

The Self Imposed Embargo: Customs-Related Transaction Costs of North Cyprus

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Abstract

Custom related transaction costs are a major barrier to the expansion of the international trade. These costs are a financial burden to the importers and ultimately to consumers. This study measures the transaction costs that are created by the obsolete customs and port handling procedures in North Cyprus. Such an analysis is important because since 1974 North Cyprus has suffered under a direct trade embargo. All its imports and exports must come or go via the ports in Turkey. This study finds that excessive trade transaction costs inflicted by the inefficient port handling and customs services of North Cyprus is between 1.42 to 2.96 times as costly as the extra transportation costs caused by the international embargo on its direct trade with the rest of the world.

Keywords: International trade, transaction costs, economic loss, embargo, Cyprus.

JEL Classification: F13, H83

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Introduction

Excessive customs related transaction costs reduce the volume of international trade by increasing the cost of imports to consumers. Such excessive transaction costs are usually created by complicated customs laws, excessive requirements for customs documentation, and automated port management practices². In many countries facilitation payments need to be made directly or indirectly to customs officials in order to speed up the clearance process. In recent years, through the efforts of the World Trade Organization (WTO) and numerous bilateral initiatives, the average rates of import tariff have been decreasing for many countries as the tariff was recognized as an impediment to international trade. At the same time non-tariff barriers such as rules of origin, and health and security regulations have increased. These factors have tended to inhibit international trade flows (Krugman, and Obstfeld, 2000, Bielderman, 1999, Walkenhorst, 2004).

The urgency for lowering the transactions costs, associated with the management of international trade, has increased with the rapid increase in the volume of international trade brought about by the globalization of business activities. Such experience has

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² In this study we will use the term "custom related transaction costs" to include both the costs, which are associated with port handling, as well as with customs clearance procedures.

shown that the cost of such customs processes can be dramatically reduced by employing simplified procedures and modern information technology (WTO,2001).

The purpose of this paper is to measure the excessive trade transaction costs that importers must incur in order to bring goods into North Cyprus. This study is of particular importance because of the embargo against direct trade to North Cyprus that has been imposed on it since 1974. This has required almost all goods imported to North Cyprus to be shipped via Turkey. This embargo has also caused damage to the economy of North Cyprus in a variety of other ways (Yesilada and Bicak, 1995).

The Government of North Cyprus however has complete control over the systems and procedures that importers must follow in order to clear goods from its ports and customs administration once they have reached North Cyprus. The focus of this paper is on the analysis and measurement of the excessive compliance costs that are now being created by the existing customs and port practices within North Cyprus.

Customs-related transactions costs have been found to be a major impediment to international trade and to the level of real incomes. Before the cross-border customs systems were abolished within the countries of the EU a study was commissioned to evaluate the burden of the existing customs related costs at that time on intra EU trade. Cecchini et al. (1988) used a survey of 500 companies to quantify the customs-related transaction costs in the EU before the introduction of the Single European Market. They estimated that customs-related transaction costs (including transit

delays) in a year were 8 billion Euros or 2 per cent of the value of cross border trade within the EU. These costs were eliminated when the customs procedures for the movement of goods within the EU was abolished. Recently, the benefits of trade facilitation have been estimated in a study that considered separately the gains from port efficiency, customs reform, regulatory reform and e-businesses usage. It was found that a combination of these measures can have a very significant impact on the volume of international trade. For the APEC region the impact is estimated to increase the volume of trade in manufacturing goods by 21 percent (Wilson, Mann and Otsuki 2003). A recent study (Eduards 2007) estimated the impact of such non-tariff impediments to international trade on the incomes of accession countries to the European Union (EU). It was estimated that through the elimination of these non-tariff barriers these countries should expect income gains of 10 to 20 percent. These results are particularly relevant to North Cyprus as it aspires to enter into the EU.

The economic costs created by customs-related transaction costs

Using a partial equilibrium framework, Figure 1 illustrates the effect of international transportation costs, tariffs and custom-related costs on the quantities demanded and supplied of importable goods. North Cyprus uses the Turkish Lira as currency, but because its' economy is a very small fraction of the Turkish economy, there will be no significant impact on the real exchange rate for Turkey due to the impediments faced by international trade to and from North Cyprus. In this study the level of international transportation costs and the taxes imposed on imported goods coming into North Cyprus are taken as given. Because of the very small size of its economy, most importable goods are not produced locally; hence, the price elasticities of

domestic supply of most importable goods will be quite small.

From Figure 1 we see that without the various trade taxes the quantity of importable goods demanded would be equal to Q_1^d and the local supply would be Q_1^s with imports filling the gap. With the imposition of an import tariff the quantity of importable goods demanded falls to Q_2^d and the local supply increases to Q_2^s , with imports decreasing to $Q_2^d - Q_1^s$. This yields the familiar result that economic costs created by the tariff, from the reduction in the quantity demanded, is equal to the area DAW. The economic loss, due to the expansion of local production, is shown as TEM, while the tax revenues collected on imports is shown as GHRJ.

Suppose, in addition to paying the tariff, the importer is required to incur compliance costs in order to complete the procedures required by the customs authorities that are more than he would expect to incur under an efficiently designed system. In Figure 1 these excessive compliance costs are shown as the area KSHG. Such costs push up the domestic price of the importable goods and create a further economic loss. This additional loss arises from two sources. First, there is the resource costs associated with the excessive compliance costs borne by importers. The empirical analysis contained in this paper is primarily focused on the measurement of these costs. Second, these additional compliance costs create inefficiencies in domestic consumption and production.

The increase in the domestic price of imports will cause consumers to reduce their consumption of importable goods. An incentive is also created for the further

production of importable items. Because of the presence of the existing trade taxes, these excessive compliance costs create an economic loss in consumption equal to the difference between what the consumers are willing to pay for the reduced consumption, as shown as $Q_3^d SD Q_2^d$ in figure 1, and the value of the resources saved due to reduced imports, shown as $Q_3^d RW Q_2^d$. This economic loss is illustrated by the area of the trapezoid, SDWR. Similarly, there is also an efficiency loss created by the mis-allocation of resources used in domestic production, illustrated by the trapezoid KJET. This area represents the excess cost of domestic production over the economic cost of an equal amount of imported items. An estimate of these economic welfare losses are also made in this study.

Customs Procedure for Importers

The current customs procedures in North Cyprus hark back to the British colonial period. When goods arrive at the port, the importer hires both a shipping and a clearing agent. The clearing agent has to process the paperwork through four different customs offices.

The main problems with the customs office, as indicated by both agents and importers, is that the antiquated administrative procedures and absence of a computerized information system makes the overall import clearance system inadequate to deal with the volume of goods being imported³. This causes importers or their agents, to have to spend time waiting in the customs offices for the officers to get around to inspecting and releasing the goods. The result is usually an overtime inspection. An overtime inspection regulation sees importers bearing the cost of overtime pay for two customs officers and (although illegal) the importers generally supply meals to the customs officials to speed up the clearance process.

³ Recently an advisory mission to North Cyprus from the EU commented that the procedures used by customs in North Cyprus today are very similar to these used over 40 years ago in the UK.

Research Methodology

The data used in this study was obtained through a survey of active importers in North Cyprus. In order to establish the framework for the questionnaire, interviews were carried out with customs agents, importers and importers accountants. Based on these interviews, a questionnaire was designed and distributed to importers. An extensive survey was carried out. Initially, all North Cyprus customs agents were interviewed. These interviews identified the major importers. Approximately half were selected to help in the completion of the survey. A major effort was made to avoid using information from the importers that exaggerated the problem. Hence, all information received from the importers was checked for consistency with that provided by their customs brokers and their accountants.⁴ A total of 60 usable questionnaires were received. During the survey personal visits were made to the importers, however a few did not complete the questionnaires fully either due to a lack of information, or due to a fear that the information might be used against them by other importers.

The results from the survey involving current importers in North Cyprus was then compared with the costs incurred by importers in South Cyprus in order to estimate the excessive level of costs incurred by importers in North Cyprus. A further comparison was made using international norms of such costs in order to estimate the amount of excessive costs that could potentially be eliminated if the customs and port procedures were fully modernized.

⁴ In North Cyprus the customs brokers and at the accountants looking after the importers financial records were from separate firms.

Customs Related Transaction costs

Seven types of imported commodities were selected for which nine components of the customs related transaction costs system were estimated⁵. The estimated costs included: the shipping agent's fee; clearing agent's fee; unloading costs in North Cyprus; administration fee paid to customs for the examination of all imported goods at the customs office; overtime wage payments to the customs officers when examining goods at the importer's warehouse; transportation costs (ie taxi hire) required to bring the customs officer to the importers warehouse; additional expenses such as the provision of meals for officers; storage cost of goods paid to customs whilst waiting customs inspection; and the time the importer spends to clear the goods.

The costs were estimated separately, i.e. when the imported item was inspected either at the custom office or at the importer's warehouse. In this study we do not include any of the administration costs that are borne by the government when looking at of the excessive customs and port related transactions costs. There is considerable evidence, however, that overstaffing is endemic in the customs and ports.⁶

The first eight cost categories are direct cash payments made either to the port authorities or to customs, but they exclude all forms of taxation. The last item of cost measures the values of time spent by the importer in order to finalise the importation

⁵ The items selected were building materials, electrical equipment, automobiles and spare parts, clothing and textiles, canned foods, fresh fruit and vegetables and furniture. An average of the results of these seven items was applied to other imported goods.

⁶ In North Cyprus the public sector budget for the operation of the customs system, excluding the costs of running the ports, was \$7.20 US million in 2004. This amounts to 0.85 percent of the cif value of all the imported goods brought into North Cyprus.

formalities. This does not include the broker's time. It includes only time spent by the owner of the goods in dealing with any problems arising from customs clearance procedures. We make no attempt to measure the psychological costs or the "hassle tax" imposed by customs offices on the importers. These are additional unmeasured costs that importers bear because of the slow and uncertain customs procedures.

Another cost arising from the customs delays and the uncertainty of deliveries is the additional inventories that the importers and merchants of North Cyprus need to hold in order to avoid having unexpected shortages due to such delays. We were not able to estimate the magnitude of these costs. In Indonesia, however, it was estimated that 35 percent of the importers held fewer inventories by value, after the customs procedures were modernized (Jenkins, 1992).

The estimated values of the above components of the transaction costs variables are presented in table 1. The total value of the transaction costs associated with the importers per 20 foot container equivalent is computed and then this amount is expressed as a percentage of the cif value of different types of goods that could be carried by container. These transaction costs are estimated for the importation of seven types of goods coming from three different regional sources, Turkey, European countries, and Asia.

Empirical Survey Results

As shown in table 1, the values in columns 1,2,3, and 4 present the composition of these customs and port related transaction costs for an average 20 foot container of

goods imported from Turkey, Europe, Asia and a trade weighted average for imports from all destinations, respectively. We find that the average costs incurred to get a container of goods through the port in North Cyprus is US \$636.48. These costs range from US \$622.42 for a container coming from Turkey to US \$664.93 for containers coming from Asia. Expressed as a percent of the value of the items in the containers covered by our survey, the customs related transaction costs range from 3.06 percent for goods coming from Europe to 5.76 percent for items coming from Asia. The overall average rate of transaction costs is 3.75 percent of the value of all the goods imported into North Cyprus. The value of the items in a container will of course vary with the type of goods being shipped.

From table 1 column 5 we can see the decomposition of these transactions costs. The practice is for a shipping agent to be employed as well as a customs broker. These two costs combined amount to approximately 32.49 percent of the total transaction costs. The amount charged to unload the container from the ship, US \$200, on average accounts for over 31.42 percent of the total costs. The cost of the time the importer spends to obtain the release of the goods averaged at least \$60 per container and accounts for about 9.43 percent of the total transaction costs per container. The storage rental for the container at the port is 13.39 percent, and the nominal fee paid to customs represents 1.16 percent of the transaction costs. The remaining 12.11 percent of the costs are divided between the overtime wage payments made to the customs officers by the importer (9.64 percent), and the taxi and meal costs incurred to get the custom officers to come to the importers' warehouse to release the goods (2.47 percent).

In table 2 column 1 the transaction costs are estimated according to the type of goods being imported. These rates are derived by trade weighting the transaction costs expressed as a percentage of the imports by the proportions of the value of imports of the particular type that come from Turkey, Europe, Asia or other destinations, respectively. Because the transaction costs are incurred on a container basis, the rate will be higher on bulky inexpensive items such as furniture (10.46%), as compared to electronic equipment (2.74%).

The goods imported into North Cyprus are subject to a range of taxes. These include the import tariff, a tax for the support of the army, price stabilization (excise taxes) and wharfage fees. In this study we exclude the value added tax from the analysis because, in theory, it is a general tax covering both imports as well as non-traded goods and services and, hence, not a distortion. In North Cyprus, however, there has been a policy to tax imports at a higher rate of value added tax than domestically produced goods and services. We have not included the effect of this policy in the following analysis.

The tax rates for goods coming from Turkey and EU countries are the same, but the import tariffs are higher on goods coming from Asian and non-EU countries. For Turkey and EU countries the sum of all these different taxes ends up creating a total tax rate that ranges from 9.7 to 18.2 percent. For goods imported from Asian countries the total tax burden ranges from 23 percent to 40 percent of the cif value of the imported goods. The average effective rates by importers of a particular type from all

countries are presented in table 2 column 2. Combining all the imports, the average tax rate is 15.34 percent of the cif value of the imports. Overall the average rate of tax is approximately four times the rate of customs related transactions costs. The total rate of tax plus transactions costs is approximately 19.09 percent of the cif value of the imports.

In order to estimate the value of excessive transaction costs in North Cyprus there is a need to construct a benchmark for measuring the normal customs related transactions costs. To construct this benchmark a number of importers in South Cyprus were interviewed. Documentation was provided on the costs they incurred to import a 20 foot container from Europe and China. Because South Cyprus is part of the EU the customs related costs are much lower than in the case of imports from China. Because North Cyprus is not part of the EU, the customs related costs in South Cyprus for importing a 20 foot container from China is used as the benchmark from which to measure the excessive costs imposed by the customs and port administration in North Cyprus. The total customs related transactions cost at the Port of Limassol in South Cyprus is approximately \$384.00 US per container or about 2.26 percent of the cif value of the goods imported in the container⁷. It is also the case that the ports and customs administration in South Cyprus have the reputation of being rather inefficient, by international standards. This being the situation, if North Cyprus were to decide to fully modernize these activities it is likely that it could lower its customs related transaction costs to below 2.26 percent of the cif value of imports.

⁷ The breakdown of the customs related transactions costs for a 20 foot container coming from China is as follows. Shipping Agency fees \$75; Customs Broker fee \$113; Port landing costs \$106, Customs fee (stamp tax) \$10; Storage cost \$60; Time cost of the importer \$20. This gives a total for the customs related costs of \$384.00 US per 20 foot container.

In recent years many advances have been made by countries in their operation of customs and port services. For example, Singapore, in the 1980s introduced a single window border automation system which reduced documentation cost by streamlining the processing needed for various regulations in a paperless fashion. It has cut the documentation cost borne by government and business by more than half (APEC, 2003b). The system cost only \$20 million to implement but has resulted in annual benefits in cost saving to importers, shippers and the government of about \$900 million annually, (Jenkins, 1992). Similarly Costa Rica introduced a single window warehouse clearing, electronic customs declaration, and an automated risk management system. It has reduced the customs clearance times from an average of six days in 1994 to 12 minutes in 2000 (WTO, 2001).

From these experiences and from the evidence showing the tremendous gains that are now being made through trade facilitation (Wilson, Mann and Otsaki, 2003) it would appear that the use of the South Cyprus customs related transaction costs of 2.26 percent of the cif value of imports, as the benchmark, for the efficient level of customs related transaction costs, might still be above what North Cyprus should be able to achieve if it implemented such reforms. It is clear that South Cyprus has not implemented the kinds of cost reduction reform that are now common-place in many ports and customs administrations. Hence, two lower benchmarks of 1 percent and 1.5 percent of the cif value of imports are also employed in the following estimations of economic costs.

The economic loss from trade taxation and customs related transactions costs.

Both the trade taxes and the customs related transactions costs create economic losses due to their distortionary effects on the pattern of both consumption and production. In addition, the transactions costs that are above the benchmark level reflect the value of the resources of time and materials that could be avoided. These excess transactions costs are a pure economic waste.

In such a small economy as North Cyprus the higher transactions costs imposed on international trade will in some cases provide trade protection to a small number of firms. In these circumstances the additional costs will allow the domestic producers to obtain a larger share of the market at higher production costs. When the number of firms are small they will likely also engage in strategic behaviour in order to obtain higher prices and larger profits.

In addition, welfare costs will be incurred due to the decrease in consumption caused by the higher prices (Flam, 1992). These market impacts on the volume of domestic production and consumption are captured by the elasticities of supply and demand for importable goods used in the empirical analysis. There are in total seven components that make up the total economic loss (EL) that is created by the interaction of the trade taxes and the excessive trade transaction costs. They are; the economic loss due to reduced consumption caused by taxes on international trade EL_1 ; the economic loss from the reduction of consumption caused by the combination of trade taxes costs, EL_2 ; the economic loss from the reduction in consumption caused by the excessive trade transaction costs alone, EL_3 ; the economic loss due to the increase in domestic production stimulated by the protection given by the trade taxes alone, EL_4 ; the

economic loss due to the increase in domestic production stimulated by the protection given by both the trade taxes and the excessive trade transaction costs EL_5 ; the economic loss from the increase in domestic production caused by the excessive trade transactions costs alone, EL_6 ; finally there is a direct economic loss as economic resources are used up when importers incur excessive trade transaction costs, EL_7 .

The various components of the economic loss created by the taxes and transaction costs as are shown in Figure 1 are now to be quantified. The values are found for the total domestic demand for each of the eight categories of importable goods by adding the value of domestic production to the report values of imports by category of importable commodities. The estimated values for imports domestic supply and total domestic demand categories are presented in table 3, columns 1, 2, and 3, respectively. The corresponding assumed elasticities of domestic supply are presented in row 4. Because many items within each of the categories are not produced domestically, the elasticity of supply for each of the categories will be rather small. In three of the categories there is no domestic production. The analysis is carried out using a range of estimates of the own price elasticity of demand. In the first case an own price elasticity of demand of -0.7 is assumed for all importable goods. In the second case, an own price elasticity demand of -1.0 (Cobb-Douglas demand function) is assumed for each of the categories of importable goods⁸. In the third case, an own-price elasticity of demand of -1.3 is assumed for importable goods.

⁸ Clarida, Richard, (1996) found that the price elasticity of demand for imported consumer durable goods to be about -1 the USA. Garham and Glaister (2006) estimated the long run own price elasticity of demand for automobile fuel for Turkey to be -0.61. All fuels are imported by North Cyprus. These estimates illustrate a range of value for the own price elasticity of demand for importable goods that is likely to give reasonable estimates of the economic losses caused by these market distortions.

To estimate the components of the economic losses due to taxes and excessive trade transaction costs we start with the allocative loss, EL_1 , caused by the reduction in consumption due to the taxes on imports. This triangle of welfare cost DAW in Figure 1 is estimated using the rate of import tax t_m , (table 2, column 2), the elasticity of demand for importable goods ε^d , and the initial value of importable goods demanded $P.Q^d$ (table 3 column 3) as follows,

$$EL_1 = -1/2 t_m^2 P.Q^d \varepsilon^d \quad (2)$$

Using an elasticity of demand for all types of importable goods of -1.0 the value of the economic loss, from the reduction in the consumption of importable goods, (table 4, row 1) was approximately \$9.435 US million in 2004. This rather significant loss in economic welfare is created by the high overall tax rate on imports of 15.34 percent. This tax rate does not come from a single rate of tariff but from the cumulation of a number of small taxes.

To find the economic loss due to the reduction in consumption due to both the trade taxes and the excessive transaction costs EL_2 , we substitute the total rate of distortion t_d (table 2) less the benchmark transaction costs of 2.26% into equation 2. In figure 1, this economic loss is shown as the area SAR. In table 4 row 2, the estimated value of EL_2 is reported to be approximately \$11,667 US million in 2004.

If we take the difference between the value of the economic loss created by the combined distortion of trade taxes plus the rate of excessive transaction costs and the value of the economic loss caused by the trade taxes alone what we obtain is the value of the incremental loss arising from excessive trade transaction costs alone. This

loss, EL_3 , shown in Figure 1 as the trapezoid SDWR and is estimated to be approximately \$2,232 US million as reported table 4, row 3.

There are also a corresponding set of economic losses created by the trade taxes and transaction costs due to the effect of the increased domestic prices on stimulating more domestic production. The values of these economic losses are a function of the rates of taxes and transaction costs, the price elasticities of domestic supply, and the initial values of the goods domestically produced PQ^s (Table 3 column 2). The economic loss created by the trade taxes alone, EL_4 is shown in Figure 1 as the triangle TEM. The expression for the estimation of the economic loss for only the trade taxes tm , is given by equation 3.

$$EL_4 = 1/2 t_m^2 \varepsilon^s P.Q^s \quad (3)$$

Where ε^s is the elasticity of supply of domestic production of the importable item and PQ^s is the value of domestic production of this item.

The estimated value of EL_4 is reported in table 4 row 4, and amounted to \$0.176 million in 2004. Similarly the economic loss EL_5 from the combined effect of the trade taxes plus the excessive trade transactions costs is reported in row 5. It amounted to \$0.68 million in 2004. The incremental economic loss from excessive trade transaction costs is the difference between EL_5 and EL_4 , as measured by the trapezoid KJET in Figure 1. In 2004 this economic loss EL_6 was about \$0.43 million. These estimates do not include the value of resources spent by importers as they incurred these excessive trade transaction costs. These resource costs in excess of the

benchmark value are illustrated in Figure 1 by the rectangle KSHG. This loss EL_7 , is estimated by applying the average rate of transaction costs (table 2 row 9 column 1) less the benchmark rate of 2.26 percent to the total value of imported goods for 2004.

The excessive transaction costs amounted to about \$15.051 million in 2004 (table 4, row 7). After including the allocative efficiency losses from reduced domestic consumption and excessive domestic production, the economic losses in 2004 (table 4, row 9) amounted to \$17.71 million. This loss was about 1.02 percent of GDP for 2004. Of this total loss, over 90 percent of it is created by the rectangles of real economic resource costs that have to be spent by importers to cope with the antiquated customs and port administrative procedures.

To check on the sensitivity of this economic welfare loss calculation we raised the own-price elasticity of demand to -1.3 and also lowered to -0.7⁹ set. In addition the benchmark level for port and customs related transaction costs that is considered to be normal for an efficient system was also set at 1.0 and 1.5 percent of the cif value of imports. All the components relating to economic loss from the excessive transaction costs were then re-estimated. These estimated values are given in table 5. The lowest estimate of economic loss from excessive trade transaction costs is \$17.04 million, (table 5, column 2 and row 4), and the highest estimate is \$35.64 million dollars (table 5, column 4 and row 4).

⁹ The greater the degree that there are goods at the margin that are no longer imported because of the high cost of trade administration, then the appropriate elasticity of demand would be at the higher end of this range.

Additional transportation costs created by the trade embargo

Since 1974 all imported goods must be shipped to the ports in North Cyprus via the ports in the South of Turkey, particularly the port of Mersin. These additional transportation costs are incurred on the shipment of all cargo containers from countries other than Turkey such as the rest of Europe, Asia and other countries. No estimates are readily available for the number of such containers coming to North Cyprus from these non-EU countries. Estimates can be made, however, using the value of imports coming to North Cyprus from each of these groups of countries and the information on the average values of the goods carried by a container that we have obtained from the survey of importers. The number of containers coming from these countries via Turkey is estimated in table 6. Their number is found by taking the total value of imports from these countries (table 6, columns 1) and dividing it by our estimates of the average value of goods carried in a container (column, 2). The number of containers coming via Mersin, Turkey, from EU countries and Non- EU countries is estimated to be 18,527 in 2004 (table 6, row 4, column 3).

From our survey of importers we found the cost of bringing a container from Mersin, Turkey to the Port of Famagusta, North Cyprus in 2004 was approximately \$650 US / per container. Hence, the total transportation costs imposed by the embargo on direct trade between EU countries and other Non EU countries was approximately \$12.042 US million in dollars 2004.

Comparing the high transportation costs created by the embargo with the costs of the excessive customs related transaction costs, plus the allocative efficiency losses

resulting from these excessive transaction costs gives one a perspective of the relative magnitude of these two problems faced by residents of North Cyprus.

In 2004 the embargo imposed additional transportation and transaction costs on bringing imported goods to North Cyprus of approximately \$12.042¹⁰ million. At the same time the inefficiency of the port and customs systems of North Cyprus imposed an additional cost to the residents of North Cyprus of between \$17.04 million and \$35.64 million. Hence, the economic losses inflicted on the residents of North Cyprus by the inefficiency of the government run ports and customs is between 1.42 and 2.96 times as large as the additional transportation costs arising from the embargo that prohibits direct trade with North Cyprus, (table 7).

Conclusions

This study shows the huge burden that an inefficient port and customs administration can impose on its residents. For North Cyprus these inefficiencies are creating losses of more than 1 percent of GDP per year. These costs are between 1.42 and 2.96 times larger than the additional transportation costs imposed by the international embargo on its trade with both EU and Non-EU countries. This is before we have included the administration costs for these functions that are paid out of the government budget.

It is important to note that by comparing the economic losses from the trade taxes and from those caused by the excessive trade transaction costs, that over 65 percent of these economic efficiency losses are created by the high trade transaction costs.

This arises even though the average rate of trade taxation of 15.34 percent is rather high, and very much larger than the average excessive rate of trade transaction costs

¹⁰ This estimated cost includes only the transportation cost and the costs of loading and unloading.

of from 1.50 to 2.25 percent of the cif cost of imports. In this case it is not the triangles of efficiency losses that produce these results, but it is the rectangles of resource costs that are incurred without any offsetting revenue gains that dominate the economic loss estimates created by the excessive trade transaction costs. When we consider the economic losses created by the excessive trade transaction costs we find that about 90 percent of the economic losses are created by the waste of resources spent trying to cope with the customs and port systems in North Cyprus, and only 10 percent of the losses are created by the resource allocation inefficiencies arising from the price incentives that influence the consumption and production decisions in the economy.

By their nature small countries are heavily dependent on international trade. The results of this study indicate how important it is for such countries, to make their customs and posts administrations as efficient as possible. The inefficient operation of the Famagusta Port and the customs office operating there has imposed large losses on the economy. With the use of modern information technology these public administration functions can be made low cost and highly efficient. The spectacular success of Costa Rica in this regard is a good example of the potential benefits that are available to small countries in this regard.

The case of North Cyprus is a good example of the futility of a developing state focusing the blame for its slow pace of development only on external political factors. From this study it would appear that that there are large benefits for the residents of such countries if the governments were to increase their efforts on improving the efficiency of their own public administrations.

Figure 1. Economic welfare effects of trade taxes and customs related transactions costs.

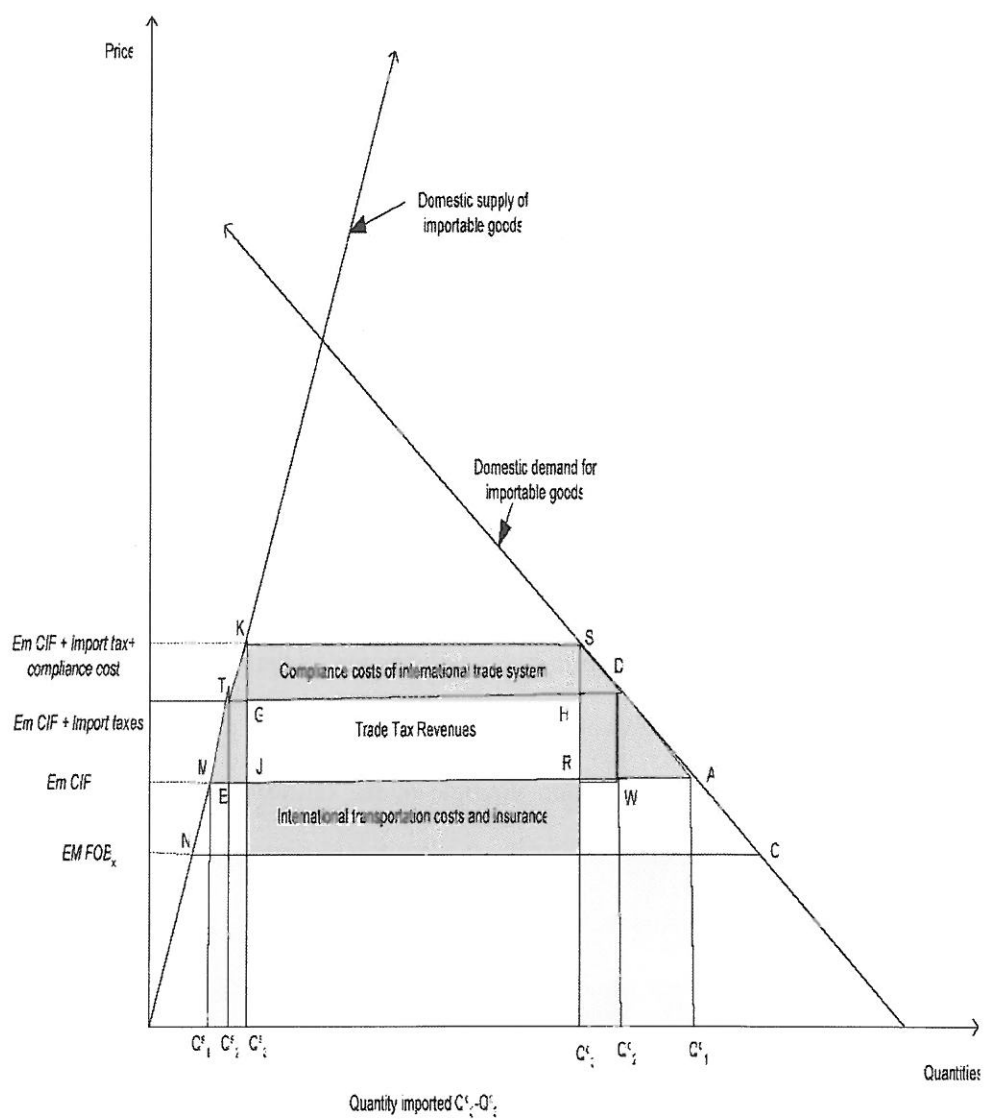


Table 1: Customs and port related transaction costs per container (US \$/container)

Cost Item	Turkey	European countries	Asian countries	Trade weighted Average	Percentage of total
	1	2	3	4	5
1. Shipping agent	86.47	86.54	91.32	87.06	13.68
2. Clearing agent	103.15	140.45	140.45	119.72	18.81
3. Container unloading	200.00	200.00	200.00	200.00	31.42
4. Customs fee	7.41	7.41	7.41	7.41	1.16
5. Customs over time pay	64.32	53.45	63.26	61.33	9.64
6. Taxi for customs	4.63	4.00	5.29	4.53	0.71
7. Other expenses such as meal for officers	11.24	10.87	12.01	11.23	1.76
8. Storage Rental	85.20	85.19	85.19	85.20	13.39
9. Importer's time cost ¹	60.00	60.00	60.00	60.00	9.43
10. Total cost	622.42	655.08	664.93	636.48	100.00
11. Average cif value of goods/ container	15863.51	21773.82	11552.39	16,988.66	
12. Transaction Cost as percent of the cif value	3.92%	3.06%	5.76%	3.75%	

Sources:

Information included in this table was obtained from the survey completed by importers in North Cyprus.

1. The average time spent by the importer as reported in the survey, was four hours. This is multiplied by a minimum value for the opportunity cost of time for such as an average value of (us \$15 per hours) importers to arrive at the importers time cost of \$ 60 per container.

Table 2: Average rate of import duties and transaction costs percent of import values

Items	Custom Related transaction Costs as percentage of CIF value of, imports T_c ¹	Effective tax rate on imports t_m ²	Total rate of trade distortions T_d
	1	2	3
1. Building material	4.45%	11.86%	16.31%
2. Electrical equipment	2.74%	15.54%	18.28%
3. Automobiles and spare parts	3.16%	19.25%	22.41%
4. Clothes and textiles	5.26%	6.28%	11.54%
5. Canned food	4.75%	18.51%	23.25%
6. Fruits and Vegetable	3.89%	12.09%	12.09%
7. Furniture	10.46%	17.35%	27.81%
8. Other imported goods	4.20%	14.41%	18.61%
9. Average	3.75%	15.34%	19.09%

Sources:

1. Estimated by the authors from survey of importers.

2. Ministry of Finance (2004), Turkish Republic of North Cyprus, Lefkosa.

Table 3: Total value of imports, domestic production and total demand for importable goods by aggregated category 2004.

Items	Value of the Imports	Domestic production	Total domestic Demand	Price elasticity of supply
	1	2	3	4
1. Building material	74,268,468	18,567,117	92,835,586	0.05
2. Electrical equipment	76,234,571	0	76,234,571	0.00
3. Automobiles and spare parts	239,862,380	0	239,862,380	0.00
4. Clothes and textiles	44,382,124	11,095,531	55,477,655	0.50
5. Canned food	8,728,595	2,182,149	10,910,744	0.50
6. Fruits and Vegetable	8,042,572	18,766,001	26,808,573	1.00
7. Furniture	24,850,854	6,212,713	31,063,568	0.50
8. Other imported goods	370,234,729	0	370,234,729	0.00
Total	846,604,294	56,823,512	903,427,805	

Sources:

1. Value of imported goods: Ministry of Economy and Tourism, (2004) "External Commerce Import and Export Statistics" Turkish Republic of North Cyprus, Lefkosa.

Table 4: Components of Economic Loss with Current levels of Excessive customs related Transaction costs (million US \$)

Source of Economic Loss	Economic cost of trade taxes + Excess TC (actual -2.26%)US \$
1	2
1. Trade taxes on consumption /(EL ₁)	9,435,003.66
2. Tax and Excess ETC on consumption/(EL ₂)	11,667,019.16
3. Transaction cost on consumption/(EL ₃)	2,232,015.50
4. Trade tax on production/EL ₄	176,388.16
5. Trade tax and ETC on production/(EL ₅)	608,031.60
6. ETC on production/EL ₆	431,643.44
7. Resource cost of ETC/(EL ₇)	15,052,263.12
8. Total economic costs (2+5+7)	27,327,313.88
9. Total economic costs of excessive transactions cost (3+6+7)	17,715,922.06

Note: In this table the estimates are constructed using an elasticity of demand for importable goods of -1.0 and a benchmark estimate of customs related transactions cost of 2.26 percent of the cif value of imports.

Table 5. Sensitivity analysis of excess customs related transaction cost

		Elasticity of demand for importable goods		
Benchmark		-0.7	-1	-1.3
Transaction	1.00%	32,980,834.99	34,314,360.85	35,647,886.72
Costs	1.50%	22,018,887.56	22,887,265.07	23,755,642.58
	2.26%	17,046,317.41	17,715,922.06	18,385,526.72

Table 6: The Economic cost of Embargo

Countries	Total imported value US (\$) ¹	value of goods us(\$) ² /container	Number of container ³	Transportation cost and other costs us (\$)	Total embargo cost
	1	2	3=(1/2)	4	5=3*4
1. European countries	234,138,860.00	21,773.82	10,753.00	650	6,989,450.00
2. Asian countries	66,670,553.00	11,552.39	5,771.00	650	3,751,150.00
3. Other countries	33,367,999.00	16,663.11	2,003.00	650	1,301,950.00
4. Total	<u>334,177,412.00</u>		<u>18,527.00</u>		<u>12,042,550</u>

1.Ministry of Economy and Tourism,(2004) "External Commerce of Import and Export Statistics" Turkish Republic of Northern Cyprus, Lefkosa.

2. Table 1, row 11.

3. Obtained from survey of importers.

Table 7: Ratio of economic loss from excess transaction costs to the additional costs imposed by the shipping embargo

		Elasticity of demand for importable goods		
		-0.7	-1	-1.3
Benchmark				
Trade Transaction	1.00%	2.74	2.85	2.96
Costs :% of cif	1.50%	1.83	1.90	1.97
value of imports	2.26%	1.42	1.47	1.53

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