respective nation states.

Of concern, Customs has been identified as one of the most corrupt agencies (Transparency International, 2008). Customs administrations around the world face enormous challenges due to corruption, which poses grave threats to public confidence, national security, national revenues, effective government spending and sustainable development. Walsh (2003, pp. 154–166) highlights that there are many factors which trigger officials to succumb to corruption. These include poor internal control systems, inadequate supervision and accountability, lack of transparency in customs operations and procedures, and wide, unfettered discretion wielded by individuals within the agency.

Integrity is a prerequisite in a high-functioning customs administration. According to the Revised Integrity Development Guide (World Customs Organization, 2021, p. 14), corruption is a major obstacle preventing customs administrations from fulfilling their responsibilities and objectives. Transparency International (2020, p. 3) shows that Indonesia was ranked 102nd while the Philippines took in the 115th spot among 180 countries in the Corruption Perceptions Index (CPI). Both countries also performed relatively poorly on a scale where zero is highly corrupt and 100 is very clean, with

Indonesia scoring 37 and the Philippines 34, out of 100. As a comparison, within the same region, Singapore scored 85/100, while Malaysia scored 51/100 (Transparency International, 2020, p. 2). These scores indicate that both Indonesia and the Philippines require significantly more effort and investment towards eradicating corruption. From a domestic perspective, in Indonesia 92 per cent of the population believe government corruption is a big problem and 30 per cent of public service users had paid a bribe in the past 12 months (Vrushni, 2020, p. 42). While these figures were slightly lower in the Philippines at 86 per cent and 19 per cent, respectively, they nonetheless illustrate a similar picture (Vrushni, 2020, p. 49). It is clear that both actual and perceived corruption remain significant obstacles to just and effective governance in both countries.

Trade becomes more important every year due to globalisation and the increasing interconnectedness of national economies, as well as production and supply chains. On average, the revenue from trade taxes contributes around 30–50 per cent of national income and this portion can be higher in vulnerable countries (World Bank, 2020, p. xx). Michael (2012, p. 88) emphasises bribery in Customs contributes to higher logistical costs and a decrease in national wealth. Thus, corruption in Customs is a serious issue for any country. Addressing problems and vulnerabilities to corrupt activities requires strong commitment from the government in building systems to promote transparency and ensure efficient delivery of customs services. Therefore, a comprehensive system should be adopted to maintain the integrity of individual employees, enhance their performance and facilitate legitimate trade in a timely manner.

This paper aims to highlight the implementation of integrated systems in customs administrations. This study focuses on Indonesia and the Philippines as case studies. The methodology is explained in the second section. In the third section, this study elaborates on the implementation of an integrated system in the Customs and Excise Major Servicing Office Type A Tanjung Priok, Indonesia, which includes integration application systems and counter services. In the following section, innovative systems, solutions and management initiatives by the Philippine Bureau of Customs are explored and explained. Next, this paper outlines the policies and systems in place in both countries. The final section discusses and compares these systems, and assesses how they could be improved to achieve their full potential.

2. Methodology

A qualitative approach was used in this paper. It describes and explains strategies that have been implemented by the Customs and Excise Major Servicing Office Type A Tanjung Priok and the Philippines' Bureau of Customs to eliminate corruption through the modernisation of facilities, systems and procedures. The World Bank (2020, p. 343) emphasises that systems which enhance transparency are much more likely to induce high levels of compliance with regulations, because it becomes more difficult to hide corrupt practices. Further, the use of Information and Communications Technology (ICT) has been recommended as a mechanism to reduce face-to-face interaction between officers and stakeholders (Walsh, 2003, pp. 154–166). This paper explains how these two approaches have been implemented in both customs administrations.

Both authors work as customs officers, the former for the Indonesian Directorate General of Customs and Excise and the latter for the Philippines' Bureau of Customs. This paper was developed by sharing information based on personal and professional experiences in these countries.

An empirical review was also conducted to support this paper. This empirical review was important in identifying mechanisms which can effectively minimise corrupt practices in government institutions, especially in customs administrations.

3. The implementation of integrated systems in Indonesia

Prioritising citizen service improvement has become the main goal of the Customs and Excise Major Servicing Office Type A Tanjung Priok. As the largest seaport in Indonesia, providing efficient, transparent and just service is critical to the national economy. Michael (2012, p. 88) argues that bribes and other corrupt practices impose high logistical costs on businesses and result in a decrease in country revenue. Even relatively minor bribes, for example a small payment to avoid import taxes, can be considered dangerous because if this kind of behaviour is allowed to become commonplace, not only will it have an enormous economic effect, but it also creates an environment where more serious bribes may be accepted (for example, a bribe to not inspect a shipment containing illegal firearms, explosives or narcotics).

To address this problem, the Customs Office in Tanjung Priok launched a plan to implement an Integrated One-stop Counter Service area and integrated application systems for the clients and employees. The goal is to reduce opportunities for the kind of bribes that were previously common, where people exploited a lack of supervision in areas where there was insufficient oversight by the Internal Compliance Unit, such as toilets, pantries and other places. Recognising that CCTV cannot be installed everywhere, complementary measures, such as investigations by the Internal Compliance Unit, were also required.

3.1. Integrated Counter Services

The Integrated Counter Services in Tanjung Priok Office was launched in 2019. This program has offered an easier way for clients to complete their applications for customs clearance and other services. These counters are placed in a large room, on the first floor of the building. Also, these counters can serve 16 types of customs services. For traders who want to complete their customs clearance, the submission of all relevant documents can be performed at one counter. Thus, clients are no longer required to move to different floors to complete the process. Prior to the implementation of Integrated Counter Services, each section had their own counters. Previously, the manifest counters were located on the first floor but there were four counters because manifests were divided into four sections. Then, if traders wanted to go to the billing counters, they had to go to the third floor, while trade facilitation counters were located on the second floor. Clearly, the previous system was impractical and time-consuming for traders, but it also made instances of corruption more likely because clients could access almost the entire office building giving them more opportunities to have a secret meeting with officials and attempt to bribe them. The Integrated Counter Services program was designed not only to enhance customers' satisfaction, but also to provide better monitoring and supervision, reducing the possibilities for bribes and other corrupt practices.

These Integrated Counter Services also provide facilities which are more convenient for traders and officers, such as modern, comfortable furniture, free wi-fi and a TV screen to enhance the customer experience. This area is also open 24 hours per day, seven days a week, even during public holidays. In addition, CCTV cameras are installed which can cover the entire area of these counters, including the back-office area. For officers, in order to boost their performance, this area is equipped with a leisure room which has a comfortable space for officials to enjoy their break. This room has a sofa, several dining tables and a proper kitchen with a microwave, oven, toaster, coffee maker and refrigerator. This ensures officers can benefit properly from their breaks and have access to food and coffee as desired, which translates into better performance and vigilance.

3.2. Integrated application systems

In this digital era, the use of ICT is increasingly critical for the effectiveness of system procedures. The self-service information system, called SLIM, is another breakthrough that the Customs Office in Tanjung Priok has designed to promote integrity and enhance efficiency. SLIM is an independent web-based service developed by an Indonesian Customs IT team in Tanjung Priok.

With SLIM applications, customs services users can obtain information about the documents which are required according to the service that they apply for, anytime and anywhere. The SLIM application allows users to submit electronic forms, receiving a ticket number and barcode that can be used to track the progress and estimated timing of their submission.

It is anticipated that the number of services will continue to increase significantly over time. SLIM currently provides 143 types of services integrated from all divisions in the Customs and Excise Major Servicing Office Type A.

SLIM is currently in its third generation, resulting in a better system of more meaningful supervision of employees and the process as a whole. SLIM also enhances efficiency for the Internal Compliance Division by ensuring that every service has been performed in accordance with the Standard Operational Procedures (SOP). The process also incorporates requirements for all necessary documents and a service commitment about the duration of processing the application. From a human resources perspective, this application has helped calculate the workload of each officer. Officers who display poor performance can be evaluated to be moved to other units as required. Finally, the latest version of SLIM contributes to an easier method for supervisors to monitor the performance of their team members.

Further, and complementing these innovations, an online complaint system serves to further enhance integrity and helps management to swiftly identify and resolve issues. Both clients and officers can report misconduct. The identity of those reporting is kept confidential, which encourages reporting without fear of reprisal. The complaint system is also a web-based service and applies to all areas of the Directorate General of Customs and Excise (DGCE).

4. Innovations to address integrity issues in the Philippines’ Bureau of Customs

The Bureau of Customs (BOC) remains steadfast in its mission to eradicate corruption and promote integrity within the organisation. Fully committed to institutionalise reforms and organisational transformation, the BOC enrolled in the Performance Governance System (PGS). The PGS, a local adaptation of the Balanced Scorecard developed by the Harvard Business School, is a performance management and measurement tool that aims to translate organisational goals into breakthrough results guided by a set of performance indicators and metrics (Civil Service Commission, 2010).

Current leadership introduced a myriad of innovations to promote integrity and ease of doing business by facilitating legitimate trade in a timely manner while providing a safe environment for the transacting public using portal systems, which are monitored in real time.

4.1. Online systems to promote trade facilitation and adhere to the BOC's Zero Contact Policy

4.1.1. Customer Care Portal System (CCPS) and Port of Manila (POM) Portal

In early 2020, the BOC implemented Customs Memorandum Order No. 08-2020, which encourages the use of the CCPS for general inquiries and POM Portal for online processing of goods declaration for imports, exports, transit and warehousing transactions at the Port of Manila (BOC, 2020). This initiative aims to discourage face-to-face transactions and promotes transparency. The CCPS also allows the transacting public to follow up on pending applications and for customs officers to update the status of pending applications on the portal in real time.

In conjunction with the use of an online processing system, a one-stop shop office, the Customer Care Centre (CCC), was created. As the centralised receiving office, personnel assigned at the CCC receive and release documents that are filed through the CCPS. It also serves as the Port's Pass Control and ensures that only authorised transactions and individuals are allowed inside the customs offices.

4.1.2. Automated Routing and Monitoring System

As part of the continuing reforms in the BOC, particularly in offices involved in the collection of revenues, a new system called the Automated Routing and Monitoring System (ARMS) was introduced. ARMS is an electronic-to-mobile (E2M) subsystem that enables an automated random assignment of goods declaration to examiners and appraisers. It was deployed in all ports of entry pursuant to Customs Memorandum Order No. 25-2021 (BOC, 2021).

This system is designed to discourage the former practice of traders assigning goods declarations to their preferred customs examiners and appraisers, which may lead to apparent or actual collusion between the parties resulting in possible evasion of correct duties and taxes as well as circumvention of Customs and Tariff laws. Moreover, the system also aims to institutionalise the BOC's Zero Contact Policy as the system allows brokers and importers to view updates on the status of their goods declaration via the ARMS online portal.

4.2. Initiatives to promote transparency in customs operations

4.2.1. Use of body cameras in the conduct of customs operations

The use of body-worn cameras and recording of events has been mandated, not only in the exercise of Customs Police Authority, such as controlled delivery, search of persons, vehicles and animals, but also in the conduct of regular customs operations. It includes the conduct of physical examinations within and outside customs zones, non-intrusive examination of goods, boarding formalities and disposition of goods during auction and condemnation proceedings. This initiative promotes transparency in customs operations and discourages malfeasance and misfeasance committed by customs officers in the performance of their duties and responsibilities. In addition, this allows interested parties to request the recordings in case such recordings are material to an investigation being conducted by competent authorities. This can expedite legal proceedings and ensure the integrity of the recordings.

4.3. '8484' Text Hotline

The BOC Intelligence Group (IG) spearheaded the creation of the 8484 Text Hotline launched in 2019. This special reporting hotline allows the transacting public to directly report irregularities by officials or employees of the BOC, brokers/traders and other entities involved in smuggling, bribery, illegal drugs and other corrupt practices. All complaints sent to 8484 are treated with utmost confidentiality

and promptly addressed by the IG. This reporting system, in cooperation with a third-party provider, was created to provide an opportunity for the transacting public to file their complaints without fear of retribution and ultimately, to rid the BOC of corrupt employees.

4.4. Inter-agency cooperation to stamp out corruption

On 20 March 2021, the BOC management signed a Manifesto Against Corruption in support of the Presidential Anti-Corruption Commission (PACC). The PACC is an agency under the Office of the President tasked to investigate and hear administrative cases primarily involving graft and corruption of all presidential appointees. Heeding the call to support the PACC's anti-corruption campaign, all BOC employees also signed the Manifesto, which is prominently displayed in all customs offices and buildings. By signing the Manifesto, the BOC management and employees signify their support of the anti-corruption efforts of the government.

4.4.1. Creation of Bureau of Customs – Presidential Anti-Corruption Coordinating Commission (BOC-PACC) Command and Bureau of Customs Anti-Corruption Coordinating Committees (ACC)

On 7 October 2021, the BOC together with the PACC formally launched the BOC-PACC Command Group and the Bureau's Anti-Corruption Committee. The BOC-PACC, headed by an Assistant Commissioner alongside other customs representatives, oversees the anti-corruption campaign within the organisation. Under the BOC-PACC Command Group are the ACC in various collection districts that provide support and proper coordination at the district level. The Head of the Port, the District Collector, serves as the ACC's chairperson, the Deputy Collectors for Administration as Vice-Chairperson and the Chiefs of the Law Division, Customs Intelligence and Investigation Field Station Chief and Enforcement and Security Service District Commanders as committee members.

4.5. WCO support to the integrity reforms of the BOC

4.5.1. Culmination of the WCO Integrity Program Diagnostics with the Philippine BOC

On 24 September 2021, the WCO completed an Integrity Diagnostic mission for Philippine BOC (WCO, 2021). The mission's objective was to provide strategic and technical advice to the BOC on the development and promotion of integrity within the organisation and to identify areas for improvement in implementing the Revised Arusha Declaration on Good Governance and Integrity in Customs (WCO, 2003).

To assess the current customs integrity environment in BOC, a Customs Integrity Perception Survey (CIPS) was conducted from 21 July to 5 August 2021, engaging various private sector stakeholders such as brokers, traders and forwarders, as well as customs officials. The questionnaire focused on the 10 key factors in the Revised Arusha Declaration on Good Governance and Integrity in Customs. Integrity experts from customs administrations in the Maldives and Pakistan also supported the mission, which was made possible through the WCO's Trade Facilitation for Middle Income Countries and with support from the UK government's Foreign Commonwealth and Development Office.

5. Discussion

The innovative systems introduced by customs administrations in Indonesia and the Philippines are indicative of the commitments of both countries to address integrity issues that have plagued both administrations. Public participation is considered an important instrument in the fight against corruption (United Nations Office on Drugs and Crime [UNODC], 2020; The Organisation for Economic Co-operation and Development & Asian Development Bank [OECD/ADB], 2007, p. 57). As described above, both customs administrations have reporting systems which the transacting

public can use to report customs officers who are involved in corrupt practices, such as the online complaint system in Indonesia Customs, and in the Philippines, the 8484 Text Hotline. Through these systems, the community can report irregularities and potential offences committed by customs officers. In addition, the Philippine BOC remains steadfast in its goal to reduce if not eradicate corruption through its collaboration and coordination with the PACC, with the creation of various anti-corruption committees in every port of entry. The signing of the Manifesto of support to end corruption solidifies BOC's firm commitment to promote integrity within the organisation.

Widdowson (2013, p. 14) states that the use of technology and automation systems will provide a high level of transparency, making operations more efficient and easier for audit, reducing opportunities for corruption. This is of critical importance because almost every clearance process in Customs is very prone to corruption (McLinden & Durrani, 2013, p. 4). In addition, Widdowson (2013, p. 14) added that a high level of transparency will reveal the decision-making process. As observed, both customs administrations have similar systems such as Indonesia's Integrated Counter Services and its counterpart in the Philippines, the CCC, the SLIM and the BOC's CCPS. Both customs administrations have benefited from these systems in promoting integrity and transparency as these have significantly reduced face-to-face interactions between clients and officers. Stakeholders are now given access to these systems to express their dissatisfaction on a particular customs transaction, which both administrations can use as a feedback mechanism to streamline its processes to better serve the transacting public. Through this scheme, efficient delivery of public service and trade facilitation efforts become the norm of public service in Customs.

Moreover, in Tanjung Priok Customs Office, users of import and export services no longer need to interact directly with customs officials as they can check the progress of their document directly by inputting their ticket code to SLIM. Before this application was launched, traders had to ask the authorities for updates about the progress of their document. In addition, there was a confusing queuing system where the documents completed first were collected last. If their document was rejected by officers, traders can see the notes from officials about what remains to be completed. If clients require further information, they can ask through Tanjung Priok Live Chat and Call Centre Services. Each chat and call conversation are recorded. These systems have enabled clients to complete their customs clearance using their personal communication devices. Also, these systems successfully reduce direct physical contact between clients and officers and are time saving for both parties.

Similarly, BOC is aggressively promoting a Zero Contact Policy between customs employees and the transacting public. Any employee who violates the Zero Contact Policy is issued a show cause order by the Commissioner and investigated by the Customs Intelligence Investigation Service – Internal Inquiry Division. Due process is accorded to the employee and after the investigation has concluded, if found guilty of violating the Zero Contact Policy, appropriate administrative charges will be filed against the violator. This shows how serious the organisation is about applying this policy.

The CCPS has been running successfully since its creation more than a year ago. This system proved to be useful during the mandatory lockdowns in 2020 and 2021 as customs officers were on a work from home arrangement except for key personnel who were in the field to conduct physical inspections and non-intrusive inspections on selected containers. Stakeholders have been using this application system and found it convenient and safe without the need of going to the ports to personally follow up documents. Through the CCPS, cargo clearances on imports and exports were facilitated in a timely, safe and secure manner. It has been observed that customs transactions facilitated through the portal system, such as processing of goods declarations for both imports and exports including responding to general inquiries, are acted upon in a timely manner, thus demonstrating the effectiveness of the CCPS as a tool in enhancing the trade facilitation efforts of the BOC.

Both administrations have employed similar efforts to address corruption by reducing, if not eliminating, direct interaction between employees and clients. It is worth emphasising that these systems are convenient to use and ensure the safety of the stakeholders who are not required to be present on site to transact with customs officers, in view of the ongoing global pandemic. Instead, stakeholders can utilise these portals in the comfort of their homes or offices. These findings are in line with past research advocating for computerisation as an important strategy for customs reform (Walsh, 2003, p. 154–166; De Wulf, 2005, p. 17).

It should be noted that the BOC is committed to continuous improvement and innovation. An example is the recent ISO certification of the CCC at the POM to ensure consistency and guarantee the quality of services. In addition, more such centres have been created in other ports of entry to make customs transactions transparent, secure, convenient, safe and ensure timely processing of goods declarations.

Beyond the use of ICT, BOC has also built an extensive collaborative and cooperative relationship with the PACC, leading to the creation of anti-corruption committees in all ports of entry and reinforcing its fight against corruption by setting up the 8484 Text Hotline to receive complaints from the public. Similarly, in Tanjung Priok, efforts have been made to stamp out corruption. To maintain integrity, a transparent application system has been made, followed by Integrated Counter Services to reduce the opportunities for traders and officials to meet in a hidden place. An online complaint system was also introduced to provide feedback on the performance of customs officers.

The key difference between these two customs agencies, however, is the use of a body-worn camera in the Philippines by customs examiners. The purpose is to make actual recording of the conduct of physical examinations to promote transparency in customs operations. In contrast, this strategy is not used by Indonesian Customs. Photos evidencing proof of inspection that comply with regulations are currently still considered sufficient.

Despite the advantages of SLIM, it should be noted that this system requires further improvement. This is because SLIM is only available in one language – Bahasa Indonesia. However, it has been widely acknowledged that customs activities and international trade are two things which cannot be separated, which means that providing customs information in English is essential. Therefore, it is suggested that Tanjung Priok Customs Office develop a version of SLIM in English. Moreover, Tanjung Priok Seaport is the largest port in Indonesia, and as such, a significant proportion of Indonesia's import and export activities are carried out in this office. It also suggested that SLIM be implemented in other customs offices in Indonesia. This system appears to be effective in promoting transparency.

6. Conclusion

Addressing corruption in every customs administration is not an easy task and there is no customs agency that is immune from corruption. This paper has chronicled the deployment of innovative solutions in both administrations to address corruption, safeguard integrity within their respective organisations and promote transparency in customs transactions. This paper has also shown that while the two administrations may employ different strategies to combat corrupt practices, it is clear that both Indonesia and the Philippines are striving to make their systems more transparent. The utilisation of ICT is a viable solution to closely monitor all customs transactions and operations embedded with internal controls which provide for audit trails. This system provides efficient delivery of service to the transacting public as the processing of goods declarations and other customs transactions are monitored in real time.

Overall, both administrations have made significant progress in addressing corruption in their respective organisations through the implementation of innovative processes and integrated systems. It is a reality that addressing corruption is a work in progress since sophisticated technologies and

strategies are being used by corrupt individuals to outsmart those who are committed to eradicating corruption at all levels. Ultimately, corruption is a complex economic, societal and institutional issue that demands a holistic, multifaceted response across various aspects and sectors of government and the private sector.

The Secretary General of WCO, Kunio Mikuriya, once said, ‘The presence of corruption can destroy the legitimacy of a Customs administration and severely limit its capacity to effectively accomplish its mission, including trade facilitation’ (United Nations Economic Commission for Europe [UNECE], 2002, p. 5).

Customs administrations must be unrelenting in their quest to achieve the highest standard of integrity, transparency and public accountability. Strong leadership and a deep commitment to innovation and investment in anti-corruption measures is essential. This is not something that can be achieved in isolation; customs administrations must share good practice and learn from each other because together we are stronger.

Acknowledgments

The authors would like to thank Mr Thomas Dixon from UNODC in Bangkok for his valuable guidance and recommendations to support the development of this paper.

References

- Bureau of Customs. (2020, March 11). *Customs Memorandum Order No. 08-2020: Guidelines in the implementation of the zero-contact policy at the assessment offices in the Bureau of Customs*. customs.gov.ph/wp-content/uploads/2020/03/cmo-08-2020-ZeroContactPolicy.pdf
- Bureau of Customs. (2021, August 10). *Customs Memorandum Order. No. 25-2021: Implementation of the Automated Routing and Monitoring System for Goods Declarations*. customs.gov.ph/wp-content/uploads/2021/08/CMO-25-2021-Implementation_of_the_ARMS.pdf
- De Wulf, L. (2005). Strategy for customs modernization. In L. De Wulf & J.B. Sokol (Eds.), *Customs modernization handbook*. World Bank.
- McLinden, G., & Durrani, A. Z. (2013). Corruption in customs. *World Customs Journal*, 7(2), 3–10.
- Michael, B. (2012). Do customs trade facilitation programs help reduce customs-related corruption? *International Journal of Public Administration*, 35(2), 81–97.
- Organization for Economic Cooperation and Development and Asian Development Bank. (2007). *Anti-Corruption Policies in Asia and the Pacific: Legal and Institutional Reform in 25 countries* (pp. 51–60). ADB/OECD Anti-Corruption Initiative for Asia and the Pacific. doi.org/10.1787/9789264041349-en
- Civil Service Commission. (2010). *Performance Governance System (PGS)*. Republic of the Philippines. www.csc.gov.ph/2014-02-20-02-22-48/2014-02-20-02-26-15/progress-of-pgs.html
- Transparency International. (2008). *Bribe payers index 2008*. https://images.transparencycdn.org/images/2008_BPI_EN.pdf
- Transparency International. (2020). *Corruption perceptions index 2020*. https://images.transparencycdn.org/images/CPI2020_Report_EN_0802-WEB-1_2021-02-08-103053.pdf
- United Nations Economic Commission for Europe. (2002, May 29–30). *The challenges of facilitating the flow of commerce in a heightened security environment*. UNECE International Forum on Trade Facilitation. https://unece.org/fileadmin/DAM/forums/forum02/presentations/session_i/kmikuriya.pdf

- United Nations Office on Drugs and Crime. (2020, August). *The role of citizens in fighting corruption*. www.unodc.org/e4j/en/anti-corruption/module-10/key-issues/the-role-of-citizens-in-fighting-corruption.html
- Vrushi, J. (2020). *Global Corruption Barometer Asia 2020: Citizens' views and experiences of corruption*. Transparency International. https://files.transparencycdn.org/images/GCB_Asia_2020_Report_Web_final.pdf
- Walsh, J. T. (2003). Practical measures to promote integrity in customs administrations. In Michael Keen (Ed.), *Changing Customs: Challenges and strategies for the reform of Customs Administration*. International Monetary Fund.
- Widdowson, D. (2013). Bordering on corruption: an analysis of corrupt customs practices that impact the trading community. *World Customs Journal*, 7(2), 11–21.
- World Bank. (2020). *Enhancing government effectiveness and transparency: the fight against corruption*. <http://hdl.handle.net/10986/34533>
- World Customs Organization. (2003). *The Revised Arusha Declaration*. www.wcoomd.org/-/media/wco/public/global/pdf/about-us/legal-instruments/declarations/revised_arusha_declaration_en.pdf?la=en
- World Customs Organization. (2021). *The Revised Integrity Development Guide*. <https://customs.gov.ph/wco-boc-launch-integrity-diagnostic-mission/>

Nidia Putri Kusumawardhani



Nidia Putri Kusumawardhani has worked for the DGCE in the Republic of Indonesia for the past eight years. Her current role is Secretary to the Head Office of Customs and Excise Major Servicing Office Type A Tanjung Priok. She received a scholarship from Australia Awards and completed a master degree in Public Policy from Monash University.

Jenny Puno Diokno



Jenny P. Diokno is currently the Chief of the Export Division at the Port of Manila and Officer-in-Charge at the Port Control Office, Manila. She has more than twenty years' experience in various areas of customs operations. Jenny holds a Juris Doctor degree and is a member of the Philippine Bar.

A new mindset on customs cooperation in the Asia-Pacific region

Nguyen Thi Hong Ngoc, Shirley Mohanakumar, Anushka Cooray and Litiana Wai Sautulevu¹

Abstract

Customs cooperation is vital in today's era of digitalised supply chains, new technologies and accelerating scale and speed of goods movement. Customs administrations must adapt to the expanding globalised economy and work together to achieve economic development and prosperity. In recent years, the World Customs Organization (WCO) has facilitated significant international platforms for customs cooperation and several bilateral and multilateral agreements have been signed between customs authorities to motivate regional integration and trade facilitation. This paper focuses on customs cooperation in the Asia-Pacific region by examining several case studies on successful cooperation and analysing barriers to cooperation. This article contends that customs administrations must change their mindset from 'unwilling to share' to 'responsibility to provide' to combat increasing transnational crime threats and protect consumer health and national security.

Keywords: Asia-Pacific, customs cooperation, barriers, changing mindset

1. Introduction

The Fourth Industrial Revolution, or Industry 4.0, describes the growing trend towards automation and data exchange in technology. This revolution has not only given businesses greater insight and control across the supply chain, but it has also significantly impacted the operations of public administrations, including customs administrations. It has never been easier to cooperate internationally, especially considering the COVID-19 pandemic that has significantly reshaped the way in which we work and trade across the world.

During the past decade, global trade has been constantly expanding into new technologies and developing new regulations, dramatically changing the scale and speed of goods and services movement. Digitalisation of supply chains enabling real-time cargo tracking systems, the secure sharing of trade-related data using blockchain, and the use of social media to expand the trade network have all contributed to opening a whole new world to traders. Conversely, these positive developments have been accompanied by new and increasing transnational crime threats.

Current trends indicate that physical borders are becoming less relevant and, in response, traditional institutions and corporations, including customs administrations, must adapt to reflect and respond to the expanding globalised economy. In the Asia-Pacific region, customs administrations have changed markedly through reform and modernisation across the full spectrum of customs procedures. They have embraced technological advancements, particularly in relation to the simplification and harmonisation of trade documents, online revenue collection and contactless physical inspections.

Moreover, the Asia-Pacific region has participated in many free trade agreements (World Trade Organization [WTO], Asia-Pacific Trade Agreement [APTA] and Association of Southeast Asian Nations [ASEAN], among others), resulting in preferential tariff and duties and the removal or reduction of trade barriers to accelerate both intermediate and final product movements across countries (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP], 2021). According to a UNESCAP (2021) report, despite the pandemic, Asia and the Pacific outperformed the rest of the world with regional real exports and imports growing 10.0 per cent and 9.1 per cent, respectively, year on year, compared with 8.4 per cent and 7.7 per cent globally, respectively, in the same period.

The ever-expanding flow of goods and the diversification of transport mechanisms, along with enhancements to critical infrastructure, have significant benefits in terms of revenue collection, economic growth and supporting greater participation in the global value chain. However, if customs administrations neglect their duties to exercise customs control, to fight against smuggling and to counteract customs fraud, these developments can present a threat to consumer health and national security. During the COVID-19 pandemic, customs administrations have played a vital role to ensure the continuity of trade flow, especially in the movement of essential goods and medical supplies and supporting revenue generation, which is vital to the post-pandemic recovery of the Asia-Pacific countries.

There is no better way to fulfil customs responsibilities than to strengthen customs networks worldwide. Customs should no longer be considered as an isolated entity. Customs administrations, especially in the Asia-Pacific, should work towards setting a common goal to achieve rapid economic development and prosperity together as a region.

2. Barriers to cooperation in the Asia-Pacific region

In recent years, due to the changing trading environment, customs administrations have adapted their operations in response to the increasing speed of transactions and volume of goods. Effective cooperation is a critical means by which to address these challenges. Cooperation can, and should, occur at all levels including within customs administrations, between customs administrations, and between customs administrations and other entities, including other relevant government agencies, the private sector and with other critical stakeholders. Cooperation requires thoughtful, strategic and skilful leadership to achieve success and to overcome the inherent challenges and barriers.

Effective communication and trust are key to building relationships between customs administrations. Law enforcement agencies strive to build on these key principles to further enhance sharing of information and capacity building. In customs administrations, a lack of communication between agencies leads to missed opportunities, conflict, the dissemination of misinformation and mistrust. Without effective communication and without the necessary trust and goodwill, efforts to build a strong and collaborative customs network will be compromised.

Another barrier to effective cooperation is confidentiality and proximity. Data sharing is a concern because, potentially, rules regarding confidentiality can be broken or systems can be hacked, causing individuals to be reluctant to cooperate. In terms of proximity, collaborations across different regions and locations can be a barrier due to the different tools and systems used. The COVID-19 pandemic has fostered automation and has forced customs administrations to adopt new technologies and ways of working and communicating online, which have rapidly become the status quo of Customs today. Breaking down these barriers and finding the balance is key to building a strong customs network and establishing relationships that will mutually benefit customs administrations and their critical partners and stakeholders.

3. Case studies

The following case studies outline how cooperation between different sectors and organisations can improve trade facilitation and increase border security.

3.1. Case study 1– Authorised Economic Operator (AEO) Programme

The AEO Programme, introduced by the World Customs Organization (WCO) in 2005, is a strong example of a successful cooperation scheme between customs administrations and the private sector (Polner, 2010). The program was established to strengthen cooperation and facilitate trade between Customs and businesses. Gaining AEO status shows that the company or business has a secure international supply chain and customs control procedures in place, thus becoming eligible to enjoy better trade facilitation and faster customs clearance. Customs administrations place their trust in the business to meet the AEO standards, which provide benefits such as quicker processing times and fewer physical checks on cargo.

Mutual Recognition Agreements (MRAs), signed between customs administrations to strengthen end-to-end security of supply chains, showcase cooperation between international customs administrations and businesses. Once signed, one customs administration would recognise the AEO status granted to a business by the other customs administration. As of 2020, there are 97 AEO programs implemented in customs administrations worldwide and 91 MRAs (WCO, 2020). The tremendous interest in AEO and MRA programs, especially over the last 10 years, proves that there are undeniable benefits to cooperation between customs administrations and the private sector, as well as between customs administrations of individual countries.

3.2. Case study 2 – Container Control Programme (CCP) – Women’s Professional Development Programme (WPDP)

The inaugural CCP – WPDP Programme was held virtually in August 2021 with participants comprising women officers from eleven customs administrations across the Asia-Pacific region. For most participants, it was the first time they had the opportunity to get to know customs officers from administrations outside their own. As a rule, officers work solely within their organisations, except for rare meetings, conferences and conventions, which are usually attended only by very senior leaders of the administrations. Over the course of the CCP – WPDP Programme, participants expressed delight at having the opportunity to work with, learn from and build networks with colleagues from different countries.

At the end of the programme, 100 per cent of participants surveyed said that cooperation is essential and can no longer be considered optional. They also said it is the key to safe and secure borders (Royal Melbourne Institute of Technology [RMIT] University, 2021). The majority (87 per cent) of participants said their customs agencies are already cooperating with local partners, 65 per cent said there is cooperation with national partners, while 50 per cent said there is cooperation with international partners. A significant 88 per cent of participants said that their administrations are ready and willing to cooperate. The members of the program came to realise that cooperation is the way forward, and in the uncertainties of today’s current climate, will become more of a necessity rather than an option.

3.3. Case study 3 – Cooperation between customs administrations

An excellent example of longstanding cooperation between customs administrations is the Patkor Kastima program between the customs administrations of Malaysia and Indonesia. Founded in 1994, this program focuses on the sea patrol of the Malacca Strait, which separates the two countries and is

prone to the smuggling of illegal goods (Panca, 2019). Every year, the patrols thwart the smuggling of crude oil and endangered species of animals such as orangutan, and seize illegal cigarettes, liquor and narcotics (Direktorat Jenderal Bea dan Cukai Sumatera Utara, 2018). The customs administrations of both countries have successfully worked together for the last 27 years to keep the borders of each country safe and secure.

3.4. Case study 4 – Cooperation between international security agencies

Customs is not a stand-alone border security agency. By working together with other international security agencies and establishing a framework for the non-bureaucratic sharing of intelligence, controlled delivery operations are successfully conducted under the Container Control Programme (CCP). Article 8 of the WTO Agreement on Trade Facilitation emphasises this need for border agency cooperation to facilitate international, cross-border trade (WTO, 2017). Article 12 of the same agreement lays out the importance of cooperation between customs administrations (WTO, 2017).

International, inter-agency cooperation resolves the demand for multi-field skills and knowledge. For example, health and safety services are better equipped to identify types and makes of chemicals and drugs while immigration is better skilled to aid in human trafficking or people smuggling situations. Cooperation between agencies can be anything from examining cargo, exchanging information and intelligence sharing to risk management. The sharing of responsibilities inevitably leads to tighter, better border security.

4. A new mindset on customs cooperation

Considering the case studies presented above, there is no doubt that cooperation is a principal component of improving trade facilitation, preventing smuggling activity and counteracting customs fraud. This is an extremely dynamic time for law enforcement agencies including customs administrations to address cooperation as a critical strategic objective. As customs administrations in the Asia-Pacific region move from a traditional ‘trade-keeper approach’ towards a ‘risk management approach’, inputting information for accurate risk-based decision making is fundamental. Therefore, administrations should be open-minded, willing and responsive to the sharing of knowledge, typically focusing more on information exchange because it is essential for successful cooperation and helps to accelerate trade flow as smoothly, predictably and freely as possible.

Notwithstanding, there remains a hesitation to share information between agencies and between customs administrations internationally. This lack of coordination hinders the ability to prevent and respond to transnational crime. Sharing information does not mean leaking a country’s secrets; often the exchange of information in Customs refers to import and export declarations, pre-arrived cargo documents, risk indicators and suspect illicit goods, namely, information which helps customs administrations to implement risk selectivity and targeting. This new mindset is perceived as a key to facilitating trade, improving the capacity of Customs supervision and service, and allowing customs administrations to allocate their resources more effectively and efficiently.

To change the traditional ‘unwilling to share’ to a more adaptive and proactive ‘responsibility to provide’ mindset and to take advantage of this vital opportunity to share information, customs administrations, especially at the highest level of the organisation, must be committed to the objectives of Customs and ever mindful of the benefits of information exchange. Customs administrations initiate cooperation via MOU’s and bilateral or multilateral agreements, however, building and maintaining quality cooperation requires the consistent commitment and active engagement of all parties. More importantly, each party should contribute equally and as agreed, they should acknowledge each other’s contribution to ensure successful cooperation. Additionally, the leaders should annually examine the effectiveness of cooperation and reward successful cooperative cases, as well as analyse failure.

The WCO has developed several tools for promoting cooperation such as the Customs Enforcement Network (CEN), the Customs Enforcement Network Communication Platform (CENComm), Globally Networked Customs (GNC), Coordinated Border Management (CBM), Information and Communication Technology (ICT), ENVIRONET and the Advance Passenger Information System (APIS). These tools provide a forum for cooperation and connection between customs administrations across the globe, hence customs administrations should be encouraged to make use of these available resources.

Furthermore, technology helps to accelerate cooperation in many ways, especially regarding information sharing, but technological security is a key concern to all agencies. Taking advantage of technology these days, customs administrations should invest more on digital security to enhance rapid intelligence information sharing among customs administrations.

In conclusion, in an increasingly globalised world, customs administrations will only be able to successfully achieve their mandate through effective cooperation and information exchange. Therefore, customs administrations should adopt a new mindset on cooperation which is premised on the ‘responsibility to provide.’

Acknowledgements

The authors would like to acknowledge the invaluable mentoring and guidance so graciously provided by Mr Ulrich Meiser, the UNODC Regional Coordinator of the UNODC – WCO CCP (South Asia, South-East Asia and the Pacific). Mr Meiser is a strong advocate for cooperation in the region and is a wonderful role model for us all in this respect.

References

- Direktorat Jenderal Bea dan Cukai Sumatera Utara [Directorate General of Customs and Excise North Sumatra]. (2018, November 29). *PATKOR KASTIMA Berantas Penyelundupan di Selat Malaka* [KASTIMA PATKOR combats smuggling in the Malacca Strait]. <https://kwbcsumut.beacukai.go.id/patkor-kastima-berantas-penyelundupan-di-selat-malaka>
- Panca, R. (2019, August 8). *Tentang Patkor Kastima di Selat Malaka* [About Patkor Kastima in the Strait of Malacca]. Gatra.com. <https://www.gatra.com/news-436117-politic-tentang-patkor-kastima-di-selat-malaka.html>
- Polner, M. (2010, July). *WCO Research Paper No. 8. Compendium of Authorized Economic Operator (AEO) Programmes*. World Customs Organization. http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/research/research-paper-series/aeo_compendium1.pdf?la=en
- Royal Melbourne Institute of Technology University. (2021). *CCP – WPDP Snapshot Report 3 – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- United Nations Economic and Social Commission for Asia and the Pacific. (2021). *Asia Pacific trade and investment trends 2021-22: trade in goods outlook in Asia and the Pacific 2020/2021*. https://www.unescap.org/sites/default/d8files/knowledge-products/APTIT%20trade%20in%20goods_20212022_0.pdf
- World Customs Organization. (2020). *WCO Compendium of Authorized Economic Operator Programmes*. <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/aeo-compendium.pdf?la=en>
- World Trade Organization. (2017, February 22). *Agreement on Trade Facilitation*. https://www.wto.org/english/docs_e/legal_e/tfa-nov14_e.htm

Notes

- 1 Disclaimer: The views and opinions expressed in this article are those of the authors and do not reflect the official policy of the related customs administrations.

Nguyen Thi Hong Ngoc



Nguyen Thi Hong Ngoc is Deputy Chief of General Office in Quang Tri Customs Department within the General Department of Vietnam Customs. She holds a Master of International Business. She has been working in Customs since 2015 and specialises in customs statistics and strategic planning.

Shirley Mohanakumar



Shirley Mohanakumar is a former Assistant Director of Customs with ten years' experience in the Royal Malaysian Customs Department. Shirley has worked as an Investigative Officer in the Enforcement Division, an Import/Export Assessment Officer in the Seaport Unit, Post-Clearance Auditing and Customs Licensing. Shirley was also part of the team that spearheaded Malaysia's first AEO MRA program with Japan Customs. Shirley holds a Bachelor of Science (Hons.) in Decision Science.

Anushka Cooray



Anushka Cooray joined Sri Lanka Customs in July 2015 as an Assistant Superintendent of Customs. Currently she is working in the Preventive Directorate under the Enforcement Cluster of Sri Lanka Customs. She has previously served in the Passenger Services Division, Air Cargo Division and Export Division. Anushka participated in the CCP – WPDP program representing Sri Lanka and is a member of the CCP Women's Network. Anushka is currently reading for a Master of Customs and International Trade and Master of Public Administration.

Litiana Wai Sautulevu



Litiana Wai Sautulevu holds a Bachelor of Science. She has seven years' experience as a customs officer in both seaports and airports with the Fiji Revenue and Customs Service. Litiana was a pioneer of the CCP in Fiji and also for the CCP – WPDP Programme. Currently Litiana is a Cargo Targeter and Analyst at the Port Control Unit based in Suva, Fiji.

Bolstering resilience in Customs: the wellbeing of our people

Akosita Valamalua, Shirley Mohanakumar, Indu Ranathunga and Sanduli Medonza

Imagine a brand-new rubber band that springs back when you stretch it out. A strong rubber band will yield when being pulled and bounce back to its original shape when let go. This is resilience. Now imagine what happens when the rubber band has degenerated and stretched beyond its capabilities. It eventually breaks when it can no longer withstand the pressure.

Abstract

Bolstering resilience should apply equally to our organisational systems and our people. Our people are the greatest asset of our customs administrations, and the wellbeing of our workforce directly impacts the effective performance of our administrations. While positive steps have been taken to strengthen organisational resilience within customs administrations, this paper contends the resilience of our people, and the subject of mental health, is not sufficiently addressed in our administrations. This paper recommends customs administrations place equal importance on the mental and physical health of their employees by putting frameworks and guidelines in place and that these are backed by practical actions to build resilience in the customs workforce. Every customs officer can take action to change the resilience culture in our customs administrations by initiating the conversation on mental health and eradicating the stigma. As our customs administrations face a complex and rapidly changing future, it is critical that we not only build organisational resilience, but that we also focus on the resilience of our people.

Keywords: Customs, resilience, mental health, workforce, culture, wellbeing

1. Introduction

At the beginning of 2021, the World Customs Organization (WCO) launched its annual theme by inviting the global customs community to focus on ‘bolstering recovery, renewal and resilience for a sustainable supply chain’ (WCO, 2021). While Customs recovers from the global pandemic, the WCO is encouraging customs administrations to focus on putting people at the centre of the transformation process. In the past year, positive steps have been taken to bolster organisational resilience within customs administrations particularly in response to supply chain uncertainty. Now, as 2022 dawns, it is time to turn our attention to the resilience of our people.

Our people are the greatest asset of our customs administrations. The mental health and strength of our people directly influences our ability to effectively manage customs operations and impacts our core business. It is therefore vital that we have positive dialogue about mental health in our agencies. However, this paper argues that at a strategic level, this has not been a focal point of our customs administrations; in fact, mental health has been treated as a taboo topic and neglected.

2. What does our customs work environment look like?

As Mikuriya (2021, p. 8) said, ‘This year was particularly challenging for Customs and all international trade stakeholders, who had to adapt their daily operations and lives to accommodate these exceptional circumstances and the new normal working environment.’

Facilitating the movement of international goods across our borders is a tough job. The customs work environment involves heavy workloads, long working hours, high-pressure targets, tight deadlines, lack of resources, performance pressures, complexity in procedures, job insecurities, exposure to dangerous cargo and leadership issues (Container Control Programme – Women’s Professional Development Programme [CCP – WPDP], 2021). Uncertainty in the customs landscape was further exacerbated in 2020 and 2021. ‘The risks associated with this pandemic have required Customs authorities to implement safe and streamlined procedures, make effective use of new technologies, and engage in enormous coordination efforts with other government authorities and the private sector’ (Corcuera-Santamaria and Sanjines, 2020, para. 3). The COVID-19 pandemic has irrevocably changed the way Customs conducts business with our stakeholders. Customs administrations can no longer rely on routine methods of border security, revenue collection and trade facilitation. New and constantly changing health requirements and laws have only added to the existing pressures of the customs working environment. As the world looks to international trade to boost our economies, there is even greater pressure on our customs administrations to manage the extra health requirements, quarantine measures and border security required to control COVID-19. Constant change is the status quo in Customs today.

3. What is resilience?

Resilience is the ability to withstand, recover and/or grow in the face of stressors and changing demands. The science of resilience tells us that resilient individuals have stronger performance and better health (US Border and Customs, 2020). Resilient leaders are those who demonstrate the ability to see failures as minor setbacks, with the tenacity to bounce back quickly (Centre for Creative Leadership, 2020). Resilience can protect an individual from mental health conditions including stress, depression, anxiety and can also translate into higher productivity and performance. As our customs administrations face a complex and rapidly changing future, it is critical that we not only build organisational resilience, but that we also focus on the resilience of our people.

4. How do our customs administrations deal with mental health?

However, despite the importance of mental health and resilience, we don’t often talk about these subjects in our customs workplaces. During the 2021 Container Control Programme – Women’s Professional Development Programme (CCP – WPDP) conducted by the Australian Border Force and the United Nations Office on Drugs and Crime (UNODC) – WCO CCP Women’s Network, 84 per cent of participants (56 emerging women customs leaders from Asia, the Pacific and Australia) reported that mental health is not sufficiently addressed in their customs administrations (CCP – WPDP, 2021). Participants disclosed that:

- ‘Mental health is hush-hush in our agency.’
- ‘We will lose our job if we disclose our situation.’
- ‘I have to admit that I work in an environment where the awareness of mental health is poor.’
- ‘We can talk about physical health but not mental health.’

While the physical health of our customs workforce frequently comes under the spotlight with expectations for officers to maintain certain standards of physical fitness, in many cases there is a culture of silence around mental health. Physical health and safety are the subjects of multiple work policies and frameworks, while very little attention has been placed on the mental wellbeing of our workforce. The CCP – WPDP was the first career occasion for many emerging customs leaders to participate in a discussion about mental health.

4.1. Why has mental health been a taboo topic?

Mental health has been a taboo topic in many customs administrations. Respondents from the CCP – WPDP suggested that customs officers are not comfortable talking about mental health for multiple reasons, including a reluctance to share their burden, discomfort in sharing personal matters, workplace stigma attached to mental health issues, fear of negative impacts on career opportunities, possibility of redundancy or dismissal, lack of trust in co-workers and superiors, limited awareness on mental health, and absence of policies or support mechanisms related to mental health in our workplaces (CCP – WPDP, 2021).

5. Why do we need to bolster resilience for our people?

It is time to lift the silence around mental health. The wellbeing of our customs workforce and the effective performance of our customs administrations are inherently connected. Talking about mental health helps break the stigma surrounding mental illness. Depression and anxiety cost the global economy approximately US\$ one trillion annually due to lost productivity (World Health Organization [WHO], n.d.). Poor mental health not only affects customs officers, but also impacts customs administrations through absenteeism, lower productivity, disability, accidents, and the inappropriate use of medical services (Harnois and Gabriel, 2000, p. 56). In contrast to this, building a resilient workforce creates an environment where officers focus with clarity, operate as critical thinkers and approach tasks with results-orientated innovation. It is now more crucial than ever that customs administrations ensure their officers are resilient to adapt and overcome the current unprecedented challenges. Prioritising mental wellbeing contributes not only to the professional and personal development of customs officers, it also positively impacts the overall performance of the organisation.

6. How do we change the culture and bolster resilience for our people?

The broader leadership and the organisational culture are likely to impact an employee's resilience at work (Crane, 2017). Customs leaders have a responsibility 'to make wellness a priority and put resources in place to promote it' (US Customs and Border Protection, 2020). How can we do this? At the organisational level, it requires policies which openly and practically address the wellbeing of our people and create open channels for positive dialogue and responses. 94 per cent of the CCP – WPDP participants agreed that their agencies will benefit from a policy that governs mental health and wellness (CCP – WPDP, 2021). Policies need to be backed up by practical actions including mental health education, access to counselling services, anonymous reporting and most importantly, the willingness of progressive leaders to simply be present and compassionately listen to their officers. This will build trust and confidence and will encourage officers to speak up.

Mental health issues can impact officers at any level at any time. From the border frontline to the most senior levels of our customs administrations, no one is immune. In response, our agencies need to build a culture where 'it's ok not to be ok' (Edwards, 2021). At a personal level, we need to honestly consider our own mental health status and take better care of ourselves. Participants in the

CCP – WPDP acknowledged that:

- ‘As law enforcement officers in Customs we are taught to be tough. But why is mental health taboo? I believe that reminding each other about mental wellness can make a positive change.’
- ‘Mental health issues are not a weakness! It is something we need to work on and heal.’
- ‘It’s okay not to be okay. And it’s okay to ask for help. Mental health and wellbeing need to be discussed more.’
- ‘Start the change now, it starts with us.’

Customs personnel at all levels can start by focusing on change within ourselves. ‘We don’t need to be at the top of the ladder to influence change. Let’s seize opportunities for positive change’ (CCP – WPDP, 2021). Figure 1 highlights steps proposed by the CCP – WPDP members to bolster personal resilience.

Figure 1: Steps to bolster personal resilience for customs personnel



Source: Container Control Programme – Women’s Professional Development Program (2021)

7. It starts with us

The WCO advocates for ‘putting people at the centre of change for a resilient and sustainable supply chain’ (WCO, 2021). This requires all of us to take action to change the resilience culture in our customs administrations. Perhaps you believe you don’t have the necessary power or influence to affect change, but even the smallest of actions can be the catalyst for positive progress. We should not be afraid to begin the conversation on mental health. We should strive to eradicate the stigma surrounding the topic and practise being present and supportive in the workplace. Customs administrations must place equal importance on the mental and physical health of their employees and put frameworks and guidelines in place that build the resilience of our officers. Bolstering resilience should apply equally to our organisational systems and our people. Just one question remains. What steps can we all take to enhance the resilience of our people and ourselves? It starts with us, and it can start today.

References

- Container Control Programme – Women’s Professional Development Program. (2021, August). *Snapshot Report Four*. Summary of the workshop papers from the CCP – WPDP.
- Centre for Creative Leadership. (2020). *Why resilient leadership is important*. <https://www.ccl.org/articles/leading-effectively-articles/8-steps-help-become-resilient/>
- Corcuera-Santamaria, S., & Sanjines, J. (2020, June 20). The resilience and transformation of customs authorities during COVID-19. *Inter-American Development Bank*. <https://blogs.iadb.org/integration-trade/en/customs-authorities-covid-19/>
- Crane, M. (2017). *Managing for resilience: a practical guide for employee wellbeing and organizational performance*. Routledge.
- Edwards, G. (2021, August 25). *Are you looking after yourself?* Live video session delivered by Commander Grant Edwards (Retired) during the CCP – WPDP.
- Harnois, G., & Gabriel, P. (2000). *Mental health and work: impact, issues and good practices*. Prepared for WHO and International Labour Organization. https://www.who.int/mental_health/media/en/712.pdf
- Mikuriya, K. (2021). *World Customs Organization (WCO) Annual Report 2020-2021*. http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/annual-reports/annual-report-2020_2021.pdf
- US Customs and Border Protection. (2020, October 29). *Resilience Skills Training*. <https://www.cbp.gov/employee-resources/worklife-balance/resilience-skills-training>
- World Customs Organization. (2021, January 26). *World Customs Organization dedicates 2021 to bolstering recovery, renewal and resilience for a sustainable supply chain* [Press release]. <http://www.wcoomd.org/en/media/newsroom/2021/january/wco-dedicates-2021-to-bolstering-recovery-renewal-and-resilience-for-a-sustainable-supply-chain.aspx>
- World Health Organization. (n.d.). *Mental health in the workplace*. <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/mental-health-in-the-workplace>

Akosita Valamalua



Akosita Valamalua has more than 13 years' experience in Customs and is a Principal Customs Officer with the Customs Border Control Unit at the Fiji Revenue and Customs Services (FRCS), Suva, Fiji. Akosita served as the FRCS representative to the National Narcotics Forum, National Human Trafficking Forum, National Anti-Microbial Resistance Forum and the National Invasive Alien Species Forum in Fiji. She is well-versed with both the Maritime and the Airport environments, and she is one of the pioneers of the CCP in Fiji. Akosita is currently pursuing her Master of International Relations and Diplomacy.

Shirley Mohanakumar



Shirley Mohanakumar is a former Assistant Director of Customs with 10 years' experience in the Royal Malaysian Customs Department. Shirley has worked as an Investigative Officer in the Enforcement Division, Import/Export Assessment Officer in the Seaport Unit, Post-clearance Auditing and Customs Licensing. Shirley was also part of the team that spearheaded Malaysia's first AEO MRA program with Japan Customs. Shirley holds a Bachelor of Science (Hons.) in Decision Science.

Indu Ranathunga



Indu Ranathunga is an Assistant Superintendent of Customs of Compliance and Facilitation Directorate at Sri Lanka Customs. She has nearly 10 years' experience in the Customs Administration and Operations Directorate. Prior to serving in Sri Lanka Customs, Indu served as a Temporary Lecturer at the University of Sabaragamuwa. Indu holds a Bachelor of Agricultural Sciences and a Master of Business Administration. She is an active member of the CCP – WPDP.

Sanduli Medonza



Sanduli Medonza is an Assistant Superintendent of Sri Lanka Customs with 10 years' experience across various roles in Customs Administration and Operation Directorate of Sri Lanka Customs. She graduated from the University of Kelaniya, with Honours in 2008 and has achieved a Master of Business Administration. Sanduli is an active member of the CCP – WPDP.

Reflections on the Container Control Programme – Women’s Professional Development Programme: transforming women’s leadership in customs administrations

Shirley Mohanakumar, Dimuthu Dananjanie, Siti Sarina Binti Samsudin, Hoang Thi Mai Lan and Sabaahath Sabree

‘This program is a turning point of my life and inspired me and boosted my confidence levels’
(CCP – WPDP participant, 2021).

Abstract

The Container Control Programme – Women’s Professional Development Programme (CCP – WPDP) is a unique training program for women customs officers across the Asia-Pacific. The CCP – WPDP provided an opportunity to build participants’ leadership skills, bridge the gender gap and prepare themselves to be future customs leaders. The program featured various speakers from diverse agencies, leadership coaching and workshops. Participants said the program had a highly positive impact, the lessons learned will assist on their future leadership journey, and other officers would benefit from future CCP – WPDP programs. This paper advocates the CCP – WPDP as an excellent model for building the capacity and confidence of women in Customs, enabling them to actively pursue leadership opportunities at all levels of customs administrations. This paper recommends that similar training programs are implemented in all customs administrations and regular collaborative training programs between customs administrations established as a great way to build cooperation between countries, enhance international relationships and provide knowledge-sharing opportunities.

Keywords: Women, Customs, leadership, future, training, Asia-Pacific

1. Introduction

Women currently comprise just 37 per cent of the global customs workforce (World Customs Organization [WCO], 2020, p. 40). The proportion of women holding senior management roles in customs administrations is smaller still at 29 per cent and just 15 per cent of customs administrations are led by women (WCO, 2020, p. 40).

Recognising the critical role that women can perform in our customs administrations, the Australian Border Force (ABF), United Nations Office on Drugs and Crime (UNODC), WCO and Royal Melbourne Institute of Technology (RMIT) University united to deliver The Container Control Programme – Women’s Professional Development Programme (CCP – WPDP) in August 2021. Fifty-eight women officers from 11 customs administrations across the Asia-Pacific joined this

interactive, online opportunity to build their leadership skills, bridge the gender gap and prepare themselves to be future customs leaders. The four-week interactive program (conducted fully online due to the COVID-19 pandemic) featured speakers from diverse agencies and fields of practice from the region and beyond, along with weekly leadership coaching and online workshops with flexible timing to allow for time differences between countries.

At the conclusion of the CCP – WPDP, 100 per cent of participants said the program met or exceeded their expectations (91 per cent said it exceeded their expectations) and 98 per cent described themselves as feeling future-ready (RMIT University, 2021a). These figures provide a strong indicator that the CCP – WPDP has had a tremendous positive impact on the women participants. As graduates of the program, the authors of this paper recommend the CCP – WPDP as an excellent model for building the capacity and confidence of women in Customs enabling them to actively pursue leadership opportunities at all levels of customs administrations. We are proud to share our reflections on the CCP – WPDP in the hope that other partners and administrations adopt similar approaches to advance women in Customs.

2. Building our leadership toolkit and developing adaptive mindsets

The CCP – WPDP introduced the concept of developing an adaptive mindset as an essential tool in the leadership toolkit of emerging women customs leaders. An adaptive mindset is the ability of a person to assess a situation, adjust their thinking patterns and respond to changes (McGill, 2016). A leader with an adaptive mindset is not rigid and is able to grow, learn from mistakes and apply innovative approaches to problem-solving. The current COVID-19 pandemic has clearly demonstrated that an adaptive mindset has become a critical leadership quality in a rapidly changing and uncertain operating environment.

Guest speakers delivered presentations on adaptive, effective and contemporary leadership and shared insights from their leadership journeys. Karolyn Salcedo, a Technical Officer from the WCO, spoke on how customs administrations can lead in challenging times, through the development of a crisis plan and crisis communication strategy to lead themselves, their personnel and other stakeholders. Former Vice Chancellor of RMIT University, Martin Bean, described the most important ingredient of great leadership as knowing your ‘North Star’ – your personal purpose and what you stand for. Leadership coach Helen Alm spoke about authentic, mindful and positive leadership, knowing ourselves and our values, developing self-trust and self-confidence, and leadership presence.

Participants explored how to cultivate an adaptive mindset, to learn from mistakes and experiences, as well as gaining insights into leadership innovation, critical thinking, leadership readiness, future thinking and preparing for the challenges of the so-called new normal. The program provided opportunities to reflect on our personal leadership journey and to consider our next steps. Almost all CCP – WPDP participants surveyed (98 per cent) believed themselves to be adaptive leaders and 70 per cent believed that their agencies currently operate with an adaptive mindset (RMIT, 2021b). Participants were also unanimous in their belief that women and men should have the same leadership opportunities and all committed to actively addressing gender inequality in their own workplace. Graduating from this program, we are confident that while we still have much to learn, we have the capacity, motivation and mindset to lead our customs administrations into the future.

3. Getting future-ready

The CCP – WPDP participants were largely optimistic about the future of the customs environment (77 per cent) (RMIT University, 2021c). Participants shared that they are preparing for changes by cultivating a new adaptive mindset, strengthening cooperation, utilising technology, being innovative leaders, managing risk, focusing on training of staff, being proactive and upholding personal integrity. On the theme of getting future-ready, guest speakers urged us to be curious and to critically examine the future customs landscape, and to reflect on how the pandemic has impacted our operations. The volume and velocity of international goods movement will undoubtedly increase in the future. Transnational crime threats will continue to evolve, and we must remain alert and be proactive to counter these threats. It is up to us, as customs officers and future leaders, to protect our countries' sovereignty, to safely reopen borders and to contribute to the maintenance of a prosperous and secure region.

Commander Lauren Monks of the ABF anticipated that intelligence sharing, inter-agency cooperation, technology utilisation and officer training will be crucial in the future. Participants learned how to prepare a future roadmap for themselves and their organisations, how to manage risk in the customs environment, how to use technology to improve efficiency, how to be innovative in times of uncertainty and how to achieve psychological safety in the workplace.

The consensus among participants was that the CCP – WPDP helped build awareness of the future customs landscape in terms of both threats and opportunities and consequently, participants feel better prepared to face the challenges of the future. Participants are committed to facilitating legitimate trade and stopping the illicit movement of goods and want to influence positive changes to improve safe trade flows and protect their nations.

4. Building our customs network

There is no doubt the future of Customs lies in the effective collaboration between customs administrations and other border agencies. The emerging challenges of the 21st century, especially post-pandemic, demand the conscious building and strengthening of customs networks and cooperation. The WCO Safe Framework of Standards relies on both Customs-to-Customs networks and Customs-to-Business partnerships. The establishment of programs that aim to bolster cooperation and facilitate dissemination of information such as the UNODC-WCO CCP Women's Network, the Global Customs Enforcement Network (CEN), the National Customs Enforcement Network (nCEN), and the Customs Enforcement Network Communication Platform (CENcomm) clearly illustrates that global customs leaders recognise the critical importance of building strong and effective customs networks.

Criminals are borderless, have no jurisdiction and have strong domestic and international networks (Amornvivat, 2021). To effectively combat transnational crime, we must strive to build our own strong relationships and networks.

The key to building and maintaining relationships is trust. Her Excellency Robyn Mudie, Australian Ambassador to Vietnam, shared how leadership skills can be used to build relationships of trust and influence. Being a leader is about building relationships with others – leading people to cooperate with others to achieve results. Trust, respect and communication are the base of all relationships. A leader should aim to have a diverse range of contacts, a strong network of relationships and must create opportunities for others to have the relationships they need to build effective partnerships.

All CCP – WPDP participants surveyed were committed to cooperation and to fight criminal networks by developing local, national and international partnerships and networks. As individuals we are ready to cooperate and the majority (88 per cent) of us believe our agency is ready and willing to

cooperate (RMIT, 2021d). Following the CCP – WPDP, several participants reported that, because of the program, they have begun to consciously build networks and relationships with colleagues and stakeholders. The program itself proved to be a valuable networking opportunity and provided an excellent platform to connect with colleagues around the region through working together on assignments or joining the casual Friday Café sessions for a chat. We are determined to stay connected, share our experience, skills and technical know-how, case studies, good practice and lessons learned, intelligence and information, data and research to build cooperation between our customs administrations (RMIT, 2021d). We wholeheartedly believe in our motto, ‘Together, We Are Stronger.’

5. Building confidence and realising our full potential

The CCP – WPDP provided a pathway for realising our full potential through personal growth, integrity and resilience. Participants learned about building our personal reputation (our personal brand), honing our communication skills to become better leaders, and the importance of having moral courage to do what is right. Women leaders from different countries, agencies, fields of practice and stages in their leadership journey, such as Madam Zuraidah Abdullah, the first woman to reach the rank of Senior Assistant Commissioner in the Singapore Police Force, and Deputy Director Nguyen Thi Viet Nga from Vietnamese Customs, generously shared tips and advice on leadership, overcoming gender biases and facing challenges in the workplace. Michelle Bond from ABF, who is also the Project Manager of the CCP – WPDP, highlighted the benefits of mentoring to aspiring women leaders. We also developed a strong appreciation of the importance of learning *with* each other while learning *from* each other.

A significant number of participants identified that the leadership coaching session on the issue of self-talk was particularly impactful. Self-talk was defined as our own internal dialogue and all too often we do not recognise our self-talk as being negative and consequently, detrimental to our leadership. As one participant shared:

The most important leadership tool that I learned during the CCP – WPDP would be positive self-talk [...] Too often I am defeated even before I start because I have convinced myself that I won't be able to do it. Now I have been taught to recognise negative self-talk and change it into a positive one. I have learned that I don't have to know everything or be perfect before I attempt to do something. (CCP – WPDP Participant, 2021)

One of the key lessons was about resilience and mental health. The vast majority (84 per cent) of participants said that mental health was a topic that is not sufficiently addressed in their respective agencies (RMIT, 2021e). Most also said that CCP – WPDP was the first program they had attended that discussed the issue of mental health. Grant Edwards, a retired Australian Federal Police Commander (and ‘Australia’s strongest man’ from 1996–2000), delivered a powerful speech and joined us in a live discussion about mental health and wellness, and that ‘it’s ok not to be ok.’ Tracey Varker from the University of Melbourne spoke about the importance of self-care and resilience in our personal leadership journey, and shared advice about the importance of taking care of our teams, particularly at times of uncertainty and crisis. One participant noted (RMIT University, 2021f) that ‘The future seems uncertain. But if we all work together and be resilient, we can overcome anything’ (CCP – WPDP Participant, 2021).

6. Conclusion

From our own perspectives and reflecting on the feedback and insights shared by our fellow participants, we believe the program has made an incredibly positive impact and has been extremely beneficial to emerging women leaders in Customs. The program provided practical lessons, powerful messages and insightful tips to significantly enhance our capacity and confidence to lead. The opportunity to network with women officers in other customs administrations around our region and beyond has been invaluable.

In reflection, 100 per cent of participants surveyed said that they believe the program positively changed their mindset, will assist them on their future leadership journey, and believe other officers in their countries will benefit from joining future CCP – WPDP opportunities. All participants indicated a strong interest in participating in future CCP – WPDP alumni activities and intend to stay in contact with the CCP – WPDP network (RMIT University, 2021a).

As inaugural members of the CCP – WPDP network, we are proud to serve our Customs administrations, ready to lead, committed to facilitating the safe and secure movement of goods across our borders, and ready to cooperate and influence positive change to combat criminal activity in the international supply chain. All participants agreed to abide by the CCP – WPDP Commitment Statement, which declares that we will change our mindset, strengthen our connections, advance women in Customs, build ourselves and our people, improve our procedures and systems and keep learning (RMIT University, 2021a).

Many participants have already begun implementing the lessons learned from the program in their workplaces and daily lives to positive effect. These reflections demonstrate the impact:

CCP – WPDP has encouraged me to believe in myself more and challenge myself to reach my goals. (CCP – WPDP Participant, 2021)

CCP – WPDP has changed my level of confidence as a leader, influencer and decision-maker [...] it has given me inspiration to improve my skills/myself to be more competitive, to learn and adapt new approaches and have the vision that working together as a team, we can develop a good result. (CCP – WPDP Participant, 2021)

Based on our experience, we believe every customs officer should have the opportunity to participate in similar training programs for self-improvement, to build leadership qualities and develop an adaptive mindset. We would highly recommend every customs administration implement similar training programs within their countries, especially for women in Customs, to nurture future leaders. We would also recommend collaborative training programs between customs administrations, as we believe it to be a great way to build cooperation between countries, enhance international relationships and provide knowledge-sharing opportunities. Finally, we also recommend the CCP – WPDP be continued as a regular training program in the customs calendar to benefit new cohorts of officers and provide an opportunity for alumni to connect and strengthen this important customs network.

We strongly believe that by investing in our future women customs leaders, we will build stronger customs administrations. After all, ‘Together We Are Stronger’.

References

- Amornvivat, V. (2021). *Cooperation is imperative*. CCP-WPDP Online Training. Hanoi: RMIT University.
- McGill, N. (2016, August 27). *Becoming indispensable: nine ways to cultivate an adaptive mindset at work*. Get Heroik. <https://getheroik.com/9-ways-to-cultivate-adaptive-mindset-work/>
- Royal Melbourne Institute of Technology University. (2021a). *CCP – WPDP Evaluation Report – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- Royal Melbourne Institute of Technology University. (2021b). *CCP – WPDP Snapshot Report 1 – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- Royal Melbourne Institute of Technology University. (2021c). *CCP – WPDP Snapshot Report 2 – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- Royal Melbourne Institute of Technology University. (2021d). *CCP – WPDP Snapshot Report 3 – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- Royal Melbourne Institute of Technology University. (2021e). *CCP – WPDP Snapshot Report 4 – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- Royal Melbourne Institute of Technology University. (2021f). *CCP – WPDP Commitment Statement – August 2021*. Hanoi: RMIT University Transnational Security Centre.
- World Customs Organization. (2020). *WCO Annual Report 2019-2020*. http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/annual-reports/annual-report-2019_2020.pdf

Shirley Mohanakumar



Shirley Mohanakumar is a former Assistant Director of Customs with 10 years' experience in the Royal Malaysian Customs Department. Shirley has worked as an Investigative Officer in the Enforcement Division, Import/Export Assessment Officer in the Seaport Unit, Post-Clearance Auditing and Customs Licensing. Shirley was also part of the team that spearheaded Malaysia's first AEO MRA program with Japan Customs. Shirley holds a Bachelor of Science with Honours in Decision Science.

Dimuthu Dananjanie



Dimuthu Dananjanie is an Assistant Superintendent of Sri Lanka Customs with 10 years' experience in her customs career. Dimuthu holds a Bachelor of Commerce and a master degree from the University of Colombo. She is keen to pursue further studies in international business, customs law, auditing and accountancy to advance her experience and to support her customs career.

Siti Sarina Binti Samsudin

Siti Sarina Binti Samsudin is a Senior Assistant Director of Customs II within the Royal Malaysian Customs Department Headquarters. Sarina has 13 years' experience in Customs Division (Import/Export and Border Control Section) and Sales and Service Tax Division positions. Sarina holds a Bachelor of Business Administration with Honours in Finance. In her current role, Sarina is assigned to the Border Control Unit to resolve border-related issues from a policy and implementation perspective.

Hoang Thi Mai Lan

Hoang Thi Mai Lan has been working as a middle manager in the Customs Supervision and Inspection area within the Thua Thien Hue Customs Department of Vietnam Customs for 15 years. She graduated from Customs College and achieved her Master of Business Administration in 2012. She is interested in Customs Risk Management and hopes to expand her knowledge and experience in this area in the future.

Sabaahath Sabree

Sabaahath Sabree has been working for the Maldives Customs Service since 2013 and has extensive experience in the Cargo Valuation and Examination area. She holds a Bachelor of Business Administration with Honours. She is interested in furthering her knowledge and experience in all customs-related fields.

Customs inspections – building a culture of proactive curiosity: Thailand case study

Araya Siripanukul, Atittaya Sommana, Sirima Panyarnpisit, Siriporn Mekdee, Nuttha Ummarakoon and Thomas Dixon

Abstract

The global drug trade continues to expand, straining public health and law enforcement resources, financing transnational organised crime and terrorism, and causing unfathomable harm to communities around the world. Law enforcement at our borders is the ‘first line of defence in the fight against cross-border illicit trade and the protection of our citizens and economies against criminal organisations operating internationally’ (Mikuriya, 2019, p. 4). Nowhere is this more evident than the Golden Triangle, where the borders of Thailand, Myanmar and Lao People’s Democratic Republic (PDR) intersect. This area is one of the primary international sources of narcotics, producing methamphetamine, heroin and opium. Criminal syndicates commonly try to export contraband from the Golden Triangle to other countries via Thailand, seeking to exploit Thailand’s large, well-connected ports and airports. Thus, Thai authorities are often the first line of defence against drug flows from this key area to the rest of the world. However, criminals are employing increasingly sophisticated concealment methods to evade detection. Faced with this constantly evolving challenge, Thai authorities are actively building a ‘Culture of Proactive Curiosity’, enhancing internal cooperation and sharing knowledge among staff to enhance risk management systems. Furthermore, the integration of internal, interagency, and international cooperation is vital to control borders, promote sustainable economic growth and protect the international trade supply chain.

Keywords: Heroin, seizure, cooperation, investigation, proactive

1. Introduction

Reaching far beyond their traditional role in revenue collection and trade facilitation, customs administrations are now a key law enforcement institution. Customs officers play a critical role in preventing transnational organised crime groups from engaging in the trafficking of narcotics and other contraband. As criminals apply increasingly sophisticated methods to shift illicit goods across our borders, successful detection and disruption requires a new mindset within customs administrations. The recent seizure of over 314 kg of heroin at Laem Chabang Port in Thailand demonstrates that a culture of proactive curiosity is a critical weapon in the fight against the illicit drug trade. When customs administrations equip officers with technical skills and empower their teams to apply proactive curiosity, they enhance their capacity to protect their borders and combat transnational organised crime. This paper examines the positive disruption outcomes that can be achieved when customs teams are encouraged and empowered to apply proactive curiosity to advance law enforcement at frontline borders.

2. Thai Customs – disrupting illicit drugs

Thailand is a logistical hub for trade flows in South-East Asia due to its strategic location and its political, economic and geostrategic importance. In 2020, Thailand's largest port, Laem Chabang, was ranked the twentieth busiest port in the world for container movements, and the fifth busiest in South-East Asia, up one place from the previous year (World Shipping Council, n.d.). Many neighbouring countries, such as the landlocked Lao PDR, rely heavily on Thailand for imports and exports. However, Thailand's enormous legitimate trade flows also provide an opportunity for criminals to smuggle contraband since no port in any country can scan every container which passes through it.

Thailand's proximity to the Golden Triangle also means that many criminal organisations and other actors use Thailand's large, well-connected ports and airport as transit hubs to export narcotics and import precursor chemicals and other kinds of contraband. Due to these dangers and the sheer volume of legitimate trade flowing through the country, the Thai Customs Department must be extremely effective in risk-profiling to ensure interdiction of contraband while avoiding unnecessary delays to legitimate trade. This is particularly important in South-East Asia today, where many countries rely heavily on trade for their economic recovery from the COVID-19 pandemic.

The mission of the Thai Customs Department is to 'enhance social protection capability within the Customs control system' (Thai Customs Department, 2021). This involves balancing trade supply chain security on one hand, and the facilitation of legitimate international trade on the other.

3. Outsmarting criminals

On 5 July 2021, Thai Customs officials seized 314.63 kg of heroin at Laem Chabang Port. The illicit drugs were concealed in a shipment of 270 drums of acrylic paint destined for Australia (heroin was found in 134 of the 270 drums). This case demonstrates that a new mindset matched with practical innovations can significantly enhance seizure outcomes.

Criminals are using increasingly sophisticated concealment methods to smuggle narcotics. In response, customs administrations must move beyond pure technical competence to outsmart international crime syndicates. The movement of acrylic paint shipments may seem like a routine consignment in the international supply chain and, ordinarily, customs officers might facilitate the shipment to avoid delays to the vessel's departure, damage to the goods and potential litigation against the customs office on behalf of the exporter. Promoting a culture of proactive curiosity empowers customs officers to 'look a little deeper' and ask questions outside the usual procedural format to effectively detect and disrupt the illicit movement of goods. This case demonstrates the importance of 'thinking like a criminal'.

All customs officers – no matter their rank or gender – play an important role in preventing, detecting and disrupting transnational crime. Currently, all three members of the Laem Chabang Port Control Unit are women who report to the Chief of the Investigation and Suppression Unit. Moreover, the Customs Inspector and the representative of the Investigation and Suppression team who made the arrests in this case were both women. Clearly, this case also highlights the critical value of women in law enforcement organisations.

Cooperation is a critical element of customs law enforcement duties. Customs officers must be collaborative with national divisions and agencies, but also with authorities in other countries and even international organisations. This promotes a holistic, global approach to disrupting transnational organised crime and is essential to improve the safety and security of the international supply chain. During the seizure at Laem Chabang, the Port Control Unit members facilitated local profiling and interagency coordination on behalf of Thai Customs which resulted in the successful seizure and prevented the movement of drugs to Australia.

4. The case study – seizures start with risk indicators

On 5 July 2021, the proactive, curious, inclusive, and collaborative culture of the Thai Customs team at Laem Chabang Port were critical factors in the seizure of the large amount of heroin, valued at USD29 million, destined for Australia. When customs officers reviewed an export declaration for 270 drums of acrylic paint labelled 'JOTUN MAJESTIC TRUE BEAUTY MATT', with a total net weight of 6,750 kg, the officers identified several key risk indicators:

- The high-risk destination: Australia is considered a high-risk destination country for drug importation due to the high street price of narcotics.
- The type of company: previous seizure statistics indicate that drugs are frequently sent through exporters with low capital. In addition, the exporter had not previously used Laem Chabang Port.
- The type of goods: the commodity was drums containing acrylic paint. This type of commodity has been used to conceal drugs in the past, but moreover, the type of commodity did not match the type of company, which purportedly sold machinery and industrial materials.
- A suspicious X-ray image: the Thai Customs electronics system identified this shipment for X-ray imaging and inspection. The Image Analysis Officer reported the image to the Inspector, after which the Inspector noticed an abnormality inside the drums of acrylic paint. Upon further inspection, it became apparent there was another substance hidden inside the drums of paint.

4.1. Progression to a physical examination

The Inspector, assigned by the Thai Customs computer system to review this shipment, requested the Investigation and Suppression Team to jointly conduct the physical examination with her. This collaboration between key units and divisions promotes public confidence in the integrity of the inspection process.

When the Inspector, the Investigation and Suppression Team, and the shipping agent opened the container on the morning of 5 July 2021, they found two types of paint drums: 135 drums presented with a blue paint label and 135 drums with a purple label. The suspicious paint drums were placed on top of the pallet and returned to the container X-ray. The second image revealed a box-shaped object inside some of the drums. The customs team also noticed that some drums were smeared with paint and were easy to open without pulling the seal off at the top of the drums.

Upon opening one of the paint drums for further inspection, the investigation team found a plastic box inside. This box contained a brick-shaped package of white powder covered with brown tape. As a first step, the customs officers tested the white powder with a Heroin Field Test Kit and Raman Handheld Spectrometer Tool. The results tested positive for heroin.

Customs liaison officers from the Office of Narcotics Control Board (ONCB, the Thai narcotics police) used another test with brown heroin reagent and marquis reagent to confirm the positive result. The positive cooperation between ONCB, Thai Customs and other relevant authorities began the process in a correct, collaborative way. The rapid confirmation also facilitated swift follow up, including subsequent investigations.

Customs then proceeded to open all 270 paint drums and found 134 of the 135 blue-labelled drums contained heroin. In contrast, no heroin was found in the 135 purple-labelled drums. This suggests that the drums were colour-coded to allow the criminals to easily off-load the heroin. In total, 134 bricks of heroin were seized. Each package was wrapped with brown plastic featuring a printed picture of a lion on the cover. Each package weighed approximately 2 kg, with a total net weight of 314.63 kg. The seizure was stored at the Royal Thai Police Narcotics Suppression Bureau in Bangkok.

The Laem Chabang Customs team worked in close collaboration with partners in the Investigation and Suppression Office, the Narcotics Suppression Bureau, the Laem Chabang Police, the Royal Thai Armed Forces and the Armed Forces Security Centre to investigate the offenders, again highlighting the critical value of interagency cooperation. As a result of effective cooperation, the investigation team successfully apprehended suspects with the support of the Narcotics Suppression Bureau in Bangkok.

Currently, the Royal Thai Police are progressing their investigations into the arrested offenders, and the Prosecuting Attorney has already completed the compulsory processes and issued this case to the court.

5. What lessons have been learned?

5.1. Build a culture of proactive curiosity

Customs administrations need to build a culture where staff are encouraged to be alert and curious. At Laem Chabang Port, officers are encouraged to use creative thinking, ask questions, and ‘look a little deeper’. When the Inspector noticed that there may have been something wrong inside the paint drum, she asked to open the container and put the suspicious drum on top of the pallets and returned it to X-ray. The second X-ray image more clearly identified a suspicious rectangular object.

Criminals are becoming more inventive. In response, customs officers need to think like them to actively intercept illicit goods. Applying a parallel risk management element in Customs’ computer systems is an important step. Using the ‘Risk Management on Profiling’ in the Thai Computer Electronics system allows Customs to continuously analyse, develop and improve profiles to detect suspicious cases and lead to arrests. Effective profiling and targeting enables the identification of high-risk commodities, which leads to effective seizures. However, customs officers still have a critical role to play in manually checking manifests and import and export declarations. Curious customs officers are key to noticing unusual shipments, which can then be targeted and passed on for inspection even if it is ‘Green Line’ (i.e. marked for easy clearance – usually reserved for trusted parties who make routine shipments).

5.2. Build diverse teams

Facilitating legitimate trade and detecting the illicit movement of goods requires a quality workforce. If women are not engaged in customs administrations, the performance capability of these administrations becomes limited. This case was led by women officers in key frontline and management roles.

In addition, the risk profiling of the Laem Chabang Port Customs Office was developed by the local profiling team and committees, which consisted of 18 members from different units in the Laem Chabang Port Customs Office. These members are staff from the Investigation and Suppression unit, the Port Control Unit, the Customs service unit and the Laboratory unit. All members work closely together under the supervision of the Chief of Investigation and Suppression Unit and are advised by the Director of Customs Control Section. The group’s brainstorming has created a variety of ideas and knowledge that have become great analytical sources for advanced risk profiling. It covers all aspects to support the prevention and suppression of offences such as violation of customs tariffs, prohibited items and restricted items, including concealment and smuggling methods. This working methodology was instrumental in the heroin case described above.

5.3 Collaborate

Customs administrations cannot work alone. They need to cooperate with local officers, national partners and international stakeholders. Laem Chabang officers worked shoulder to shoulder with the Investigation and Suppression Office at Customs Headquarters to track the offenders, with support information provided by the shipping agency. Initial cooperation between different customs units (including the X-ray imaging team and the Investigation and Suppression Team) was an important countermeasure to the possibility of an ‘insider threat’, and this collaboration also served to enhance public confidence.

Cooperation at the testing phase between Customs, the ONCB and the Narcotic Suppression Bureau was achieved under time constraints and advanced the investigation process, resulting in the successful apprehension of the offenders.

International cooperation between the Thai authorities and other international partners, including the Australian Border Force (ABF), the United Nations Office on Drugs and Crime (UNODC) and the World Customs Organization (WCO), also ensured a successful seizure. Thailand has been recognised as a leading partner in several international collaborative efforts, including the UNODC – WCO Container Control Programme. This seizure exemplifies the need for all parties to realise the importance of cooperation between national units, agencies and countries. Therefore, Thailand Custom’s international partners are considering strategic plans to enhance cooperation and support investigation processes in the future.

6. Conclusion

Officers at the Thai Customs Department foresee that criminals will continue to devise new and sophisticated smuggling methods to avoid detection. To counter these techniques, customs administrations need to constantly develop, assess and update their risk indicators, search techniques, risk analysis systems and all other relevant technologies and processes. The development of risk profiles is enhanced when customs officers are empowered to apply a mindset of proactive curiosity. Thai Customs adopts an organisational culture which encourages staff to be curious, observant and analytical. This seizure also highlights the importance of promoting an inclusive environment that empowers women to excel in their professional roles and reach their potential. Finally, the case study demonstrates the importance of cooperation at the internal, national and international levels with government and private sector stakeholders. As national customs administrations search for solutions to disrupt transnational crime, Thai Customs advocates for a proactive, inclusive and collaborative approach. Amidst the uncertainty brought on by the current COVID-19 pandemic, one thing remains clear: as criminals around the world become increasingly sophisticated, inventive and collaborative, we must be prepared to do the same.

References

- Mikuriya, K. (2019). *World Customs Organization Illicit Trade Report*. http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/enforcement-and-compliance/activities-and-programmes/illicit-trade-report/itr_2019_en.pdf?db=web
- Thai Customs Department. (2021). *Strategic Plan*. https://www.customs.go.th/content_with_menu1.php?top_menu=menu_about&left_menu=menu_about_160421_02_160421_01&ini_menu=menu_about_160421_02&ini_content=vision_mission_strategy&lang=en&left_menu=menu_about_160421_02_160421_01
- World Shipping Council. (n.d.). *The top 50 container ports*. <https://www.worldshipping.org/top-50-ports>

Atittaya Sommana



Atittaya Sommana is a practitioner level Customs Technical Officer in the Customs Office Investigation and Suppression Unit at the Customs Control Section of Laem Chabang Port Customs Office in Thailand. Her team's responsibility is to investigate and suppress illegal goods. She has also worked at the Customs X-ray and Technology Centre and is well-versed in X-ray image analysis.

Araya Siripanukul



Araya Siripanukul is a professional level Customs Technical Officer in the Customs Control Section at Laem Chabang Port Customs Office in Thailand. She is the Secretary to the Profile Committee and the Assistant Secretary to the Effective Revenue Collection Analysis. Araya oversees the analysis of import and export shipping data as well as revenue collection. In addition, she serves as a coach for new customs officers in the Customs Control Section.

Siriporn Mekdee



Siriporn Mekdee works as a practitioner level Customs Technical Officer in the Customs Control Section of Laem Chabang Port Customs Office in Thailand. She is a member of the UNODC – CCP Port Control Unit. Siriporn has experience in the investigation and suppression of customs law crimes, including knowledge of the risk profiling management system.

Sirima Panyarpisit

Sirima Panyarpisit is a professional level Customs Technical Officer at the Investigation and Suppression unit, Customs Control Section of the Laem Chabang Port Customs Office in Thailand. She is a member of the local profile committee, where she analyses data and manages risk to detect smuggling and illicit goods. As a member of the UNODC – CCP Port Control Unit, she collaborates with UNODC – WCO and serves as a local contact point for international relations.

Thomas Dixon

Thomas Dixon is a Programme Officer based in Thailand, working at the UNODC – WCO CCP. Tom is part of a team of UN and WCO personnel working to deliver capacity building training and technical assistance projects to law enforcement and other partners in South Asia, South-East Asia and the Pacific, aiming to strengthen supply chain security and enhance cooperation against transnational organised crime and terrorism.

Nuttha Ummarakoon

Nuttha Ummarakoon works as a Programme Assistant to the CCP, UNODC, Regional Office for South-East Asia and the Pacific. She is responsible for assisting with program implementation and administrative duties. Nuttha is also a member of the CCP Women's Network.



Section 3

Reference Material

Guidelines for Contributors

The *World Customs Journal* invites authors to submit papers that relate to all aspects of customs activity, for example, law, policy, economics, administration, information and communications technologies. The Journal has a multi-dimensional focus on customs issues and the following broad categories should be used as a guide.

Research and theory

The suggested length for articles about research and theory is approximately 5,000 words per article. Longer items will be accepted, however, publication of items of 10,000 or more words may be spread over more than one issue of the Journal.

Original research and theoretical papers submitted will be reviewed using a ‘double blind’ or ‘masked’ process, that is, the identity of author/s and reviewer/s will not be made known to each other. This process may result in delays in publication, especially where modifications to papers are suggested to the author/s by the reviewer/s. Authors submitting original items that relate to research and theory are asked to include the following details separately from the body of the article:

- title of the paper
- names, positions, organisations, and contact details of each author
- bionotes (no more than 100 words for each author) together with a recent, high resolution, colour photograph for possible publication in the Journal. Please ensure the image is a jpeg with a resolution of 300 dpi.
- an abstract of no more than 100 words for papers up to 5,000 words, or for longer papers, a summary of up to 600 words depending on the length and complexity of the paper.

Please note that previously refereed papers will not be refereed by the *World Customs Journal*.

Practical applications, including case studies, issues and solutions

These items are generally between 2,000 and 5,000 words per article. Authors of these items are asked to include bionotes (no more than 100 words for each author) together with a recent, high resolution, colour photograph (jpeg with a resolution of 300 dpi) for possible publication in the Journal. The Editorial Board will review articles that relate to practical applications.

Reviews of books, publications, systems and practices

The suggested length is between 350 and 800 words per review. The Editorial Board will review these items submitted for publication.

Papers published elsewhere

Authors of papers previously published should provide full citations of the publication/s in which their paper/s appeared. Where appropriate, authors are asked to obtain permission from the previous publishers to re-publish these items in the *World Customs Journal*, which will acknowledge the source/s. Copies of permissions obtained should accompany the article submitted for publication in the *World Customs Journal*.

Authors intending to offer their papers for publication elsewhere—in English and/or another language—are asked to advise the Editor-in-Chief of the names of those publications.

Where necessary and appropriate, and to ensure consistency in style, the editors will make any necessary changes in items submitted and accepted for publication, except where those items have been refereed and published elsewhere. Guidance on the editors’ approach to style and referencing is available on the Journal’s website.

Letters to the Editor

We invite Letters to the Editor that address items previously published in the Journal as well as topics related to all aspects of customs activity. Authors of letters are asked to include their name and address (or a pseudonym) for publication in the Journal. As well, authors are asked to provide full contact details so that, should the need arise, the Editor-in-Chief can contact them.

All items should be submitted in Microsoft Word or RTF, as email attachments, to the Editor-in-Chief:

editor@worldcustomsjournal.org

Editorial Board

Professor David Widdowson AM



Charles Sturt University, Australia *Editor-in-Chief*

Professor David Widdowson is Chief Executive Officer of the Centre for Customs and Excise Studies at Charles Sturt University, Australia. He is President of the International Network of Customs Universities, a member of the WCO's PICARD Advisory Group and Scientific Board, and a founding director of the Trusted Trade Alliance. David holds a PhD in Public Sector Management and has over 40 years' experience in international trade regulation, including 21 years with the Australian Customs Service. In 2019 he was appointed as a Member of the Order of Australia for significant service to higher education in the field of international trade and customs.

Professor Hans-Michael Wolfgang



University of Münster, Germany

Professor Dr Hans-Michael Wolfgang is Professor of International Trade and Tax Law and Head of the Department of Customs and Excise which forms part of the Institute of Tax Law at the University of Münster, Germany. He is director of the Münster Masters studies in Customs, Taxation and International Trade Law and has written extensively on international trade law, customs law and export controls in Europe.

Dr Andrew Grainger



Trade Facilitation Consulting Ltd, United Kingdom

Dr Andrew Grainger is a trade facilitation practitioner, academic and educator with over 20 years of experience. As the Director of Trade Facilitation Consulting Ltd, he is regularly contracted by government agencies, companies and international organisations around the world. He is also an Honorary Associate Professor at the University of Nottingham and collaborates with other leading universities and research institutes. In previous roles, Andrew was the Deputy Director for Trade Procedures at SITPRO, the UK's former trade facilitation agency, and Secretary for EUROPRO, the umbrella body for European trade facilitation organisations. His PhD thesis in Supply Chain Management and Trade Facilitation was awarded the prestigious Palgrave Macmillan Prize for best PhD in Maritime Economics and Logistics 2005–2008. He has authored many papers within the subject of trade and customs procedures and is a member of the International Network of Customs Universities' (INCU) executive committee.

Professor Aydin Aliyev



State Customs Committee, Republic of Azerbaijan

Professor Aydin Aliyev is a Colonel General of Customs Service (Rtd) and former Chairman of the State Customs Committee of the Republic of Azerbaijan. He is a graduate in Law from Azerbaijan State University, and author of educational and scientific articles and books on customs matters which have been published in several countries. His contributions to the development of customs administrations and for strengthening customs cooperation have been recognised by the World Customs Organization, the Federal Customs Service of the Russian Federation, the Republic of Hungary and by customs administrations of several other countries. In 2010, Prof. Aliyev was awarded the title of ‘Honoured Lawyer of the Republic of Azerbaijan’ by Presidential Decree. In 2014, he was admitted as an Honorary Fellow of the International Network of Customs Universities for his contribution to raising the academic standing of the customs profession.

Professor Enrique Barreira



BRSV, Buenos Aires, Republic of Argentina

Professor Enrique Barreira is a founding partner of BRSV Attorneys at Law in Buenos Aires, Argentina. He was one of the drafters of the Argentine Customs Code. He has also been a professor of Customs Tax Law, Customs Regimes, and Anti-dumping and Subsidies in the Graduate Program at the School of Law, University of Buenos Aires since 1993, and is a founding member of the International Customs Law Academy. Professor Barreira has been the Argentine arbitrator to the Mercosur in various disputes.

Dr Juha Hintsa



Cross-border Research Association and Hautes Etudes Commerciales (HEC), University of Lausanne, Switzerland

Dr Juha Hintsa is a Senior Researcher in global supply chain security management. He is one of the founding partners of the Global Customs Research Network, and the founder of the Cross-border Research Association (CBRA) in Lausanne, where he undertakes research into various aspects of supply chain security management in close collaboration with several multinational corporations. Juha’s PhD thesis was on ‘Post-2001 supply chain security: impacts on the private sector’.

Dr Santiago Ibáñez Marsilla



Public Finance Law and Taxation Department, University of Valencia.

Dr Santiago Ibáñez Marsilla is Principal Advisor, Spain, for Trusted Trade Alliance. His area of expertise is customs law and he is currently the Jean Monnet Chair, EU Customs Law, which is awarded by the European Commission. In 2017–2018 he was the senior expert at the mid-term evaluation of TAXUD’s Customs 2020 program. EuropeAid, USAID and Europäische Rechtsakademie (ERA) are among the institutions that have relied upon his customs law expertise. Santiago is used to working in international environments and has trained, taught or delivered presentations in 23 countries, and has authored more than 60 publications.

Principal Editor

Dr Rebecca Louise Harcourt



Charles Sturt University, Australia

Rebecca is an editor with the Centre for Customs & Excise Studies (CCES), Charles Sturt University. She is an experienced editor, writer and communicator and is a professional member of the Institute of Professional Editors (IPEd). Rebecca has worked for many years as a research scientist and as an editor, specialising in the life sciences.