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Thesis

Short-term effects of the verified gross mass on Finnish maritime operations

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<p>A verified gross mass means more specifically the stuffed container total weight, which has to be provided by the shipper to the master or his representative and to the terminal representative sufficiently in advance for use in the stowage planning (IMO 2017). This thesis has gathered information about short-term effects of the verified gross mass on Finnish maritime operations.</p> <p>After the SOLAS VGM amendment took effect, Trafi made a survey about effects in Finland. The questionnaire was distributed to stakeholders that are part of the supply chain where verified gross mass is used as part of the operations. Trafi's research is the most important reference and comparison target for this thesis.</p> <p>One of the main targets of this thesis was to have more precise answers than Trafi's research related to the effects of the SOLAS VGM amendment. Main development topics in the survey were communication issues, costs, transportation chain problems and closing times.</p> <p>Main problems were discovered in this thesis about delay in transportation, additional costs and tightened schedule. Main benefits were general safety improvement, improved effectivity in a laden vessel, stowage planning improvement and effectivity improvement around transportation chain as accurate weight is known after weighing. Cost saving was also mentioned as a benefit.</p>	
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Glossary

BL – Bill of Lading, a transport agreement for goods. (Logistics Glossary 2017)

Carrier - Company that transports goods and/or people by air, land, or sea, in its own or chartered vessels or equipment, and is named as the carrier in the contract of carriage. (BusinessDictionary.com 2017)

EDI – Electronic Data Interchange, is one of the most prevalent means by which business entities exchange data electronically. (Ohlinger 2017)

FCL – Full container load, which means all goods are in one container and are listed under one Bill of Lading. (Logistics Glossary 2017)

FONASBA - The Federation of National Associations of Ship Brokers & Agents, is an association which promotes fair and equitable practices and ensures that the needs of our members are understood at international, regional and individual national level across the maritime industry. (FONASBA 2017)

Forwarder – A person or company that arranges shipping and customs documents for several shipments from different companies, putting them together to form one large shipment. (BusinessDictionary.com 2017)

Incoterms – the rules and guidance for any mode of transportation to guide all stakeholders in the supply-chain (ICC 2018)

LCL - Less container load is a shipment that is stuffed with other shipments in a container. Multiple LCL shipments with different BLs can be stuffed in a single container. (Logistics Glossary 2017)

Shipper - Consignor, exporter, or seller named in the shipping documents as the party responsible for initiating shipment. (BusinessDictionary.com 2017)

SOLAS - International Convention for the Safety of Life at Sea, United Nations Agency's International Maritime Organization's convention originating from the year 1974, which has been amended several times after that. (IMO 2017)

Stowage – Container stowage on board of a vessel

Trafi - Finnish Transport Safety Agency. (Trafi 2017)

UN – United Nations

VGM - Verified gross mass of a packed container. (OOCL 2017)

WSC - World shipping council. (WSC 2017)

1 Introduction

1.1 SOLAS VGM amendment

The first version of the Safety of Life at Sea was adopted in 1914 as response to the Titanic disaster and the convention has been amended on numerous occasions after that. Most important amendment concerning this research, that has been taken into effect on the 1st of July 2016, is Verified Gross Mass. Weighing containers may help to avoid accidents, as well as any possible misdeclaration of exports, which could affect positively towards the quality of multimodal and sea transportation. (UN 2016)

International Maritime Organization is an agency under United Nations, which is responsible for the safety and security of shipping and the prevention of pollutions by ships. IMO is the global standard-setting authority for the safety, security and environmental performance of international shipping. IMO's main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented. International Maritime Organization has created in cooperation with its member states International Convention for the Safety of Life at Sea – SOLAS. This convention is generally regarded as the most important of all international treaties concerning the safety of merchant ships. (IMO 2017)

A verified gross mass means more specifically the stuffed container total weight, which has to be provided by the shipper to the master or his representative and to the terminal representative sufficiently in advance for use in the stowage planning (IMO 2017). The Verified gross mass declaration has been amended to the Safety of Life at Sea regulations as a mandatory procedure in maritime operations prior loading onto a vessel. It is a great act towards safer operations at sea. However, it is still investigated, what would be the best way to supervise and enforce the regulation and how well the operations maintain and develop the performance. United Nations and its' members have agreed on enforcing the SOLAS amendment, but supervision is left for national regulation. It is important to make research on the effects of the SOLAS amendment in the Finnish supply chain to improve safety, quality and efficiency in the Finnish maritime operations, since results of Trafi's prior research on the SOLAS VGM amendment did not provide solid conclusions (Trafi 2017 : 13).

A Shipper is responsible for the verified gross mass submission. There are basically two different possibilities for the shipper to verify the gross mass of a stuffed container device, which are agreed in the amendment of the convention. The shipper can either weigh the stuffed container using calibrated and certified equipment or weigh all packages and cargo items, and then add the weight of empty container. For this the shipper can use a certified method approved by the competent authority of the UN member state in which packing of the container was completed. If the shipper does not provide the verified gross mass in time, the container will not be loaded onto a ship, as ship master must agree the verified gross mass and create a stowage plan accordingly. The decision of certified method of weighing is in the responsibility of the competent authority of the State in which stuffing of the container was completed. Enforcement of regulations happen in the SOLAS Contracting Governments and any incidence of non-compliance with the SOLAS requirements is enforceable according to national law and legislation. (IMO 2017)

The SOLAS VGM amendment is concerning directly the field that I work in. It is very important to me personally and to other people working in the field so that the internal and external factors that effect to the export maritime operations will be better understood. I see the SOLAS VGM amendment as a very important change to the whole maritime industry in safety, effectivity and efficiency. It is very important to understand the short-term effects completely in order to be able to deepen the knowledge of the long-term effects.

1.2 Prior research on SOLAS VGM by Trafi

After SOLAS VGM amendment took effect, Trafi made a survey about effects in Finland. The questionnaire was distributed to stakeholders that are part of the supply chain where verified gross mass is used as part of the operations. The survey took place on the 17th of March 2017. See appendix 1 for the original message by Trafi to the stakeholders.

Questions on Trafi's survey were related to the following topics:

- How the regulation about the required container gross mass submission has been implemented in practice?
 - Which method is used?
 - How information is communicated to vessels and container yard port operators?
- What kind of investment or operating costs regulation has caused?
- How has the implementation of the regulation affected on the functionality of the transportation chain?
- What possible problems have been caused by the compliance of the regulation and has the regulation brought any benefits?"

It is still under investigation, how well new amendment is working in the operations and what kind of improvements are necessary that maritime industry can truly benefit from this hopefully standard procedure around the world. Different surveys and statistics from different associations of freight shippers, brokers and carriers have been taken into consideration, when assessing the effects of the amendment in Finland compared to the overall performance of the maritime industry.

Trafi's research in 2017 answered to the questions mentioned. There were answers which were repeated in the results of the survey. However, there was not any substantial evidence to enable to make conclusions about these matters. Trafi's national research, did not bring accurate results and the conclusion was that the basic assumptions made in the beginning were repeated. There were no definitive conclusions for improvement suggestions how to develop safety, quality and efficiency of the supply chain (Trafi 2017 : 13).

Main topics that were repeated in Trafi's survey, but not studied sufficiently, were communication issues, costs, transportation chain problems and closing times. Therefore, these themes need more attention in the thesis. Based on the lack of sufficient information provided so far on this matter, this thesis tries to pay more attention to these topics and make analysis and conclusions on further effects of the implementations of the SOLAS VGM amendment.

1.3 Thesis objectives and scope

Finnish Transport Safety Agency Trafi's research about the influence of the container weighing regulation which was set by United Nations in 1st July 2016 was supposed to bring more extension to the perspective in Finnish operations around the supply chain. Main research was investigating operations performance and success, financing, feasibility and problems that also this thesis is studying in Finnish maritime operations (Trafi 2017 : 6).

Trafi tells that the SOLAS VGM amendments were set to improve container carrier safety by decreasing false container mass information which caused hazards or incidents. Trafi also recognizes the main assumptions and worry about putting the amendments in to effect. There were special concerns and speculation in media about weighing work load and cost division in the supply chain, and about late shipments and congestion at ports.

This thesis relies on various reports about the short-term effects of the maritime operations in UN member countries. However, Trafi's prior research of the topic is the most important source material since this thesis focuses on the effects in Finland. The effectivity study that Trafi made, did not reach many respondents. The survey was sent in March 2017 to hundreds of different stakeholders, yet only 51 responses were received. (Trafi 2017 : 7)

In thesis the short-term effects of the SOLAS VGM amendment on Finnish maritime operations are defined followingly. It started in October 2015, when Trafi held its first event for parties concerned nationally and it ends in February 2018, when thesis surveys were successfully collected from respondents. This thesis focuses on getting fewer but more specified answers than research made by Trafi. Trafi's web based inquiry left many answers unclear (Trafi 2017 : 13). Therefore, one of the main targets of this thesis was to have more precise answers related to effectivity of the SOLAS VGM amendment. Questions of Trafi's survey were developed further. Main development topics in the survey were communication issues, costs, transportation chain problems and closing times. The results about these development topics will be discussed in more detail later in the thesis.

The respondents of this thesis were a group of different stakeholders in Finnish maritime operations in the same way as in Trafi's research; port operators, exporting companies,

forwarders, logistics service providers etc. The aim of this was to support and supplement the national research made by Trafi in Finland.

Trafi's survey results pointed out that safety will most likely increase in the long term. However, short-term effects are not clearly proved as research left non-answered questions, because of the amount of survey respondents was lower than expected and many answers were hard to interpret and did not provide accurate information.

Therefore, there was a need to have more detailed interviews with different stakeholders in the supply chain to achieve more valuable information about the effectivity of the SOLAS VGM amendment in national level. All respondents of the thesis were reached for unclear answers. However, respondents' identity will not be revealed. Confidential results bring more reliable answers related to especially cost issues since trade secrets are not revealed.

The main objectives of the thesis can be summarized as follows:

1. To receive more accurate and new knowledge about the effects of the SOLAS VGM amendment especially in the areas of communication, costs, transportation chain problems and closing times.
2. To suggest improvements to the implementation of the SOLAS VGM amendment

2 Methodology and data collection

Aim of this research was to make a new survey to get more precise answers. Trafi's prior research questions were composed in order to find solutions to how well the applying of regulation has succeeded and what kind of effects the regulation has had on the transportation chain (Trafi 2017 : 6). This research developed Trafi's questions and a new survey was sent to get more precise answers about the effects of the amendment to the Finnish maritime operations.

There were still some issues that were not answered in sufficient detail and the survey implemented in this thesis aimed to improve the result of Trafi's research by creating sub questions to the already existing main questions. This way the nature of the survey was kept as similar as possible to Trafi's original survey. Therefore, the new survey and national survey supplement each other and answers are comparable.

The new survey was made to the stakeholders, which are part of the supply chain to ensure that the verified gross mass process is successfully handled in the Finnish maritime export operations. Respondents consisted of two representatives of direct exporting companies, three forwarders, one trucking company and one carrier company. Target group of this research distribution was trying to consist of the similar parties as in the Trafi's survey. Total amount of respondents was 7. Data was collected from the respondents by email survey which was followed by email discussion from each organization's verified gross mass specialist. One personal interview was also after email distribution and preliminary answers to clarify some answers.

Survey was composed based on research made by Trafi. Survey was sent at the beginning of January 2018 and the submission dead-line was at the end of January. One-month submission period was considered long enough to be able to answer relatively short survey and interact with respondents if there were unclear answers.

Collected data was handled anonymously. Categorization of the data was done in the same manner as in the previous national research completed by Trafi in May 2017. This way the results were in comparable form. Data collection of this research tried to find more specific answers to the deficiencies detected in Trafi's research. More specific questions were generated from Trafi's research in a way that the survey remained

comparable yet providing also new information. New questions added were related to the main question as a sub-question.

New set of questions was distributed only inside Finland and therefore the questions of the survey are in Finnish. See both, the original survey questions and the translation in English in appendices 3 and 4.

In Trafi's survey as an open answer, in question number seven, the communication issues between shipper and carrier were mentioned repeatedly (Trafi 2017 : 11). Therefore, more specific question about communicating VGM information was added. The author of this thesis believed that it would produce more accurate answers. As change to the original question it was stated as: "If you choose VGM information communication problems, please state: What kind of problems, in which context, and was the issue temporary or continuous?"

Investments and other costs in question number eight needed also a more specific sub question to help to produce better cost analysis related to VGM. It was not specified whether costs were recurrent or non-recurrent (Trafi 2017 : 10-11). New sub question was: "Please specify recurrent and non-recurrent costs by type and amount.". This helped to analyze costs in a deeper level and whether investments and costs mainly remained in the beginning of the VGM or if they were continuous. This sub question aimed at finding especially costs apart from usual operating costs that were already identified by Trafi (Trafi 2017 : 11).

There were problems experienced related to containers in the transportation chain. However, analysis in Trafi's research of the question number 11 does not clearly specify whether problems were only happening in the beginning, whether they were temporary or if there was still ongoing open issues (Trafi 2017 : 11). As a sub question to this a new question was created: "If you chose that you have problems in transportation chain, please specify them and whether the problems occurred only temporary or are problems still occurring?".

Closing time advancement was mentioned also as a problem several times in the answers of the Trafi's research question number 13 (Trafi 2017 : 11-12). However, this information does not really tell what is the problem, as it may create different kind of problems in the supply chain. Clearing this out, an additional sub-question related to this issue was defined as: "Are closing times causing trouble after VGM amendment? If yes,

please specify whether problems are recurrent or non-recurrent and what are the main issues.". The reason to add this question was that it helped to identify closing time from different perspectives and create respective analysis based on answers. The areas of main concern in this thesis were about finding more practical information about communication issues, costs, transportation chain problems and closing times. These new questions can be found in rom appendix 4, in questions 7, 8, 11, 13.

This thesis process was initiated from by the writer´s interest to deepen Trafi´s prior research made in 2017. The thesis process started from literature review and ended to the analysis of the results.

3 Container handling process in the export operations

Container handling process has many stakeholders, including for instance forwarder, shipper, importer, consignee, outbound country's officials, outbound country's port operator, trucking company, inbound company at destination, inbound country's port operator, and inbound country's trucking company. (WSC 2017)

In this example a shipper books vessel space for its' containers from a sea carrier for export purposes. At first, the shipper picks up an empty container from a harbour depot. For example, agreed time window could be 7 calendar days, which means an empty container has to be picked up, transported to the shipper, stuffed at the shippers site and returned full to the container yard in agreed schedule that is mentioned in the booking acknowledgement. (OOCL 2017), (Wood 2002 : 344)

Shipper does outbound customs clearance by itself and receives Movement Reference Number that they will issue to carrier by EDI message or export declaration document (European Customs 2017). That way the carrier can issue a cargo manifest and MRNs of a vessel successfully to the next discharge port customs.

Shipper has registered to the Finnish Customs' export declaration system. When goods are arriving to the first place of exit, the exporting company will make an export declaration by EDI. When the export declaration is correct and accepted, the shipper will receive a confirmation message. After the confirmation message shipper will receive the release message and the export accompanying document enclosed. The EAD contains MRN, which specifies the declaration in customs authorities' systems. (Finnish Customs 2017)

At harbour, the port operator will receive the container, register and weigh it and communicate the information to the carrier. The carrier will make a stowage plan and a loading confirmation about ready cargo at the port. The carrier distributes loading confirmation to the port operator. The port operator loads containers and reports about it to the carrier. The carrier issues a cargo manifest of the laden cargo with the MRN provided by the shipper for the next discharge port customs processes. (Wood 2002 : 344)

Another thing that should be considered in the container handling process is the responsibility of handling the haulage of the container. It is agreed in commercial terms that which part handles the haulage process, which is usually defined in Incoterms (ICC 2018). This just simply adds a one part to the process before the container handling process explained. The responsible party has to arrange haulage from the container depot to an agreed point of loading with sufficient equipment and a truck in schedule to make it to the container yard before closing-time.

This trucking process came up with one of the respondents in the transportation industry. This means that the truck must be equipped properly with known facts, what type of container is used, what is the cargo weight approximately, are there lifting equipment at the loading site. For instance, if the agreed haulage loading point does not have the equipment for lifting, a truck with a side loader is ordered to do the haulage process. A side loader truck is equipped with an integrated crane that can load and unload a container from any location. The shipper might also have their own or rented containers at their site, that are not from the container depot. Then the haulage process is shorter and the container is simply hauled to the port when agreed. These containers are called shipper's own containers generally, abbreviated usually in the shipping business as SOC's.

4 Safety in shipping

4.1 Safety issues with containers

There are a lot of potential problems which are caused by a misdeclared container. Examples of potential problems are:

- incorrect vessel stowage decisions
- re-stowage of containers (and resulting delays and costs), if the overweight condition is ascertained
- collapsed container stacks
- containers lost overboard (both those overweight and containers that were not overweight)
- cargo liability claims
- chassis damage
- damage to ships
- stability and stress risks for ships
- risk of personal injury or death to seafarers and shore-side workers
- impairment of service schedule integrity
- supply chain service delays for shippers of properly declared containers
- lost revenue and earnings
- last minute shut-outs of confirmed, booked and available loads when the actual mass on board exceeds what is declared and the total cargo mass exceeds the vessel limit or port draft limit
- impairment of ship's optimal trim and draft, thus causing impaired vessel efficiency, suboptimal fuel usage, and increased emissions from ships
- liability for accidents and fines for overweight containers on roads, and resulting time and administrative efforts and costs to seek reimbursement from responsible parties
- loss of revenue for customs authorities in cases where duties or tariffs are applied by weight measurement of a commodity.

(IMO : 2017)

4.2 Safety and Shipping Review 2016

Allianz (2017 : 8) gathers safety and shipping review annually to show the past events and predict future forecast. As total losses do not have a clear decreasing trend in last 10 years, there is still a great amount of work to be completed, before containerized cargo industry is closer to zero vessels lost at sea. At the moment the 5-10 year- average is 3,9 vessels. Before the improved safety will decrease losses at sea, the international harmonization of weighing needs to be published, as only member states of IMO have now published separately a national regulation for the weighing of containers.

The verified gross mass amendment is regarded as important safety improvement and without a proper harmonization, the amendment will remain ineffective. Therefore, it is now only partially implemented. It seems according to the statistics that containerized cargo needs consideration in safety measures as total losses are steadily staying in approximately same level through the years as the Table 1 shows.

Table 2. Total losses by type of vessel 2006-2015 (Allianz 2017 : 8)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Cargo	61	70	58	51	60	37	61	41	31	36	506
Fishery	23	34	36	29	21	14	12	13	15	16	213
Bulk	8	12	8	10	11	14	9	15	4	6	97
Passenger	12	8	4	5	3	7	7	8	10	4	68
Tug	7	11	7	5	7	2	6	7	7	7	66
Chemical/Product	11	6	7	9	5	2	8	10	2	2	62
Ro-ro	10	5	8	6	1	3	4	2	5	4	48
Other	3	7	5	5	3	5	3	6	4	2	43
Container	4	3	2	4	5	3	6	4	4	5	40
Supply/Offshore	3	5	1	3	2	2	3	2	3	2	26
Barge	6	6	3		1			3	1		20
Dredger	3	2	5		2	2	2		1	1	18
Tanker	2	1	3	2	3	3	1		1		16
LPG/LNP			1		1	1	1				4
Unkown		1	1	1				1			4
Total	153	171	149	130	125	95	123	112	88	85	1231

4.3 Containers lost at sea

In 2007 January 18th MSC Napoli encountered heavy seas causing the ship to pitch heavily. The Vessel suffered a failure of the hull and as there was a high risk for breaking or sinking, the vessel was beached to Branscombe Bay. One of the critical factors listed by United Kingdom government that caused the pitching and hull failures, was the nonexistence or insufficiency of safety margin between the hull's design loading and its ultimate strength. (UK 2008)

Based on the fact that an unverified mass can possibly be a critical factor that leads to a loss of a vessel, and supported by the MSC Napoli incident, it can be reasoned that without verification of the gross mass the financial loss emerged by failure of safety margin between hull design and loaded containers with the accumulation of misuse of vessel can lead to great aggregate losses. This incident report clarifies the fact that containerized cargo transportation needs attention and gives a terrifying example when an industry does not have harmonized standards, which ultimately lead to losses. Container's verified gross mass possibly improves operations where safety risks and incidents are minimized. (UK 2008)

Approximately 130 million containers are transported yearly with value a value estimation of 4 trillion dollars. It goes without saying that proper packing, stowage and securing of containers and reporting of correct weight is very important to the safety of a container ship, its crew and its cargo, to land-side workers and equipment, and to the environment. The WSC estimates that 568 containers were lost at sea each year when not taking account the catastrophic event and 1582 containers with catastrophic events included. (WSC 2017 : 1)

The data of the WSC's survey of containers lost at sea from 2017 consistently shows that amount of containers lost at sea varies a lot between 2008-2016, and is depending substantially on weather conditions and unusual events. (WSC 2017 : 3)

To decrease the lost percentage of approximately 130 million containers transported yearly, the shipping industry has been actively enhancing conditions to prevent losses at sea. The VGM amendment that was implemented the 1st of July 2016, Code of Practice for Packing of Cargo Transport Units (CTU), and Revised ISO standards for container lashing equipment and corner castings. (WSC 2017 : 4)

In the containers lost at sea update by the WSC 2017, it is stated that VGM is one of the influential ways to improve safety and decrease the loss of containerized cargo at sea effectively.

5 SOLAS VGM amendment

5.1 Background to the amendment to the maritime industry

The maritime industry publications suggest many benefits after verified gross mass has to be submitted in the sea transportation. It helps for instance in safety improvement, finance and efficiency. Carrier has to make accurate stowage plans. There will be decreased lost cargo and improved logistics and transport communications. Average of containers lost at sea each year during 2008-2014 was in total 1679 (Oliver 2016). It is therefore reasonable to state that with these statistics of the lost containers there is need for the verified gross mass amendment to improve safety and quality through actual cargo weights that do not exceed a container designated load weight or ship specific weight limits and therefore containers are stowed securely.

There are discrepancies about the enforcement of the SOLAS amendment in the member states. The amendment has been in effect from 1st of July 2016 onward. It varies not only in which member state, but also how commercial parties have agreed to handle the verified gross mass submission. Discrepancies in state or governmental level and commercial level rise questions about the overall effects to the supply chain consistency and quality. Has the amendment effected significantly to the quality of supply chain and what are the possible actions concerning the arisen issues. (The National Law Review 2017)

There is a list of FAQs that relate to new mandatory rules that apply from 1st of July 2016 concerning the requirement of shippers to verify the gross mass of a container carrying cargo. These questions were appointed to the Word Shipping Council from various stakeholders that the SOLAS VGM amendment concerned. A consortium of industry experts was formed, jointly lead by the World Shipping Council (WSC), the TT Club, the International Container Handling and Coordination Association (ICHCA), and the Global Shippers Forum (GSF). The list was developed in response to questions that have been raised by various stakeholders regarding the revised SOLAS regulation and the guidelines. (WSC 2017)

Questions about all necessary details regarding the SOLAS VGM amendment are walked through in this rather thorough questions and answers type of directory which is available in the WSC website. The long list of questions and answers describes the uncertainty of the whole shipping industry. It describes well the negligence and little acknowledge about the amendment, even though the amendment itself has been available for interpreting from 2014. The questions and uncertainties are about responsibilities, weighing methods, distribution methods and standards that regard the weighing process. Questions and answers were divided in three categories: general, method 1 and method 2. (WSC 2017)

The last update was just before the new SOLAS amendment entered into force in July 1st 2016. The initial release of FAQs was in December 2015. The timeline of the SOLAS amendments adopting process has been long. Amendments were adopted by the International Maritime Organization (IMO) in November 2014 and amendments became mandatory on 1st of July 2016 in UN member countries. (WSC 2017)

5.2 Stakeholders positions on VGM amendment

European Shipper's council was criticizing the readiness for container weighing regulations. They were saying that there was a clear lack of international harmonization and only a handful of countries have published national regulations for the weighing of containers. There was a lack of international cooperation regarding the VGM regulation and the overall implementation was left to the local authorities at IMO member countries. Uncertainty regarding application of the new regulation describes well the shippers' position before the 1st of July 2016. (Allianz 2017 : 35)

The communication between shippers and carriers improved after the VGM amendment. Therefore, there are new procedures to deliver verified gross mass for all parties involved. Verified gross mass can be declared directly to carrier online or by EDI message, which transfers the information to all necessary stakeholders. Carrier and terminal has a joint responsibility to ensure that loading of a packed container must be available. (Hapag-Lloyd 2017)

Next an example from Hapag Lloyd in 2017 is presented of how to provide preferred EDI-message types of VGM for terminals and carriers that would ensure a timely and safe handling and loading of a container.

Preferred EDI-messages are:

- Pre-arrival notice from the carrier to the terminal before Gate-In COPARN or ANSI.301
- Load list from the carrier to the terminal COPRAR
- Gate-in confirmation from terminal to carrier CODECO or ANSI.322
- VGM exchanged between Terminal and Carrier VERMAS message
- Load confirmation from terminal to carrier COARRI or ANSI.322
- Stowage plan from the terminal to the stowage planner and to the vessel BAPLIE as only possible version (Hapag-Lloyd 2017)

After receiving the VGM information, responsibility in the VGM distribution is clearly divided to the carriers and terminals. It can be seen that there are possibilities to minimize the manual entry of information by EDI. Carriers and terminals are responsible that a cargo will not be loaded on-board without VGM. (Hapag-Lloyd 2017)

Carrier bill of lading describes well the roles of different shipment parties. If there shall be non-compliance in the submission of verified gross mass, the carrier and port operator are obligated not to load the container on a ship. However, any costs associated with the non-loading, storage, demurrage or eventual return of the container to the shipper should be subject to contractual arrangements between commercial parties. For instance, between a shipper and a carrier, shipper is the party that is responsible any costs related to false or missing declaration of the verified gross mass to the carrier. Bill of Lading terms are stating clearly how responsibility is divided between shipping parties. Shipper has the responsibility of correct and timely submission of the verified gross mass, which has to happen prior final acceptance of cargo to laden on board. (OOCL 2017)

Before July 1st there was an issue related to new fees that will be charged after the new amendment. Shippers claim that the costs are unjustified and this is simply taking advantage of unclear situation. However, freight forwarders who often are acting as a legal shipper in the shipping process are stating counterargument, as the responsibility of the faulty verified gross mass submission is on them if any accidents occur related to containers. (JOC 2017)

5.3 After the SOLAS VGM amendment

After the implementation of the SOLAS VGM amendment on July 1st, there were no period of grace for, but pragmatic approach was suggested by Maritime Safety Committee. The main message after implementation was that everything worked out well, as no reports were received from terminals that are completely congested caused by the new amendment. However, accurate weighing is important for maritime safety and quality, it is important to remember that there are no accurate instructions how to implement verified gross mass weighing in a standard way, as approximately 50 member states lacked the instructions for that at the time when VGM was implemented. There is also quite a low barrier to enter to the supply chain and stuffing containers incorrectly can actually possess a serious threat for safety in operations. Container stuffing related standardized technology would also be a great achievement towards safety issues. However, as it seems, verified gross mass needs major improvements to work fully. (Portstrategy 2016)

The research done by Trafi also suggests that a lot of different services regarding verified gross mass weighing are available and it is on the shipper's responsibility to arrange their container handling as effective and efficient as possible to work on time (Trafi 2017 : 4). Also in the last Trafi VGM conference that was arranged in 2017, it was stated that there are actually no existing enforcement and supervision of the VGM implementation in operations in Finland apart from responsible parties in the supply chain. All possible consequences are agreed between commercial parties and there is no public authority that would do check-ups at ports regarding VGM of a container.

Federation of National Associations of Shipbrokers and Agents – FONASBA – has carried out a survey about problems in implementation of the amendment. The survey was concerning about the state of different regulations proceeding in member states. The SOLAS regulation VI.2 amendments about container weighing revealed still a need for major improvements in instructions to implement verified gross mass measurement accurately. There is still a lot of work to be done to meet the amendments accurately based on the 2016 survey. Some member states in FONASBA evidently lack the ability to control, whether the amendments are applied accurately or not. (FONASBA 2016)

Federation of National Associations of Shipbrokers membership survey responded by the Finnish Shipbrokers Association is also available and will answer to the proceedings in the verified gross mass process and current situation perceived by shipbrokers

members. Finnish Shipbrokers Association distributed an inquiry to its' members, which had a response dead-line by the 22nd of June 2017. Finnish Shipbrokers Association made a response by assembling available member responses after the dead-line. The results concluded that no major problems have been reported and safety regarding container handling and operations has increased. (FONASBA 2017)

FSA's collated response confirms that there have been some extra costs related to investments in weighing equipment, information systems and data communications. There are not any specified figures available regarding extra costs, which would be needed in the analysis of the effects to Finnish maritime operations in short-term. However, effects in the whole supply chain related to safety are agreed to have been increased. Container handling in terminals, on the road, and stowage planning are safer and more accurate than without verified gross mass. For instance, re-planning of stowage does not happen as often as earlier, which assures better accuracy in keeping the schedule. (FONASBA 2017)

Chargeable fees vary from under 10 dollars per container to 25 per container, highly depending on the channel through which you provide the verified gross mass information. It seems that company's own electronic document channel is more convenient and therefore less priced compared to email exchange channel. Freight forwarders state that consolidating different customers cargo and sending verified gross masses to the carriers are increasing the amount of work enough to reason a charge that is not much in the total cost of a container compared to the administration of the VGM information. The fees and price range seem to have some variation in general. Probably markets will adjust prices to a lower level in the long term. In Finland there are verified gross mass fees related to the weighing service. However, there are no additional carrier fee related to verified gross mass if the shipper declares verified gross mass online directly on carrier's online service in time (OOCL 2017). Shippers can affect to the amount of work and costs by using terminals weighing services that can be communicated by EDI as mentioned above about joint responsibility of the terminal and carrier in the VGM. Shippers can also build their own system to provide the VGM cost efficiently and this research aims to gather information about that matter in a more specific detail.

6 Analysis of the results

Data was collected from the respondents during the 2nd of January 2018 until the 31st of January. Discrepancies and additional new information about details regarding the VGM weighing process to Trafi's research were under scrutiny. However, there were similarities found in the results of the survey compared to Trafi's research. Main message from respondents was that VGM works well in the Finnish maritime operations in general, however, some practical changes are needed to ensure the flow of exports.

The respondents can be divided into different groups by comparing size as following: 29 percent of small companies, 14 percent medium sized companies and 57 percent large enterprises. See appendix 3 and 4 for the definition of a size. Companies that were not unfortunately included in the survey were micro companies and not even one was successfully contacted during the survey period. The respondents were exporting goods in many different industries and the biggest segment was forwarding industry, approximately 42 percent. Second biggest segment was transportation industry by 29 percent. Rest of the respondents represented mechanical forest industry (14,5 percent) and chemical industry (14,5 percent). Total amount of respondents was 7 and the survey was sent to 10 companies. See the share of different respondents in figure 1.

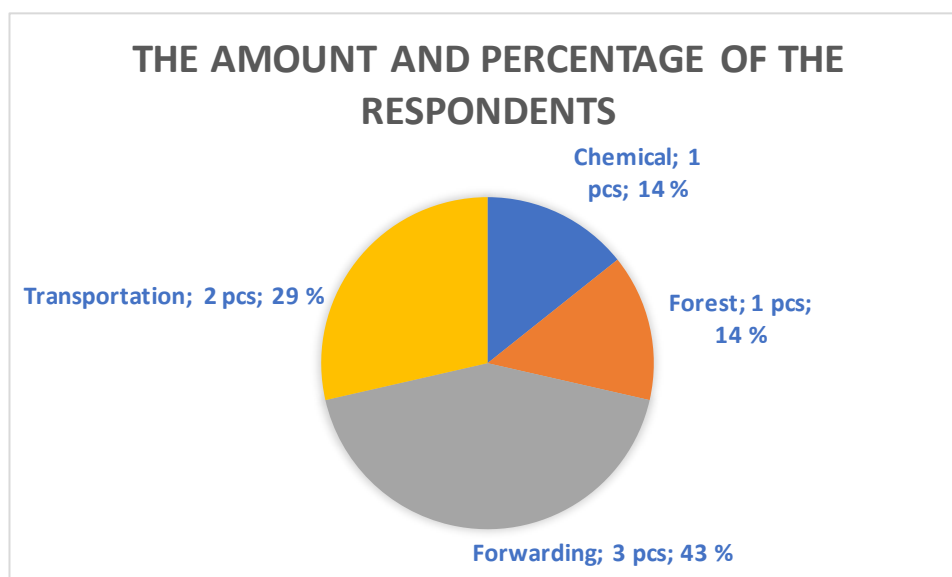


Figure 1. Amount of the respondents

Total amount of the containers that respondents send yearly was 116 500. This does not tell what kind of containers are in question, but only the amount of units. To give an idea of how much the volume of the respondents is from the yearly export tonnage from the Finnish ports, let us convert these units to TEUs which has a max gross mass of 24 000 kg per unit (OOCL 2018). Export tonnage out of Finland was approximately 483 87 602 tons according to Finnish Port Association (Satamaliitto 2018). The converted amount of respondents' units with the above presented TEU assumption is 2 796 000 tons. This covered approximately 6 percent of the total exports out of the Finnish ports in 2016. This example is giving an approximate idea of the share of export of the respondents who participated in the survey.

There were two options to provide VGM mass information, method 1 and 2. There were two respondents who were not responsible for the VGM weighing. That were from transportation industry. In the forwarding industry, there were discrepancies in providing the VGM mass information. First respondent provided 90 percent using method 1 and 10 percent using method 2. The second respondent provided 98 percent using method 1 and 2 percent method 2. The third used 50 percent the method 1 and 50 percent method 2. The Chemical industry respondent used 100 percent of a type accepted wage and same applied to the mechanical forest industry respondent. The discrepancies between the forwarding industry respondents is explained by the fact that they offer different products and services, even though they are in the same industry.

The respondents differ from each other in their profiles as the companies have different practices in providing the VGM. This gives a broader perspective on how well the VGM amendment actually works in the Finnish maritime operations. One of the method 1 respondent companies had their own equipment for weighing, some companies had outsourced the whole process, others might have both, own and outsourced solution, depending on what kind of product is in question and how much that needs attention and care to meet successfully the closing times for the VGM submission.

The respondents were able to inform how many full containerloads they send yearly. Inside forwarding industry, there were again discrepancies inside the industry. The first forwarder sent 99,5 percent FCLs and 0,5 percent LCL. The second forwarder used 70 percent FCLs and 30 percent of LCLs in shipments. The third forwarder sent 100 percent FCLs in shipments. The chemical industry sent 90 percent FCLs and 10 percent LCLs.

The mechanical forest industry and both of the transportation industry respondents used 100 percent FCLs in their shipments.

Respondents are communicating the VGM information as follows. Two respondents, one in the forwarding and one in the chemical industry are using only EDI for the VGM submission. Two respondents, one in the forwarding and one in the mechanic forest industry use EDI and email. Two respondents, one in the forwarding industry and one in the transportation industry use EDI, email and submission at a carrier's online service. The other transportation industry respondent does not do the VGM submission as it is not their responsibility.

Question number seven asked about problems in weighing. There has been mainly temporary issues in the VGM weighing. Problems mentioned were temporary in the beginning of the implementation, when there was lack of information generally in the whole VGM process about how it will work. This problem has been solved in the short-term. Temporary ongoing issues with the VGM equipment at the port were mentioned as a problem in two answers, which seem to appear at times. There was no obvious pattern based on the responses, that the higher usage of the weighing equipment at port would cause more problems there with the VGM equipment. It cannot be concluded, what exactly caused the temporary problems with the VGM equipment as no port operators were reached with this survey. However, according to the transportation industry representative's response, in the bigger picture these issues with the VGM equipment are not causing any troubles in the daily operations when making stowage plans.

Two answered that there are some temporary IT related issues to communicate the VGM occasionally. This does not directly connect to the VGM amendment since general IT issues can happen in business sometimes. One answered that there were temporary issues in the communication of the VGM, but did not comment what were the problems. Two answered that there were no problems in the VGM submission process.

Regarding investments and costs asked in question number eight, five respondents had investments or costs related to the amendment. Three had to invest in the IT systems and communication, which were considered as one-time fixed costs in the IT environment. One answered that they had to invest in the IT systems and communication as one-time cost, however, they had to hire new personnel to cope up with the emerged data handling in the shipping process and that caused continuous personnel costs. One

respondent had to invest in the IT systems and communication as one-time cost and they have to use the weighing as a service for certain type of products. This has continuously added cost to that specific product category. Two respondents had no costs or investments. It really seems that respondents have had one-time investments on IT systems and communication generally, and that there are no continuous costs to them in day-to-day operations. Only one out of seven companies had to hire more personnel to handle the emerged amount of information, which does not seem to be a critical issue in the VGM investments and costs in general.

Even though there were no respondents from micro companies, it can be stated that they have no systems, equipment, or capabilities to handle the VGM information in their shipments are paying more. No one commented any numbers about total investments and costs in question nine, however, two answered that total costs were not considered as a big cost. In question number 10, cost is approximately 25 euro per container (Steveco 2018). That is what two other respondents confirmed also. One respondent confirmed 25 € per container and also mentioned out of gauge cargo container weighing 150 euro per container. Four respondents did not answer the question properly, however, there are online pricelists available at every port operator's website.

In the answers to the question number 11, delays were mentioned by one forwarding industry respondent and one transportation industry respondent. Delays were considered as temporary. Main points were faulty working equipment and IT-issues. A transportation industry respondent confirmed that these are not causing any notable trouble in the daily operations when confirming loading of the containers in the stowage plan.

In the answers to question number 12, respondents were asked to mention positive effects and essential benefits from their perspective. Four respondents said that there were no significant positive effects or benefits. Two respondents answered that they see already improvement and benefits in the general working safety. One respondent from the transportation industry answered that there was already significant improvement in the condition of the equipment. Especially the floor damages in the containers have decreased in short-term.

In the answers to question number 13, respondents were telling about the problems and disadvantages that were caused by the VGM amendment. One respondent described the problems regarding the weighing equipment at the port. When the equipment goes faulty, it might cause congestion in the weighing service. This causes at times that a container is weighted late, which results a late VGM submission fee. Documentation problems were also mentioned, as some destinations need the VGM as documented weight. This means that the documents of the container shipment have to be amended after the VGM weighing. This means in practice that a shipper must bring the container for weighing early enough to be able to make shipping instructions before closing time passes. Two respondents answered that shortened stuffing time and free-time in the container handling process is causing challenges at times. Four respondents stated that there were no notable problems or disadvantages.

In the answers to question number 14, there was a specific question about the problems of closing times after the VGM amendment and the same respondents came forward as in question number 13. In two responses in the forwarding industry, where the VGM submission closing was at different time than the container yard closing, this seemed problematic and causes shorter stuffing time-window. This means that the container should be stuffed, weighted and information is communicated successfully before container is ready at the vessel loading port. This problem continues, however, only with specific individual stakeholders and that is not an issue generally in the Finnish maritime operations.

In question number 15, improvement and development suggestions for the VGM weighing process were asked. Three respondents did not have any concrete improvement or development suggestions. One respondent would like to have all VGM closings to be the same at every carrier. This means the closing time is at the same time as the container closing. Earlier VGM closing causes trouble in the stuffing schedule, as the container free-time gets shorter when you should inform beforehand the VGM information before a container has a closing at the first loading port. One respondent suggested more EDI communication and automatization with the port operators in Finland. One respondent suggested more scale equipment around Finland and to the ports. This would help in occasional congestion, when there would be spare scales around. One respondent would like to have more supervision support from a governmental organization that would do for instance random inspections at the ports and possibly give sanctions if the VGM is submitted falsely. This would minimize the

possibility to receive false VGM information, nevertheless, it is not seen as a big problem in the Finnish maritime operations when making stowage plans. There are very seldom any discrepancies reported from transshipment ports, where there might be inspections at times.

7 Conclusion

Comparing data of Trafi's VGM survey and this thesis survey, there are a lot of similarities how the respondents were answering to the survey. Also, the respondent profile was quite similar. There were mainly same kind of findings, however, this thesis managed to gather also practical information about improvements and developments.

Main problems were discovered in this thesis about delay in transportation, additional costs and tightened schedule. Main benefits were general safety improvement, improved effectivity in a laden vessel, stowage planning improvement and effectivity improvement around transportation chain as accurate weight is known after weighing. Cost saving was also mentioned as a benefit.

It came up in the answers that the less a shipper has usually invested in the VGM equipment and system, the less there is control of a timely VGM submission as weighing is done by an external supplier for instance at the first loading port. Temporary delays can be experienced in the timely VGM submission, if there is any congestion at port, for instance partially malfunctioning VGM weighing scales or a temporary IT-issue. The delay might risk the cargo acceptance on a loading vessel and the cargo could possibly be delayed. Vice versa when a shipper has invested in the VGM equipment and system, the better control they have for their VGM process as there has been proper initial investment that scales for the future shipping operations.

The biggest respondent group in Trafi's survey were forwarding, forest industry and transportation industry. These respondents were represented in this survey as well. The similarities for concrete improvements and developments were concerning easier and faster weighing of the containers and closing times at the port. It seems that malfunctioning scales are causing congestions at times, which adds costs for the shipper for a late VGM submission. For improving these known factors, this research suggests to add more VGM equipment to the ports as a backup for the exceptional situations to avoid any possible congestion and additional fees. Adding more scales to the Finnish road network could also make weighing easier to access, however it cannot be concluded, if that was reasonable in the name of making profitable business and which places would be the best weighing hubs inland.

There was also a respondent who answered that there are still closing times that cause troubles in short-term and it is a continuous problem that happens on a regular basis. There is a problem with the closing times with some carriers. The VGM submission has to be done earlier than the container is brought to the port. Using the same closing times for the container closing and the VGM closing will remove this problem permanently.

A transportation industry respondent answered that the planning of the vessels has been more effective and efficient, which correlates with the findings of the Trafi's research. A new positive finding in this thesis was that the equipment is in a better condition than they used to be. For instance, the amount of the floor damages has decreased significantly. It can be seen that the VGM amendment brings cost saving in the short-term. It was also mentioned in the answers of the survey and in Trafi's VGM conference that there are no governmental involvement in the VGM supervision and that the enforcement is totally in companies' hands. To harmonize this, this thesis suggests governmental involvement in regulations and sanctioning in situations where a container is not stuffed according the SOLAS VGM amendment.

Costs were also affected other ways, many costs were one-time investments which are now working as a part of the respondents' scalable operations. However, some had to hire new personnel as handling of the VGM information is not yet as automated as what was wished for and requires in some cases a lot of manual work. For that it is suggested to have better integrated and automated systems between the shippers, the ports and the carriers for the VGM communication in the future.

This thesis managed to get information about the fact that a shipper can affect to the price of the VGM submission by integrating their communication with a carrier. This can be done by registering to carrier's online service, where the VGM information can be directly submitted without any additional cost. Having own VGM scale equipment could also pay back, but it would assume that a shipper should have profitable and proper facilities in optimal range in the transportation chain to have a profitable flow in the container handling process. If the shippers and forwarders really want to affect the cost structure and availability of the VGM services without risking too much of own capital, this thesis suggests that the shippers and forwarders operating at the same area would make cooperation in enabling to have functioning VGM weighing facilities and systems

to compete with the current cost and quality of the VGM weighting at the port. However, the profitability and quality of this cooperation suggestion cannot be proved.

It can be said that in the short-term, the VGM process is working sufficiently in the Finnish maritime operations and with these above suggestions it will work even better. There are no critical factors in the VGM process that would risk the flow of the operations, however, there is still work to be done to manage better the exceptional situations and integrate communication between all stakeholders in the container shipping industry. This thesis gave practical improvement suggestions to Finnish maritime operations, however, cannot offer undeniable evidence to all thesis objects and questions. Thesis results were giving almost similar answers as in Trafi's research. This thesis could not answer more detailed about the problems in the VGM process in the short-term. However, this thesis supports Trafi's view and it can be stated that there are no critical threats in the VGM process in Finnish maritime operations, however, there are many opportunities to improve the process in above mentioned ways.

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-----Original Message-----

From: Jouni Lappalainen via Webropolsurveys [mailto:messages-noreply@webropolsurveys.com]

Sent: Friday, March 17, 2017 1:57 PM

Subject: Vaikuttavuustutkimus konttipunnituksia koskevasta määräyksestä - Utvärderingsenkät om konventionen om containervägning

Hei!

Trafi selvittää, miten 1. heinäkuuta 2016 voimaantulleen konttipunnituksia koskevan SOLAS VGM -määräyksen soveltaminen on onnistunut Suomessa.

SOLAS VGM -määräyksen tavoitteena on parantaa konttialusten turvallisuutta vähentämällä konttien virheellisistä massatiedoista aiheutuvia onnettomuuksia ja vahinkoja. Ennen määräyksen voimaantuloa esitettiin mm. tiedotusvälineissä erilaisia huolenaiheita ja mahdollisia ongelmia määräyksen soveltamisessa. Huolenaiheet koskivat mm. punnitusten työnjakoa ja kustannusten kattamista. Kuljetusten viivästyminen ja jopa satamien ruuhkautuminen nähtiin mahdollisena.

Konttipunnituksia koskevan määräyksen vaikutusten selvittämiseksi Trafi tekee kyselytutkimuksen, jos selvitetään mm. seuraavia asioita:

- Miten punnitukset ovat toteutettu käytännössä?
- Miten määräys on vaikuttanut kuljetusketjun sujuvuuteen?
- Minkälaisia investointi- tai käyttökustannuksia määräyksestä on aiheutunut?
- Kuinka kattavasti määräystä sovelletaan?
- Mitä mahdollisia ongelmia määräyksen noudattaminen on aiheuttanut?

Vastaamalla kyselyyn voit tuoda esille määräyksen soveltamiseen liittyviä näkökohtia ja mahdollisia ongelmia, joiden pohjalta voidaan miettiä mahdollisia muutoksia esimerkiksi soveltamisohjeisiin.

Hej!

Trafi utreder hur tillämpningen av SOLAS VGM-konventionen om containervägning, som trädde i kraft den 1 juli 2016, har lyckats i Finland.

Syftet med SOLAS VGM-konventionen är att öka containerfartygens säkerhet genom att minska antalet olyckor och skador på grund av felaktig information om containermassan. Innan konventionen trädde i kraft framfördes bl.a. i medierna olika anledningar till bekymmer och potentiella problem i anslutning till tillämpningen av

konventionen. Bekymren gällde bl.a. arbetsfördelningen vid vägningarna och täckandet av kostnaderna. Försenade transporter och till och med anhopningar av containrar i hamnarna sågs som potentiella problem.

För att utreda verkningarna av konventionen om containervägning genomför Trafi en enkät där vi bl.a. frågar:

- Hur har vägningarna genomförts i praktiken?
- Hur har konventionen påverkat transportkedjans smidighet?
- Hurdana investerings- eller brukskostnader har konventionen medfört?
- Hur heltäckande tillämpas konventionen?
- Vilka eventuella problem har efterlevnaden av konventionen medfört?

Genom att besvara enkäten kan du föra fram synpunkter på tillämpningen av konventionen och potentiella problem, utifrån vilka eventuella ändringar i exempelvis tillämpningsanvisningarna kan övervägas.

**Tutkimus ja opinnäytetyö:
Konttipunnitusten vaikuttavuus suomalaisen merikuljetusliiketoimintaan lyhyellä
aikavälillä**

Arvoisa vastaaja,

Olette saattaneet vastata tänä vuonna Trafin lähettämään nettikyselyyn, jonka aiheena oli konttipunnitusten vaikuttavuus Suomessa. Trafin tutkimus antoi hyviä suuntaviivoja, mutta se jätti joitain asioita myös avoimeksi. Olen Metropolia ammattikorkeakoulun kansainvälisen liiketoiminnan opiskelija (International Business and Logistics-ohjelmassa) ja kiinnostuin tästä aiheesta ja tutkimuksesta. Sen vuoksi olen valinnut tämän opinnäytetyöni aiheeksi. Tavoitteeni on pyrkiä täydentämään Trafin aiempaa tutkimusta ja löytää vastauksia avoimeksi jääneisiin kysymyksiin.

Kutsun teidät yhtenä merikuljetuksiin Suomessa osallistuvana toimijana vastaamaan Trafin tutkimuksen pohjalta kehittämiini täydentäviin kysymyksiin. Suoritan tutkimuksen itsenäisesti ja pyrin analysoimaan aineistoa osana opinnäytetyötäni. Tutkimustulokset ovat julkisia ja löytyvät opinnäytetyön valmistumisen jälkeen Theseus- tietokannasta. Toivon vastauksia sähköpostilla 22. tammikuuta 2018 mennessä. Toivon, että voin palata vastauksiinne myös puhelimitse tai sähköpostilla, mikäli ilmenee tarvetta lisätarkennuksille.

Kaikille vastaajille tiedotetaan tutkimuksen julkaisusta tarkemmin lähempänä julkaisuajankohtaa. Vastaajan tietoja käytetään vain mahdollisiin tilastollisiin tarkoituksiin, eikä yksittäistä vastaajaa pystytä tunnistamaan.

Mikäli teillä on kysyttävää tähän tutkimukseen liittyen tai tarvitsette lisätietoja koskien kyselyä, olkaa hyvä ja ottakaa minuun yhteyttä.

Ystävällisin terveisin,

Simo-Pekka Heikkilä
opiskelija
International Business and Logistics
Metropolia Ammattikorkeakoulu

Vaikuttavuustutkimus konttipunnituksia koskevasta määräyksestä

Tämän tutkimuksen aiheena on merikonttien massan varmentamista koskevan SOLAS-määräyksen vaikutukset Suomessa. Tutkimuksella pyritään, selvittämään, kuinka määräyksen toimeenpanon jälkeinen alkuvaihe on sujunut, jotta ongelmakohtiin voidaan miettiä parannuksia. Tutkimustuloksia hyödynnetään Metropolia Ammattikorkeakoulussa tästä aiheesta tehtävässä opinnäyteyössä. Se julkaistaan Theseus- tietokannassa vuoden 2018 aikana.

Vastaajan tiedot

Vastaajan taustatietoja käytetään vain mahdollisiin tilastollisiin tarkoituksiin, eikä yksittäistä vastaajaa pystytä tunnistamaan.

1. Toimiala

Valitse alla olevista vaihtoehdoista edustamasi yrityksen toimiala

- Elektroniikkateollisuus
- Elintarviketeollisuus
- Kemianteollisuus
- Konepajateollisuus
- Kuljetusala
- Huolinta-ala
- Paperi- ja kartonkiteollisuus
- Massanvalmistus (Sellu)
- Mekaaninen metsäteollisuus (saha- ja levyteollisuus)
- Rakennusteollisuus
- Muu, mikä?:

2. Yrityksen koko

Valitse alla olevista vaihtoehdoista yrityksesi kokoa parhaiten kuvaava vaihtoehto.

- Mikroyritys (palveluksessa tilikauden aikana on keskimäärin 10 työntekijää; vuosiliikevaihto alle 700 000 euroa)
- Pieni yritys (yrityksen palveluksessa tilikauden aikana on keskimäärin 50 työntekijää; vuosiliike-vaihto on enintään 12 miljoonaa euroa)
- Keskisuuriyritys (vähemmän kuin 250 työntekijää; vuosiliikevaihto on enintään 50 miljoonaa euroa)
- Suuryritys (liikevaihto enemmän kuin 50 miljoonaa euroa; palveluksessa enemmän kuin 250 henkilöä)

Konttipunnitusten suorittaminen

3. Arvio lähettämienne konttien määrästä (kpl) vuositasolla?

4. Mitä menetelmää käytätte kontin bruttomassan (VGM-massatieto) määrittämiseen?

Merkitse alla olevien vaihtoehtojen kohdalle punnittujen konttien prosenttiosuus ja/tai niiden konttien osuus, joissa on käytetty laskennallista menetelmää. (Yhteensä 100%)

Punnitus tyyppihyväksytyä vaakaa käyttäen (%):

Summaus eli laskemalla rahdin ja kontin kokonaismassa yhteen (%):

Summa on yhtä kuin 100

5. Kuinka suuri osuus lähettämistänne konteista on täysiä kontteja (FCL-kontti) ja kuinka suuri osuus kappaletavarakontteja (LCL-kontti)?

Merkitse alla olevien vaihtoehtojen kohdalle FCL- ja/tai LCL-konttien prosenttiosuudet. (Yhteensä 100%)

FCL- eli täysien konttien osuus (%):

LCL- eli kappaletavarakonttien osuus (%):

Summa on yhtä kuin 100

6. Kuinka välitätte konttien massatiedot (VGM-massatieto) alukselle/ahtajalle?

Voit valita alla olevista vaihtoehdoista yhden tai useamman vaihtoehdon.

- Sähköinen tiedonsiirto (EDI-sanoma)
- Sähköposti
- Muu, mikä?:

7. Mahdolliset ongelmat punnitusten suorittamisessa tai summausmenetelmän käytössä?

Voit valita alla olevista vaihtoehdoista yhden tai useamman vaihtoehdon.

- Tarvittavien laitteiden saatavuudessa on ollut ongelmia (autovaa'at, punnituslaitteet työkoneisiin liittyvät ongelmat jne.)
- Punnituspalvelua ei ole ollut saatavilla
- Tiedonsiirrossa on ollut ongelmia
 - Jos valitsit tämän vaihtoehdon, tarkenna asiayhteys ja oliko ongelma väliaikainen vai jatkuuko ongelmat:

- Joku muu, mikä?:

Konttipunnitusten taloudelliset vaikutukset

8. Onko teille aiheutunut määräyksen vuoksi investointeja tai muita kustannuksia?

Voit valita alla olevista vaihtoehdoista yhden tai useamman vaihtoehdon.

- Ei investointeja
- Investoinnit punnituskalustoon (autovaa'at, punnituslaitteet työkoneisiin jne.)
- Investoinnit tietojärjestelmiin ja tietoliikenteeseen
- Olemme joutuneet lisäämään henkilöstöä, jolloin palkkakustannukset kasvaneet
- Joku muu, mikä?:

Jos teillä on aiheutunut investointeja tai kustannuksia, tarkentakaa, mikäli mahdollista, kertaluontoiset ja toistuvat kustannukset tyyppin ja summan mukaan:

9. Arvionne investointien/mahdollisten kustannusten suuruudesta yhteensä:
10. Jos hankitte punnitukset palveluna, voitteko arvioida mitä palvelu maksaa esim. per kontti?
11. Onko konttikuljetuksissanne ollut viivästyksiä?
Voit valita alla olevista vaihtoehdoista yhden tai useamman vaihtoehdon.
- Konttien punnitukset ovat ruuhkautuneet tehtaalla/lähtöpäässä.
 - Konttien punnitukset ovat ruuhkautuneet satamassa.
 - Joku muu viivästys, mikä?
- Jos valitsitte, että teillä on viivästyksiä konttikuljetuksissa, voitteko tarkentaa olivatko viivästykset tilapäisiä vai jatkuvatko viivästykset edelleen?
12. Konttipunnituksia koskevan määräyksen hyvät puolet ja mahdolliset keskeiset hyödyt teidän kannaltanne perusteluineen?
13. Konttipunnituksia koskevista määräyksistä ja ohjeista aiheutuneet keskeiset ongelmat ja mahdolliset haitat teidän kannaltanne perusteluineen?

- 14.** Ovatko closing-ajat aiheuttaneet ongelmia SOLAS-määräyksen vaatiman VGM-massatiedon ilmoittamisen voimaantulon jälkeen?

Jos valitsitte, että teillä on ollut ongelmia closing-ajoissa, voitteko tarkentakaa, ovatko viivästykset olleet tilapäisiä vai jatkuvatko viivästykset edelleen.

- 15.** Mitä parannus- ja kehitysehdotuksia teillä olisi konttipunnitukseen liittyen? Voisitteko perustella nämä lyhyesti.

VGM short-term effects survey

Respondent's background information

This information will be used only for statistical purposes. Single respondent cannot be recognized from published data.

1. Industry

Please select the industry of your company that you represent.

- Electricity/Electronics industry
- Food stuff industry
- Chemical industry
- Machinery industry
- Transportation industry
- Forwarding industry
- Paper and carton industry
- Pulp industry
- Mechanical forest industry (Saw and sheet industry)
- Construction industry
- Other, please specify:

2. Size of your company that you represent

- Micro (10 workers' average during the accounting period)
- Small (50 workers' average during the accounting period; yearly turnover maximum 12 million euros)
- Medium (less than 250 workers; yearly turnover maximum 50 million euros)
- Large (more than 250 workers; turnover more than 50 million euros)

Container weighting

3. How many containers do you ship yearly?

Amount of the containers:

4. Which method is in use to define VGM mass?

Answer to below the percentage of the used method to weigh the containers. (total 100%)

Weighing the packed container using calibrated and certified weighing equipment:

The sum of the single masses = Mass of cargo items + all packages (pallets, dunnage, securing material packed in the container) + container tare weight as certified and approved by the national authorized body:

5. What are the percentages of FCL containers and LCL containers you ship?

Answer to below the percentage (total 100%)

FCL percentage:

LCL percentage:

6. How do you send container's VGM-information to carrier/stevedore?
You may pick more than one option.

- EDI
 Email
 Other, please specify:

7. What kind of problems have you met in container weighing?
You may pick more than one option.

- Problems in availability of the weighting equipment
 No weighting service available
 Information communication problem
Please specify context, was problem temporary or continuous?
 Other, please specify:

Economic impact of the container weighing

8. Have you made new investments based on requirements set in the VGM-amendment or have you had some other additional costs?

- No investments
 Investments on weighting equipment
 Investments on information systems and information communications
 We have had to hire new employees
 Other, please specify:

9. Evaluation of the amount of the investments/possible costs. Please specify recurrent and nonrecurrent costs by type and amount, if it was possible.

10. If your weighting is outsourced, would you evaluate the cost for instance per container?

Container weighting impact on fluency

11. Have you experienced delays in container shipments?

You may pick more than one option.

- Container weighting has caused congestion at factory/departing place.
- Container weighting has caused congestion at port.
- Other, please specify:

Please specify, if problems were temporary or continuous:’

12. What advantages and benefits have resulted from the VGM-amendment to your company or in general to the industry?

13. What problems and disadvantages have resulted from the VGM-amendment to your company or in general to the industry?

14. Have there been problems caused by the closing times after the implementation of the VGM amendment? Yes, No. If yes, specify whether the problems are a) temporary b) continuous

15. What suggestions do you have for developing and improving the container weighting further?