CHAPTER ONE

NON-COMPLIANCE WITH CUSTOMS LAWS IN SUB-SAHARAN AFRICA

1.1. Introduction

International trade has the potential to foster economic development in Sub-Saharan Africa (SSA). Notably, the preamble of the agreement to establish the World Trade Organization (WTO) refers to the benefits of trade, which relate to the pursuit of higher standards of living, more employment, and steady income growth. For SSA, in particular, trade can help promote investment and employment, competitiveness and innovation, and diversify export product mix.

The challenge for SSA is to increase the volume of trade while making good use of import tariffs, as these represent an important source of revenue to finance development initiatives and protect the local industry. As compared to other regions around the world, SSA has the highest average tariff rates and share of international trade tax revenue (as a percentage of total tax revenue; World Bank, 2014; UNCTAD, 2015).

The presence of high tariff rates and other non-tariff barriers in the region promotes non-compliance with customs laws through tariff evasion and smuggling (Bown, 2011; Bhagwati, 1964; Cooper & Bhagwati, 1974; Buehn & Eichler, 2009).

In this dissertation I first provide a rigorous assessment of the level of tariff evasion in SSA, and then examine possible factors that may affect not only tariff evasion but also smuggling in this region. In particular, I assess how non-compliance is affected by tariff rates, corruption, inefficiencies in customs procedures, and trade facilitation initiatives. My overall objective is not
to make a welfare analysis of trade or compliance with customs laws, but rather to focus on the development and possible determinants of tariff evasion and smuggling in the region.

1.2. Setting

SSA is located south of the Sahara desert and comprises 49 of the 54 African countries\(^1\). While it has experienced rapid economic growth in recent years, as compared to other regions of the world, SSA has a poor standing in a number of development indicators. Trade stands out in this context, as it can contribute directly to the reduction of poverty and economic development. In 2014, trade represented 62% of the region’s GDP (WITS 2016). However, trade regimes in SSA suffer from high tariff and non-tariff barriers, including inefficient customs procedures, discriminatory trade policies, lack of transparency in customs requirements, and unpredictable classification of goods and customs valuation practices (Barka, 2012; Moore, 2014; Zake, 2011; Torres & van Seters, 2016). These barriers prevent the region from fully benefiting from international trade, and furthermore, may facilitate the prevalence of non-compliance with customs laws.

Corruption is a challenge for the region, and it is particularly important in relation to non-compliance with customs laws. Corrupt customs and border control officials compromise the enforcement of customs laws in exchange of informal payments from traders. This may result in smuggling and tariff evasion, which exposes society to various negative outcomes, such as health risks, national security risks, loss of public revenue, and unfair competition among importers and local industries. Non-compliance with customs laws can also distort national trade statistics, and

\(^1\) The countries excluded are North African countries, namely, Algeria, Egypt, Libya, Morocco, and Tunisia.
in this way, mislead policymakers to formulate inappropriate trade policies and strategies (World Bank, 2013c; Ndikumana, 2016).

To improve the institutional capacity and operational efficiency of customs offices, SSA countries aim at introducing the use of information technology, streamlining customs procedures, improving coordination among border agencies, enhancing law enforcement capacity, and improving transparency and predictability of customs requirements (IMF, 2015; World Bank, 2014; Kariuki, 2013; OECD, 2013b; Montagnat-Rentier & Parent, 2012; Zake, 2011). These measures have been undertaken as part of national reform programs and through multilateral, regional and bilateral trade negotiations.

Because international trade is identified as a key determinant of economic and social development in SSA (IMF, 2015), international development partners see value in assisting SSA in addressing institutional and structural challenges related to trade. Currently, SSA is the biggest recipient of aid for trade initiatives from the international donor community.

In general, restrictive trade barriers in SSA represent a burden for traders, as they discourage foreign exporters from entering the regional market, limit the flows of goods across borders, and increase the cost of imported products for consumers. Moreover, these barriers may also motivate traders to engage in non-compliance activities, and in this way evade high tariff rates, delays in transporting merchandize, and extensive customs formalities (Buehn & Eichler, 2009).
1.3. Non-compliance with customs regulations: construct and measurement

Non-compliance in this context refers to a trader’s failure to comply with the customs laws that regulate cross-border trade. One main form of non-compliance is *tariff evasion*, which refers to the illegal act of reducing or completely evading the payment of mandatory tariffs (as required by law). Tariffs are evaded through underreporting of import values or quantities, misclassifying highly-taxed products as lightly-taxed, and smuggling (Bhagwati, 1964; Fisman & Wei, 2004).

One interesting distinction is that smuggling implies tariff evasion, but not all tariff evasion takes place through smuggling (this becomes evident when considering that underreporting is not equivalent to not reporting). For researchers and public authorities, these acts represent a challenging problem. Their illegal nature makes them hidden from the public eye, and therefore difficult to observe and quantify.

Despite this, researchers have developed a clever procedure to detect tariff evasion. Since international trade movements are recorded by both the country that exports a good and the country that imports it, discrepancies between their records can be indicative of evasion (Fisman & Wei, 2004; Anson et al., 2006; Mishra et al., 2008; Javorcik and Narciso, 2008; Jean and Mitaritonna, 2010; Stoyanov, 2012). The rationale is as follows. In the absence of tariff evasion, discrepancies between import and export data can be attributed to measurement error (e.g., due to differences in how values are recorded or time lags between recordings; Guo, 2009, Fisman & Wei, 2004). While the exporting country records values of goods at the point of departure (i.e., free on board), the importing country records the value at the final destination (equal to the sum of free on board, freight, and insurance costs; Ferrantino & Zhi, 2008). Because of the cost difference, the export value is expected to be *less* than the import value (these discrepancies are also known as the *trade*...
gap between trade partners). Although these discrepancies are natural, the systematic association between discrepancies and tariff rates is indicative of tariff evasion (Fisman & Wei, 2004; Mishra et al., 2008).

Multiple studies examine this association to infer the presence of tariff evasion (Fisman & Wei, 2004; Anson et al., 2006; Mishra et al., 2008; Javorcik and Narciso, 2008; Jean and Mitaritonna, 2010; Stoyanov, 2012). This dissertation builds on this line of research and employs this method to measure non-compliance with customs laws. When tariff evasion takes place through underreporting, trade records appear in the records of both the exporting country and the importing country. We refer to discrepancies between matched trade records as the trade gap, and the systematic association between this trade gap and the tariff rate is indicative of tariff evasion. In Chapters 2 and 3, this measure is used as an indicator of tariff evasion (Fisman & Wei, 2004; Anson et al., 2006; Javorcik and Narciso, 2008; Jean and Mitaritonna, 2010; Stoyanov, 2012).

Smuggling, which is the illegal act of importing legal goods without declaring them to the authorities and without paying tariffs (as established by customs laws), is another form of non-compliance. Following prior research, I also make use of international mirror trade records to measure smuggling. Smuggling takes place when trade is recorded by the exporting country but not the importing country (Mishra et al., 2008).

Tariff evasion through both underreporting and through smuggling can emerge as a consequence of tariff or non-tariff barriers. In the literature, non-tariff barriers have received relatively less attention. Lengthy and cumbersome customs procedures at the border or point of entry, for example, represent additional costs to importers, and can exceed the costs associated
with paying tariff rates (World Bank, 2013c; Hummels et al, 2007; Isakova et al, 2016). When this is the case, traders have incentives to engage in smuggling.

Building on this idea, in Chapter 4 I examine the association between smuggling and the efficiency of customs procedures. Building on prior research in this area, I employ two measures of smuggling. The first measure is based on the trade gap, including observations in which export data do not have corresponding import data, so that imports are taken as zero (which implies that goods are being smuggled). This measure also employs matched trade data because COMTRADE does not provide data on a transaction by transaction basis, but rather product-level data aggregated for all trade transactions. This implies that there may be smuggling even within the matched trade data.

A perfect split between evasion through underreporting and smuggling is therefore not possible, but the measure in Chapter 4 is more likely to include smuggled products. To further support this approach, the second smuggling measure that I employ is a binary variable, which takes the value of 1 if the export data do not have corresponding import data, and 0 otherwise.

In sum, this dissertation attempts to explain two non-compliance indicators: (i) tariff evasion through underreporting, which requires a systematic association between tariff rates and trade gaps, and (ii) smuggling, which can be measured by either using the continuous variable trade gap or a dummy variable indicating whether exports have corresponding import data. In this line of research, the use of mirror trade data to measure non-compliance is the standard approach. However, it has limitations, as discrepancies may also be caused by timing differences in recording, fluctuations in exchange rates, different recording thresholds for trade values, and the varying quality of record keeping across different custom offices. Even in the presence of such
measurement errors, I follow the existing literature in assuming that non-compliance can be inferred in reference to the systematic association between mirror trade gaps and their theoretical determinants (Fisman & Wei, 2004; Mishra et al., 2008; Anson et al., 2006; Javorcik and Narciso, 2008; Jean and Mitaritonna, 2010; Stoyanov, 2012). Moreover, part of the contribution of this dissertation is to identify and incorporate relevant control variables (and various fixed effects), which help rule out alternative explanations of non-compliance. It can be acknowledged, in any case, that the observation and measurement of this type of non-compliance remains to be a fundamental research challenge.

1.4. Structure of the dissertation

Chapters 2, 3 and 4 contain empirical studies on the topic, while Chapter 5 concludes. Chapter 2 examines the current state of tariff evasion in SSA. It covers three main issues. In the first part it investigates how tariff evasion changed over the recent years. Recent developments of international trade in SSA offer counteractive forces to expect a decline or, alternatively, an increase in tariff evasion in the region. On the one hand, the region has witnessed relatively higher but declining tariff rates, continuous increase in import trade, and growing support by the international community to improve trade in the region. On the other hand, the region has shown slow implementation of trade liberalization initiatives. The chapter examines how, given these opposing factors, tariff evasion has evolved in the region. As SSA lags behind high income countries and other groups of countries in terms of economic, political, and social indicators (World Bank, 2013a), the second part of the chapter examines whether regional differences also

---

2 I note that when tariffs are structurally associated with insurance or shipping costs, for example, this could also yield a structural association with the trade gap measured in value. There is no reason to assume that these costs are structurally associated with tariffs, but in Chapter 4, I therefore also measure gaps in terms of weight and quantity, so that such costs are excluded from the trade gap measure.
extend to tariff evasion. The level of tariff evasion in SSA is contrasted with that in high income countries and the rest of the world (excluding high income countries).

In addition, recent trade statistics show that SSA has recently experienced a changing pattern in the composition of countries where imports are coming from. As compared to OECD countries, the volume of imports from BRIC countries has been growing faster. Hence, Chapter 2 also explores how the change in the composition of import partners relates to tariff evasion.

The findings indicate that tariff evasion in SSA has increased over time and also in comparison to high income countries. The difference with the rest of the world in recent years has been marginal. Interestingly, the change in the level of tariff evasion may be associated with changes in the composition of the trading partner portfolio. Tariff evasion has increased for imports from BRIC countries, and decreased for imports from OECD.

Chapter 3 examines how the positive association between tariff rates and trade gaps in SSA is strengthened by the corruption levels in both the importing countries and the exporting countries (where the imports are coming from). It is proposed that tariff evasion takes place when there is an incentive, opportunity, and intention to evade. The incentive to evade, which is the possible economic gain from escaping the payment of tariff obligations, is mainly related to the level of tariff rates levied on imported goods. The magnitude of the incentive increases with the tariff rate level. However, it is argued that there should be both an opportunity for and intention of the trader to translate the incentive into actual evasion. Studies show that corruption in customs offices offer an opportunity to engage in evasion through bribery (Javorcik and Narciso 2008; Hors 2001). The intention to engage in bribing may however also depend on the corruption level of the trading partner. Moreover, as corruption is contagious in nature, corrupt practices and behaviors of one
party in business relations may influence the other party to behave similarly (Becker et al., 2009; Goel and Nelson 2007) which may cause corruption levels to reinforce each other.

The results of Chapter 3 show that tariff evasion is reinforced by the corruption level in the importing country and the exporting country. The findings indicate that tariff evasion in importing countries can be reduced not only by mitigating corrupt practices in importing countries but also requires fighting corruption in those countries where the imports are coming from.

Chapter 4 examines the association between aid for trade facilitation, efficiency in customs procedures, and smuggling. Aid for trade facilitation aims at tackling all forms of non-tariff trade barriers at the border, which increase trade costs and restrict the flow of cross-border trade. Traders who face lengthy and unnecessary customs procedures at the border have incentives to smuggle and in this way avoid hurdles and minimize costs. Aid for trade facilitation is expected to have a negative indirect effect on smuggling, as it first helps improve efficiency in customs procedures.

We observe that aid for trade facilitation increases the efficiency of customs procedures in the recipient country, which in turn reduces smuggling. This type of assistance not only promotes cross-border trade, but also has the indirect effect of tackling non-compliance with customs laws.

Finally, Chapter 5 summarizes the main findings of the empirical studies and includes several conclusions. First, non-compliance with customs laws is prevalent in SSA, and it appears to be caused by high tariff rates, corruption, and inefficient customs procedures. While existing literature examines the corruption level in importing countries and exporting countries separately, we observe that the corruption level in both countries matters. This could be an explanation for the observed increasing trend in tariff evasion in SSA. Trade with countries with higher corruption
scores has increased at a faster pace. This represents useful information for customs officers who are interested in performing risk assessments. Second, aid for trade facilitation has the effect of not only improving the conditions for smoother trade flows, but also fighting smuggling in SSA, which may in turn result in more public revenues.

1.5. Relevance and contribution

SSA countries not only rely on trade as a means to foster development in the region. They also use tariff revenues to finance development programs. The restrictive nature of tariffs along with inefficient customs procedures and corruption generate incentives to engage in non-compliance with customs laws. Such non-compliance takes away valuable resources that could otherwise be invested in, for example, reducing poverty and fostering economic development. For this reason, rigorous examinations of the state and possible determinants of tariff evasion and smuggling in SSA have great value. These can shed light on the magnitude of the challenges faced, and the possible ways to confront them.

The main contribution of this dissertation is the identification of significant associations between non-compliance with customs laws in SSA and tariff rates, corruption, efficiency in customs procedures, and aid for trade facilitation. The findings, which are based on a series of analyses and robustness checks, have three important implications. First, non-compliance with customs laws remains to be present and pervasive in the region, so policy makers can use this type of analysis to further justify strategies that aim at tackling this challenge. Second, risk management systems and inspection requirements may benefit from taking into consideration relevant characteristics of the region’s trading partners (as, for example, more corrupt exporters may contribute more to non-compliance). And finally, international assistance may bring a series of
positive (non-obvious) effects for SSA, as in this case it may indirectly help to reduce non-compliance, increase tariff revenues, and provide opportunities to lower tariffs further.