Minimizing Smuggling
and Restoring Public Trust
in the Philippine Bureau of Customs

Kenneth Isaiah Ibasco Abante

Adviser: Anders Jensen

Section Leader: Arvind Subramanian

This Second Year Policy Analysis
is in fulfillment of the requirements for the degree of
Master in Public Administration in International Development
John F. Kennedy School of Government
Harvard University

March 2019

Abstract

This policy analysis attempts to answer three questions: First, what is the extent of smuggling and customs tax evasion in the Philippines? Second, how can customs improve its risk management system in the short term to minimize officers' discretion and improve trade facilitation without abdicating its other mandates of revenue generation and border control? Third, what types of reforms and political commitment are necessary in the long term to restore public trust in the Bureau of Customs?

Executive Summary

What is the extent of smuggling in the Philippines? I find that from 2012 to 2017, the level of underinvoicing in the Philippines was between 0.15 and 0.38 percent of GDP. Fully closing this gap would have yielded additional tax collections worth P16 to P38 billion ($320 to $760 million). This represents a 0.7 to 1.7 percent improvement in collections or a 0.02 to 0.05 percentage point increase in the tax to GDP ratio over this six-year period. This estimate is limited to homogenous and reference-priced goods that represent a third of total Philippine import value. I find that on average, a one-percentage point increase in the tax rate is associated with a 0.9 to 2.0 percent increase in evasion in values from 2012 to 2017. This is significant at the one percent level. I find no strong evidence of evasion in quantities, which suggests that the major channel of evasion over this period may be underdeclaring prices.

How do we minimize smuggling? Customs should tighten inspections on risky transactions and require importers to submit additional documents if the price they declare goes below a set threshold level. This was done with considerable success in the Valuation Reforms of 2014 and 2015 that stamped out underinvoicing in meat, steel, and plastic products. If these reforms were implemented in 2012 and 2013, customs would have collected an additional P18 billion ($360 million), a 3 percent increase in revenues over this two-year period. Expanding the inspections to a new priority list of 20 products, like tobacco, distilled spirits, and copper, would have increased collections by at least P10 billion ($200 million), a 0.5 percent improvement in revenues from 2012 to 2017. I propose the organization of a central assessment office that computes these fair inspection thresholds and proactively monitors the responses of importers.

How do we restore public trust? Customs should lower the percentage of physically inspected imports from the current 27 percent and increase the percentage of green lane shipments from the current 25 percent. By improving risk management, border control officers become more effective as they focus their limited staff capacity on only the riskiest transactions. This cuts the average clearance time by about half (from 4.9 to 2.7 days) for entries no longer physically inspected. These reforms reduce opportunities for bribery and discretion and improve public trust. Customs officers can review the price declarations of just 2 to 4 percent of all import entries and still improve revenues. But changing these rates must be staggered to prevent abuse. These reforms on risk management will not be sustained without a wider reform of the organization, which I outline in a ten-point reform agenda to restore public trust in customs.

Acknowledgements

In my local language Bikol, gratitude and faith are inseparable. We say thank you by saying *Dios mabalos:* God, through my entire self, will return your good favor.

This policy analysis is in memory of Art Lachica, former customs deputy commissioner and part of our customs reform team from 2013 to 2016. He was killed in the course of duty. May his memory forever live on in the change these pages will enable.

For guiding me and believing in me all throughout this research process: Professors Anders Jensen and Arvind Subramanian. For being my external reader: Ray Gomez. For helping me discover the joy of research: Josh Uyheng.

For unwavering support: my parents Joel and Ofel, my late grandmother Nora, my siblings, my cousins and relatives in Canaman and Iriga and in the diaspora; my best friends Rob Roque, Andrew Yap, Maj Dizon, Kapz, Kairo, COA, and the OAA.

For being excellent educators: Professors Dan Levy, Teddy Svoronos, Jie Bai, Lant Pritchett, Dani Rodrik, Michael Walton, Jeffrey Frankel, Filipe Campante, Maciej Kotowski, Asim Khwaja, Carmen Reinhart, Ryan Sheely, Matt Andrews, Adnan Khan, Brian Mandell, Kessely Hong, Soroush Saghafian, Tony Saich, Roberto Unger, Bryan Hehir, Thomas Baranga, and Gregory Mankiw.

For continuing to believe that we can reform the unreformable: Sunny Sevilla, Cesar Purisima, Kim Henares, Nell Belgado, Agaton Uvero, Joeshias Tambago, Arnold Frane, Didith Tan, Eph Amatong, Carlo Carag, Malou Recente, Mick Aguirre, Cheryll Trinidad, Joel Laguerta, Karl Chua, teams in SERG, OSEC, FIU, Bagumbayani, Professor Rofel Brion and my colleagues at the Ateneo Department of Interdisciplinary Studies, my students in Cambridge and Manila, and friends with whom I had the immense privilege of serving the public.

For being my home away from home: Carol Finney, Ramie Jacobson, Sarah Olia, and my wonderful MPA/ID family, especially Neetisha Besra, Munmun Biswas, Homa Koohi, and Zeynab.

For opening your doors to me: Jojo, Myrish, Marcky, Miggy, and Mari Antonio.

Dios mabalos po saindo gabos,

Ken

Table of Contents

Appendices

Table of Figures

Table of Boxes

Introduction: A Crisis of Public Trust

1. **Customs is experiencing a crisis of public trust that has put the agency on a vicious cycle of performance**. The customs bureau has been consistently ranked the least sincere in fighting corruption among government agencies since 2005[1]. The bureau has been roiled by controversies surrounding the entry of illegal drugs and employees with impossibly lavish lifestyles, like a Porsche-driving customs clerk. The culture of bribery and corruption in the agency is so rampant that there are a dictionary of words and a 1990 classic action film about it[2]. These twin crises of smuggling and corruption have eroded public trust, dwindled the country's revenue base, and endangered public safety.

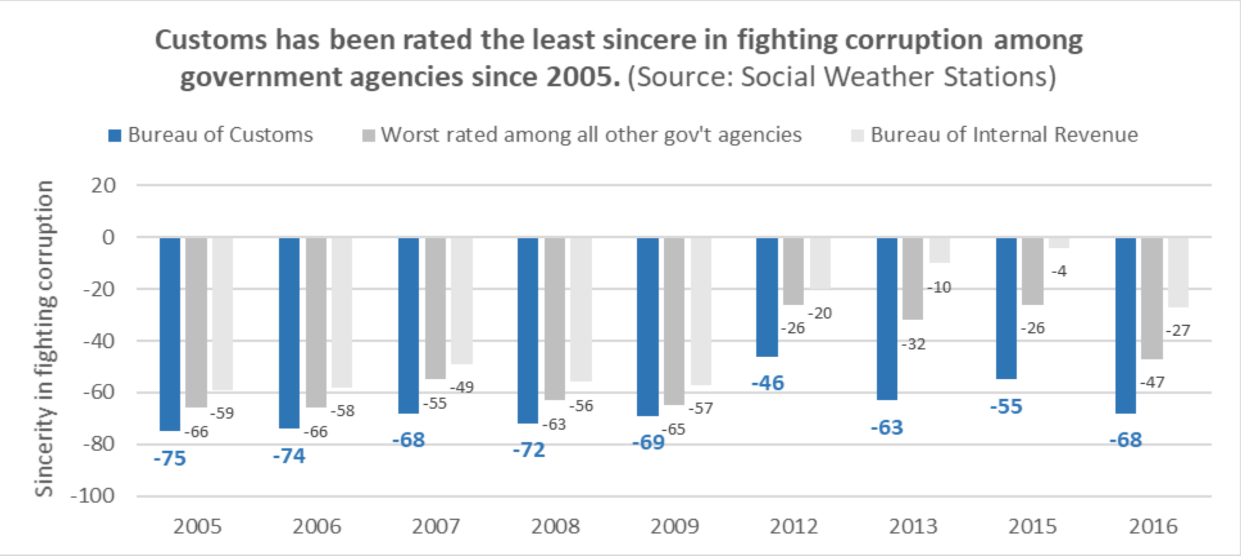
2. **The agency has experienced a crisis of leadership evidenced by the high turnover of customs commissioners, which betrays the political difficulty of the task of reform.** Since the post-war period, the median tenure of a customs commissioner has been just a little over one year. Since 1998, the median tenure has been 14 months[3]. This has made it difficult to institute the long-term systemic reforms needed to improve customs processes.

3. **This paper will explain how customs can minimize smuggling and restore public trust.** Chapter 1 looks at how the customs bureau is organized.
   Chapter 2 looks at how smuggling happens and why it is hard to reform customs.
   Chapter 3 looks at critiques of current measures of smuggling. I draw on this literature to provide my own estimates of customs tax evasion and smuggling in the Philippines.
   Chapter 4 proposes a program to restore public trust that focuses on three issues surrounding risk management and valuation. I emphasize that any sustainable reform must be viewed as a whole system, but this policy analysis has space to discuss only issues upon the entry of goods at the border. In Box 1, I outline the principles of a wider organizational reform agenda to restore public trust in customs, which will be detailed in a future project.
   Chapter 5 concludes by discussing the attitude and commitment necessary for reform.

---

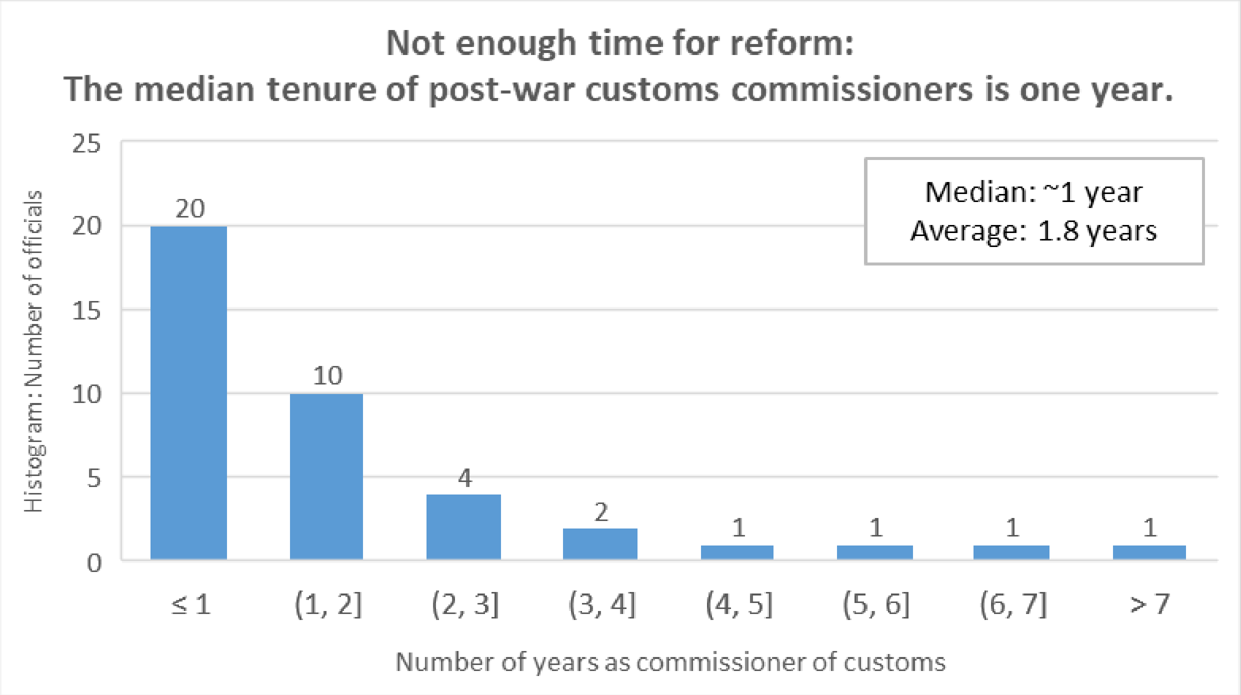
[1] See Figure 1. Social Weather Stations (SWS) Enterprise Survey on Corruption. SWS is a polling company in the Philippines.
[2] See Box 6. Customs jargon on bribes and money-making schemes. Customs in movies and popular culture: The political, social, and economic interactions in customs are portrayed in a classic 1990 Filipino action film, *Ikasa Mo, Ipuputok Ko* (Cock It, I'll Shoot It). The protagonist Guiller (Phillip Salvador), an honest, straight-shooting customs police officer, wants to uncover smuggling syndicates as he struggles to make ends meet on his meager government salary. Guiller runs into an ethical dilemma when his best friend Buboy (Michael De Mesa) is lured into getting bribes, and his boss Major Torillo (Eddie Garcia) is revealed to be in cahoots with the syndicate, too.
[3] See Figure 2. The median tenure of post-war Philippine customs commissioners is one year (1945-present)

Figure 1. Public perception on sincerity of fighting corruption (2005-2016)



Source: Social Weather Stations Enterprise Survey on Corruption (2005-2016)

Figure 2. Tenure of post-war Philippine customs commissioners (1945-2018)



Source: Bureau of Customs Website

Chapter 1. The Mandates and Organization of the Bureau of Customs

4. **The Bureau of Customs has three major mandates: revenue generation, trade facilitation, and border control.** It is an agency under the supervision and control of the Department of Finance because the bureau still generates one-fifth of the country's tax revenues. The organization processes around 120,000 monthly import entries[4] of 14,000 active importers[5]. Customs employs around 2,700 permanent employees spanning 17 port collection districts. Staff numbers have shrunk by more than a fifth, from around 3,400 employees in 2015. Customs has filled only 40 percent of its 6,200 authorized posts.[6]

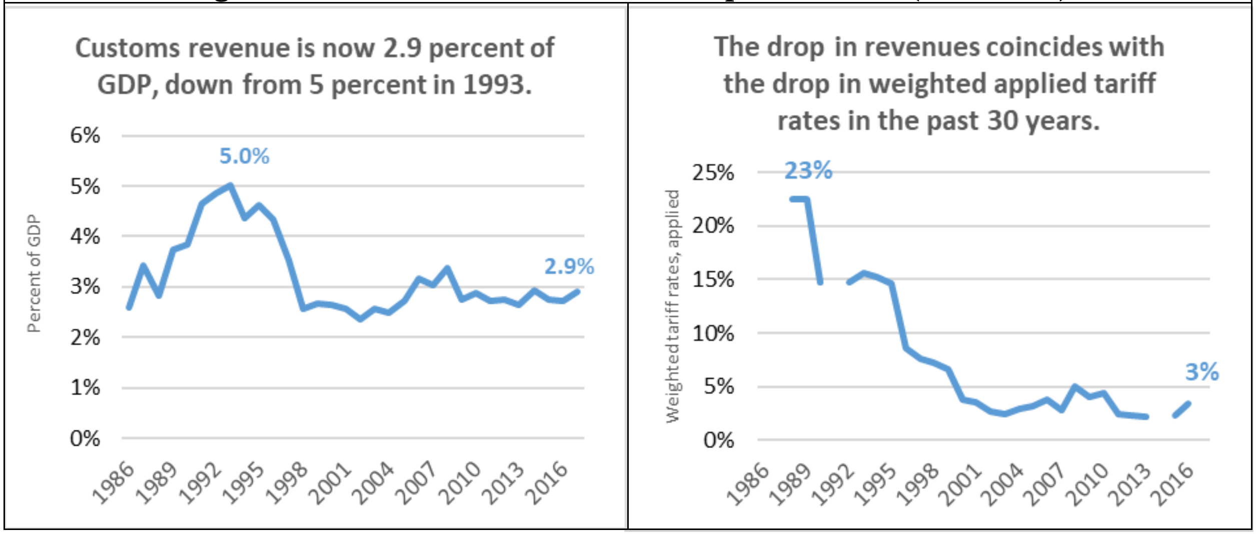
5. **Customs is organized into different functions**: the Office of the Commissioner (OCOM); the Assessment and Operations Coordinating Group (AOCG) which handles valuation and classification concerns; the Revenue Collection Monitoring Group (RCMG) which handles statistics and legal services; the Enforcement Group (EG) which handles customs police; the Intelligence Group (IG) which handles intelligence gathering, accreditation, and account management; the Management Information Systems and Technology Group (MISTG), which handles the electronic system; the Internal Administration Group (IAG), which handles procurement, recruitment, and rank-and-file appointments. The port collectors of the 17 collection districts report to the Commissioner of Customs.

6. **Customs revenue is now at 2.9 percent of GDP, down from a peak of 5 percent in 1993[7].** This coincides with the drop in nominal tariff rates over the past 30 years from the signing of free trade agreements[8]. Box 2 narrates the major political and economic events in the history of the Bureau of Customs from 1986 to 2017. The top five district ports account for more than 80 percent of revenue: the two largest sea ports, the Manila International Container Port (27 percent) and the Port of Manila (17 percent); the two large oil shipment ports, Batangas (22 percent) and Limay (10 percent); and the air cargo port, Ninoy Aquino International Airport (8 percent). Figure 4 shows the ports' relative share of customs revenue.

---

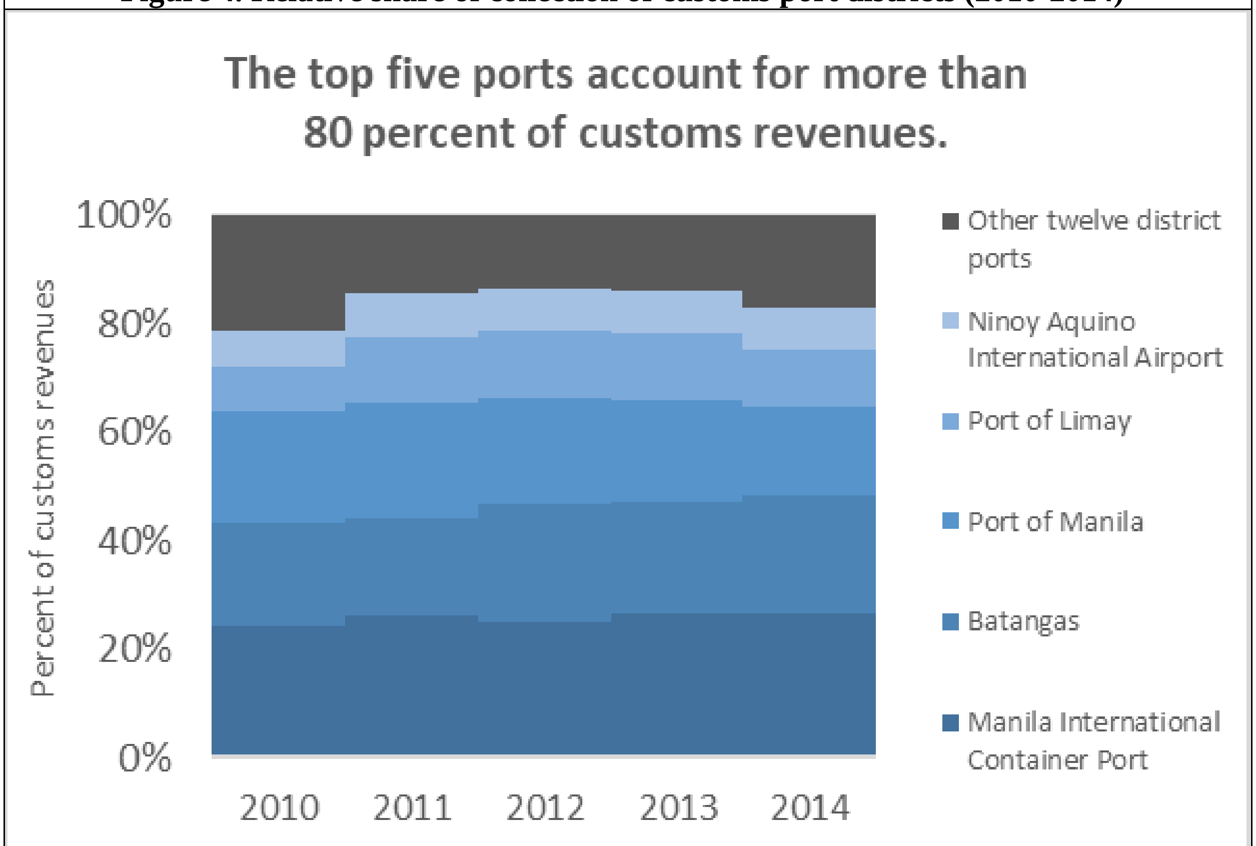
[4] This study covers only consumption entries. The other general types of importation are warehousing and transshipment entries.
[5] There were 14,124 active importers in 2012, latest available data.
[6] National Expenditure Program 2017 to 2019, Department of Budget and Management. 3,479 filled positions in 2015 to 2,726 in 2018. The bureau has filled only 43 percent of its total 6,264 authorized posts.
[7] Figure 3. Bureau of Customs collection performance (1986-2017)
[8] Figure 4. Relative share of collection of customs port districts (2011-2014)

Figure 3. Bureau of Customs collection performance (1986-2017)



Source: Bureau of the Treasury *Source: WB World Development Indicators*

Figure 4. Relative share of collection of customs port districts (2010-2014)[9]



Source: Bureau of Customs Annual Report

[9] The other 12 district ports, in order of contribution to revenue are: Subic, Cebu, Davao, Cagayan de Oro, San Fernando, Iloilo, Clark, Aparri, Tacloban, Legaspi, Zamboanga, and Surigao. Tax expenditure funds from government purchases are reported under the Office of the Commissioner.

Chapter 2. How does smuggling occur?

7. **Importers smuggle goods in three ways. They underinvoice, mislabel, or smuggle outright[10].** Underinvoicing, the focus of this policy analysis[11], is considered fraud[12] if there is a 30 percent discrepancy between the declared value and the true value[13].

8. **Underinvoicing is declaring lower import values to evade taxes[14].** If an imported good costs P100, importers are required by law to declare it at that transaction value and pay around P15 in taxes (a duty rate of 3 percent and a value added tax rate of 12 percent)[15]. However, importers declare the price at P10 and pay just P1.50 in taxes. Government revenue lost from underinvoicing is P13.50. These savings are then shared among the importing businesses and customs officials in the form of *tara* (bribes) or special favors.

9. **Mislabeling is declaring a good under a wrong product classification, usually with a lower tariff rate**. The Harmonized System (HS) code of classification determines what tariff rates are to be levied on imports. HS code 10 refers to cereals, HS code 1006 refers to rice, HS code 100610 refers to rice in the husk, and so forth, up to 12 digits of specificity. To illustrate, mislabeling occurs when an importer declares rice with a 40 percent duty under another tariff heading with a 0 percent duty to evade taxes. Tax savings are also shared among those involved in the transaction.

10. **Outright smuggling is importing a good without registering it with customs or securing the necessary permits.** Rice imports required permits because it used to be under a quota system. In 2013, several rice trading companies imported rice worth P2 billion ($40 million) without permits. At least 39 smuggling cases were filed against them. Another form of outright smuggling is importing contraband. In 2017, P6.4 billion ($120 million) worth of drug shipments slipped past the Philippine customs border[16]. In 2018, another P6.8 billion ($125 million) worth of drug shipments slipped past the customs border[17].

---

[10] Baghwati (1964).
[11] Outright smuggling is out of this graduate paper's scope because it would require aligning individual import entries with trade units of countries of origin—this data is not publicly available.
[12] To be more precise, a 30 percent discrepancy is *prima facie* evidence for fraud.
[13] See Box 3. Offenses and Penalties for Smuggling under Philippine Customs Law.
[14] As a member of the World Trade Organization, the Philippines uses the transaction values that importers declare at the border to assess taxes.
[15] I say "around P15 in taxes" because customs duties are included in the VAT base to which the 12 percent rate is applied.
[16] I use the USD 1: PHP 50 exchange rate for simplicity. https://www.rappler.com/newsbreak/iq/178667-timeline-smuggled-shabu-china-customs
[17] https://www.rappler.com/newsbreak/iq/209468-how-shabu-slipped-past-pnp-pdea-customs

11. **The theory of bargaining between taxpayers and tax officials suggests that collusion can be minimized and tax compliance improved if three elements are met**[18]: first, if there are some monetary or non-monetary rewards for doing good; second, if there is a high probability of punishment for cheating; and third, if there are verifiable trails of audit and enforcement that align common expectations of behavior.

12. **These three elements exist in very limited capacity in the customs bureau.** The law governing rewards, punishments, and incentives has not been implemented since 2005 because of the difficulty of apportioning individual revenue targets and the refusal of customs officers to sign individual performance contracts with these targets.[19] Prosecution, both internal to customs and at the courts, is slow, though there has been an improvement in investigations by the independent anti-graft body in recent years. There is limited legal capacity to prosecute smugglers and officials. Importers have evaded some of the P4 billion ($80 million) in audit assessments by "flying by night" or closing. Third-party information and verifiable audit trails are scant. The Philippines is one of only three countries in the world where tax and customs agencies cannot use bank transactions for audit purposes.[20]

13. **Philippine political economy and culture complicate this analysis. I name three of the most important elements here:** First, the Filipino value of *utang na loob* (debt of gratitude) underpins patron-client relationships in the customs bureau[21]: a political patron recommends the appointment of a customs officer to a plum post while the customs officer shares funds from the proceeds of smuggling to pay back this debt of gratitude. Strong political lobbies pressure appointing authorities to assign their *bata* ("children" or clients). Second, the Filipino value of *pakikisama* (belonging) makes it difficult for customs officers to be honest while the people around them partake in the bribery system. Third, the Filipino political norm of a strong presidency makes sustaining reforms possible only if the President and Secretary of Finance grant the political authorization to proceed. This is especially salient for an agency as politically sensitive as customs.

---

[18] Khan, Khwaja, and Olken (2014). Pomeranz (2015).
[19] See Box 5. Lessons from the Failure of the Attrition Act of 2005
[20] Policy Note on Bank Secrecy and Money Laundering to the Secretary of Finance. 2014. DOF, WB, IMF staff. Nataliya Mylenko, Jay Peiris, Ken Abante. Excludes known tax shelters as identified in the fiscal blacklist.
[21] Hutchcroft (2014). For further reading on Filipino values and cultural traits, see papers from the Institute of Philippine Culture (IPC).

Chapter 3.1. How have authors estimated the level of Philippine smuggling?

14. **Authors since 1976 have tried to estimate the level of smuggling in the Philippines by using the methodology of comparing exports reported by the rest of world with the imports reported by the Philippines, using UN trade data.** For example, if China records $100 of iron exports to the Philippines, then it must match up with the $100 of iron imports recorded by the Philippine customs bureau. A positive reporting gap (exports > imports) may suggest smuggling and a negative gap (imports > exports) may suggest capital flight.[22]

15. **Alano (1984) finds that the level of smuggling in the Philippines from 1965 to 1978 amounts to 29 percent to 54 percent of total imports.** His methodology covers partner data from Japan, the United States, and the European Economic Community from 1965 to 1978 at the 1-digit commodity level. He uses the theoretical model of smuggling behavior in Becker (1974) and Ehrlich (1974), inspired by an earlier attempt by Simkin (1974) to estimate levels of smuggling. Baghwati (1964) proposed earlier that trade gaps may be due to smuggling.

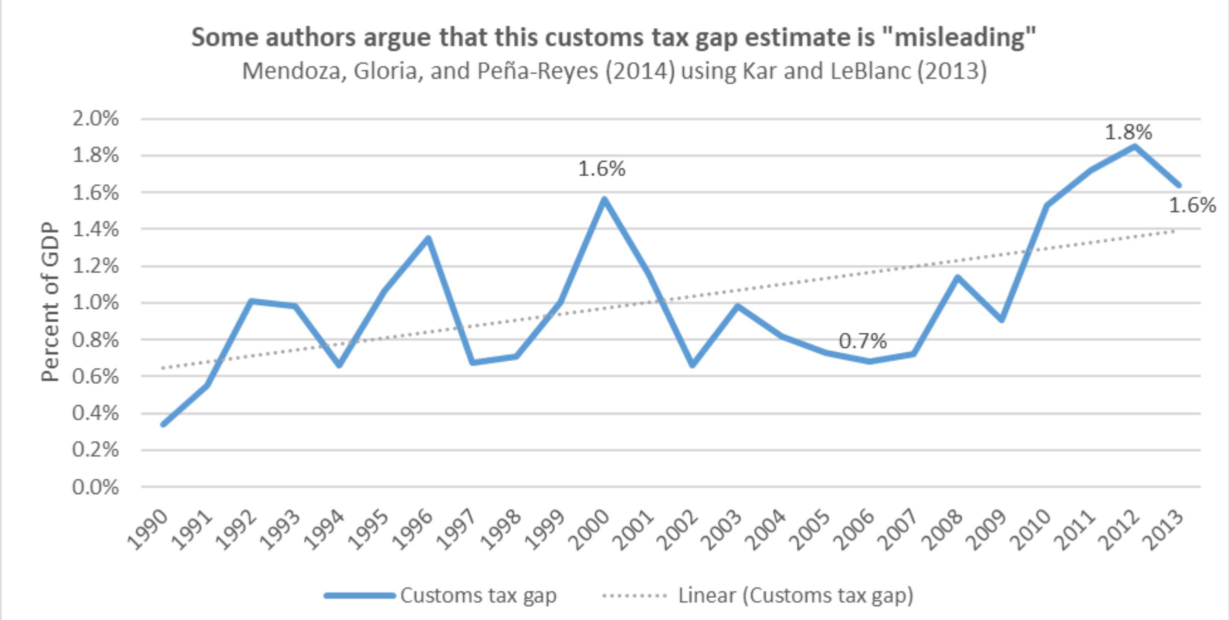
16. **In Kar and LeBlanc's (2014) study of illicit financial flows**, they find that the Philippines lost around 1 percent of GDP in customs revenues every year from 1990 to 2011 due to trade misinvoicing. They argue that customs tax losses peaked at **2.8 percent of GDP in 2011**.

17. **Mendoza, Gloria, and Peña-Reyes (2014) use Kar and LeBlanc's (2014) Global Financial Integrity estimates to argue that the tax gap is 1.6 to 1.8 percent of GDP, or 62 percent of current customs revenues.** They further argue that customs must be recast as a development agency to contribute much more than revenues. Customs, they argue, can contribute more to the development agenda by facilitating trade by lowering transaction costs, as in Walkenhorst and Yasui (2003), who found that a one-percent reduction in trade transaction costs can increase global income by $40 billion.

18. **The finance department has used this reporting gap methodology in Congressional and budget hearings to argue for higher revenue targets for the customs bureau, but other authors argue that using these level gaps is misleading.**

[22] Discussions with Professor Arvind Subramanian.

Figure 5. Estimates of the customs tax gap level in the Philippines

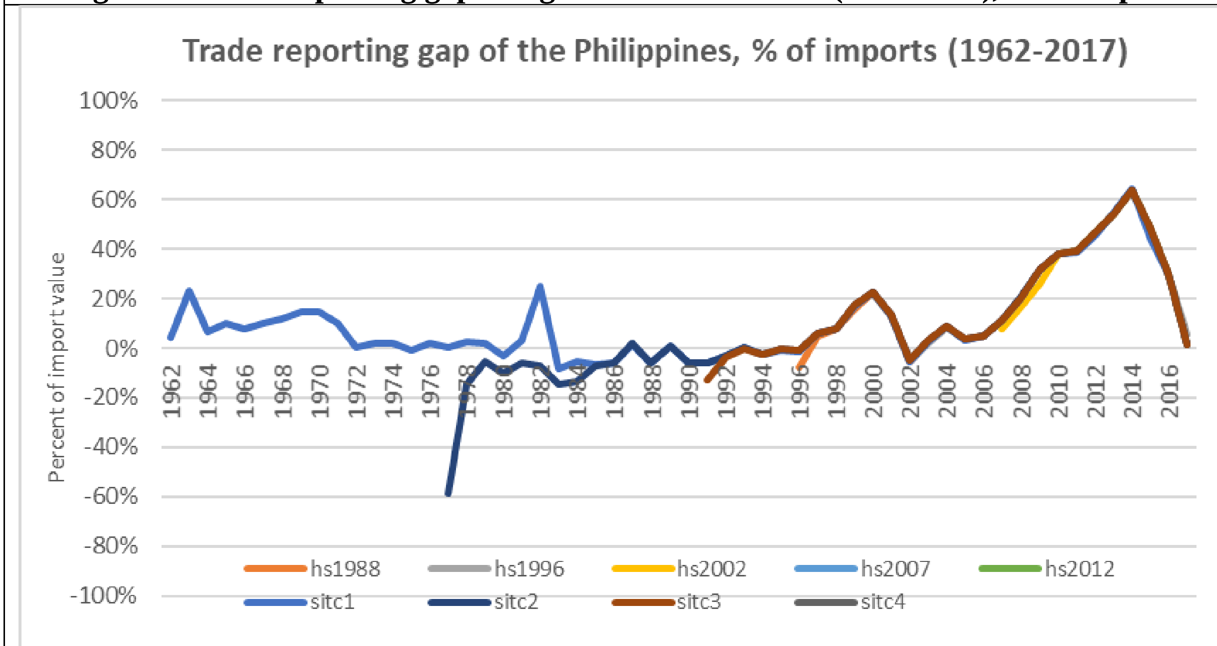


Source: Mendoza, Gloria, and Peña-Reyes (2014) using Kar and LeBlanc (2014)

19. **I reproduce the reporting gaps from 1962 to 2017 in Figure 6.** In Figure 7, I show that in absolute terms, electrical equipment, iron and steel, miscellaneous manufactures, and textiles are the largest contributors to the reporting gap in 2014. However, there are also negative gaps in product categories such as vegetable oils, gold, and crude oil.

20. **Figure 7 shows that in absolute terms, China, Korea, and Japan are the top three countries that contributed to the reporting gap in 2014**. These countries are also among the largest trade partners of the Philippines. Meanwhile, the Philippines recorded more imports than exports reported by Saudi Arabia, Hong Kong, and the United Arab Emirates.

Figure 6. Trade reporting gap using UN Comtrade data (1962-2017), % of imports



Source: Author's estimates using UN Comtrade and World Bank World Integrated Trade Solutions
Note: This shows the gap using different tariff nomenclatures (SITC 1-4 and HS 1988-2012)

Figure 7. Reporting gaps: Bottom and top 5 (2014), current USD million[23]

Figure 7.1. Gaps by product

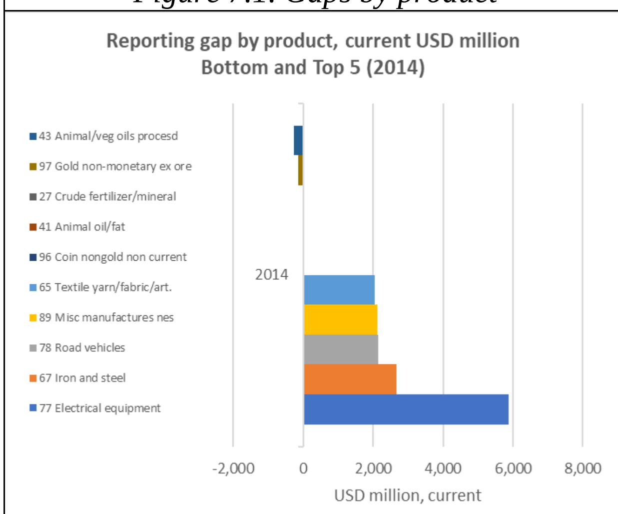
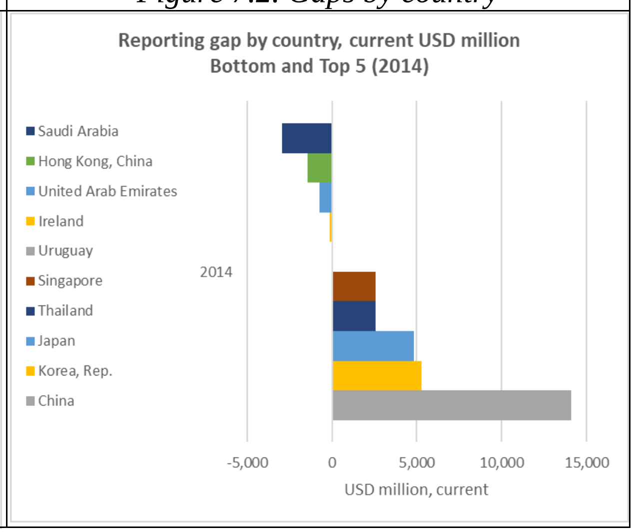


Figure 7.2. Gaps by country



Source: Author's estimates from UN Comtrade and World Bank World Integrated Trade Solutions

[23] I use the Standard International Trade Classification Rev 2 (SITC Rev 2), to arrive at these categories.

Chapter 3.2. Why might looking at the size of reporting gaps be misleading?

21. **Ortiz-Espina and Belteklian (2018) argue that Kar and LeBlanc's (2014) methodology is "misleading."** They enumerate many reasons why international trade data across different sources do not match up:
    - 21.1. differences in the use of national accounts versus customs data,
    - 21.2. differences between free-on-board (FOB) and cost of insurance and freight (CIF),
    - 21.3. inconsistent attribution of trading partners,
    - 21.4. differences in treatment of re-exporting and re-importing,
    - 21.5. differences in exchange rates,
    - 21.6. differences between general and special trade,
    - 21.7. time of recording,
    - 21.8. confidentiality policies,
    - 21.9. product classification, and finally,
    - 21.10. misinvoicing for illicit purposes.

    Bautista and Tecson (1976) proposed similar reasons for the Philippines as early as 1976.

22. **Fisman and Wei (2004) warn against interpreting the level of these reporting gaps as smuggling, but they say that investigating the correlates of these gaps can be informative.** They also argue that the raw gap between imports and reported exports is generally positive for all goods.

23. **I agree with these authors' analyses that using these absolute reporting gaps to generate revenue targets for customs is misleading.** Comparing Philippine import data with different countries' export data under different reporting standards is a black box that distorts more than it reveals. We can, however, learn a lot from the patterns and directions of mismatched trade statistics, such as understanding how these gaps vary with tax rates. In this paper therefore I attempt to measure the *extent*, not the level, of evasion. For any measurement of *levels*, I produce estimates without relying on UN Comtrade export data to the Philippines.

Chapter 3.3. Are there better ways to measure smuggling?

Figure 8. Selected country estimates using Fisman and Wei's (2004) methodology

Interpretation: On average, a one-percentage point increase in the tax rate is associated with an X-percent increase in evasion in values:

Country	Rotunno and Vezina (2011)	Fisman and Wei (2004)	Mishra, Subramanian, and Topalova (2007) (Comparable to FW)
China (1998)	3.21%	2% - 3%	2.6%
India (1998)			1.2%
Philippines*	1.11%		
Indonesia*	1.37%		
Malaysia*	1.42%		
Thailand*	1.29%		

*Year of study is not specified in Rotunno and Vezina (2011).
All coefficients significant at the 1 percent level.

24. **Fisman and Wei (2004) develop the seminal methodology that I will use as the benchmark specification for the extent of evasion in the Philippines over time.** They used this methodology to conclude that in China[24], on average, a one percentage point increase in the tax rate is associated with a 2 to 3 percent increase in tariff evasion.

25. **Mishra, Subramanian, and Topalova (2007), inspired by Slemrod and Kopcuk (2002), argue that a way to measure the quality of customs enforcement is to measure the elasticity of the gap with respect to nominal tax rates over time.** They find that India may be twice as effective as China's customs authority, but that China is catching up. They innovate on Fisman and Wei's (2004) methodology to incorporate movements of this elasticity over time. They find that the elasticity of evasion in India has not significantly improved from 1988 to 2001. They also find that differentiated products exhibit a higher evasion elasticity, which means these products are harder to monitor and enforce.

26. **Fisman, Moustakerski, and Wei (2008) find evidence that entrepot (middleman) areas such as Hong Kong may be used to outsource tax evasion.** They find that the indirect export rate rises with Chinese tariffs even if there is no legal tax advantage to send goods via Hong Kong. Fisman and Wei (2009) further investigate the smuggling of art into the United

[24] Using data from the World Bank World Integrated Trade Solutions (WITS) comparing trade between Hong Kong and China.

States, where there are strong incentives to report imports. They find that the reporting gap is highly correlated with the corruption level of the exporting country, and find evidence supporting the validity of corruption surveys.

27. **Rotunno and Vezina (2011) run these Fisman and Wei-type evasion elasticities for the Philippines (1.13 percent), Indonesia (1.37 percent), Thailand (1.29 percent), and Malaysia (1.42 percent) but do not indicate the year of their analysis.** If we borrow the Mishra-Subramania-Topalova interpretation of this elasticity as an indicator for the quality of customs enforcement, then Rotunno and Vezina's study suggests that the Philippine customs bureau may have been more effective than other Southeast Asian countries during the unspecified time of their study, assuming taxpayers and importers generally have the same risk aversion. Rotunno and Vezina (2011) also find that migrant networks have a significant and positive effect on the value of tariff evasion in Indonesia and the Philippines, but become insignificant when quantities, instead of the values of the gaps, are used.

28. **In the next chapters, I calculate my own estimates for evasion and underinvoicing in the Philippines.** I estimate the *extent* of evasion by applying the Fisman-Wei and Mishra-Subramanian-Topalova methodologies. I limit my analysis of the *level* of underinvoicing to homogenous and reference-priced goods, as in Rauch's updated 2007 classification.

Figure 9. Summary of customs import data, cleaned by author (2012-2017) [25]

Total	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**
Number of consumption entries*, millions	1.2	1.2	1.3	1.6	1.8	2.5	9.6
Value in FOB, USD billion	50.8	54.7	63.8	59.3	61.2	80.9	370.7
Value in CIF, USD billion	53.3	57.3	66.7	62.4	64.5	85.1	389.4
Dutiable value, PHP billion	2,251	2,428	2,958	2,836	3,052	4,289	17,813
Duty paid, PHP billion	41	46	40	50	52	79	308
VAT paid, PHP billion	238	258	294	288	327	471	1,877
Excise/ad valorem paid, PHP billion	13	14	18	23	15	27	111
Duties and taxes paid, PHP billion	277	296	402	385	440	502	2,302
CIF adjustment factor	4.9%	4.8%	4.6%	5.3%	5.3%	5.3%	5.0%

[25] *Consumption transactions only. For those months without the identification of the type of entry (consumption, transshipment, or warehousing), I considered all transactions consumption entries, for conservatism. This explains the larger values in 2017 than those reported in official Philippine trade statistics.

Chapter 3.4. Author’s estimates of customs tax evasion in the Philippines

29. **I construct the evasion estimates using the Mishra-Subramanian-Topalova (2007) specification:** First, I compute the gap in value (*Gap_Value*) between the value of exports by each country to the Philippines (*Export_Value*), and the imports reported by the Philippines coming from each country (*Import_Value*). I do the same for quantities (*Gap_Quantity*). Available at the 6-digit product level, the export data comes from each exporting country’s report to UN Comtrade. I construct the import data from publicly available statistics from customs, which I have at the 12-digit level[26]. To match the import data with the export data, I compute the weighted average nominal tax rates at the 6-digit level (*Tax_Rate*). Figure 19 shows the result if I use the median tax rate, which is less prone to noise, instead of the weighted average nominal tax rate. The results using median and mean tax rates are close.

30. **I then regress the value gap on the tax rate**. The coefficient $\mathbf{B_1}$ is the **semi-elasticity of evasion with respect to tax rates.** I test the robustness of these relationships using product (p), country (c), and year (t) fixed effects.

$$Gap\_Value_{pct} = \ln(Export\_Value_{pct}) - \ln(Import\_Value_{pct}) = B_0 + \mathbf{B_1} * Tax\_Rate_{pct}$$
$$Gap\_Quantity_{pct} = \ln(Export\_Quantity_{pct}) - \ln(Import\_Quantity_{pct}) = B_0 + \mathbf{B_1} * Tax\_Rate_{pct}$$

31. **Interpretation of $\mathbf{B_1}$:** The higher the coefficient on the tax rate, the higher the tendency of evasion from higher-taxed to lower-taxed products. This is correlation, not causation.

32. **I run two simulations**: one that includes only these matched observations (**conservative assumption**) and one that considers all the unmatched observations as smuggled (**extreme assumption**). Under the conservative assumption, I match only two-fifths of the reported data at the 6-digit level between exporting countries and the Philippines. I also run the regressions every year as in Fisman-Wei and show these results in Figure 10 and Figure 21.

33. **I am more confident using the conservative estimates because they consider only the matched observations.** Figure 19 to Figure 22 show the detailed regression results.

[26] See Figure 9.

Results: Evasion in Values and Quantities

34. **Evasion in Values: I find evidence of evasion of values from higher-taxed products to lower-taxed products in the Philippines.** On average, a one-percentage point increase in the tax rate is associated with a **0.9 to 2.0 percent**[27] increase in the reported value gap from 2012 to 2017. This is within the range of Rotunno and Veniza's computations. I run the regression every year to investigate how evasion has evolved over time. Except for 2015, the results are statistically significant at the 1 percent level, though accounting for product and country fixed effects makes the result for 2015 significant. The values of B_1 are higher if I use the extreme assumption; in 2017, the semi-elasticity jumps to 3.2 percent.

35. **Evasion in Quantities: I do not find strong evidence of evasion in quantities from 2012 to 2017 under conservative assumptions.** Evasion in quantities becomes statistically significant only when product, country, and time fixed effects are added (0.79 percent). I run the regression for every year and do not find evidence of evasion in quantities, except in 2015, when more products were declared at higher-taxed product lines. Under the extreme assumption, however, I find that on average, a one percentage point increase in tax rates is associated with a 3.6 percent to 6.7 percent increase in evasion in quantities.

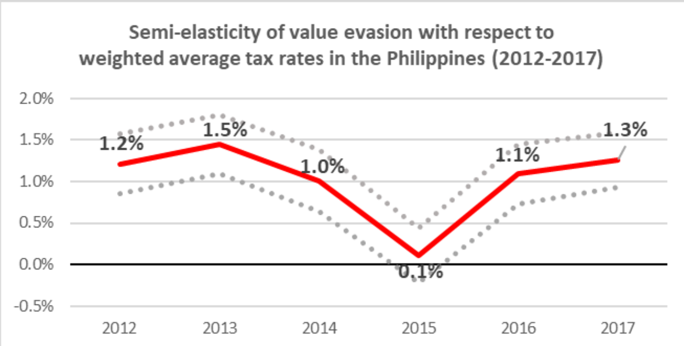
36. **We must be aware of the limitations of this analysis**. Using the conservative assumption, the tax rates, with all the product, country, and time fixed effects, could explain only 7 to 9 percent of the variation in reporting gaps, a measure reflected in the R-squared values of each model. Using the extreme assumption, the model could explain 31 to 32 percent of the variation in reporting gaps. Meanwhile, the yearly plain vanilla Fisman-Wei regressions could explain less than one percent of the variation in evasion.

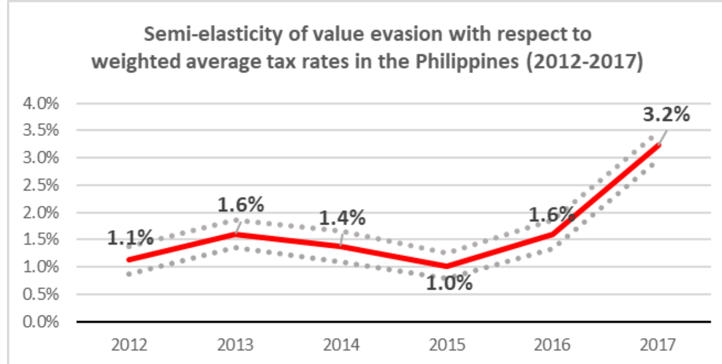
[27] See Figure 19 to Figure 22. 0.9 percent is from the plain vanilla regression. 2.0 percent considers product, country, and time fixed effects.

Figure 10. Author's estimates of the extent of evasion in the Philippines (2012-2017)

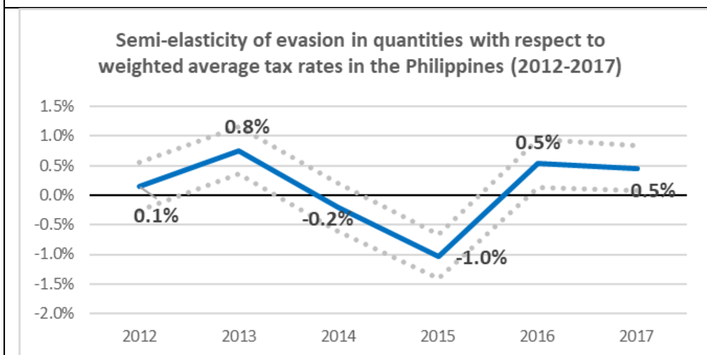
Conservative assumption | **Extreme assumption**

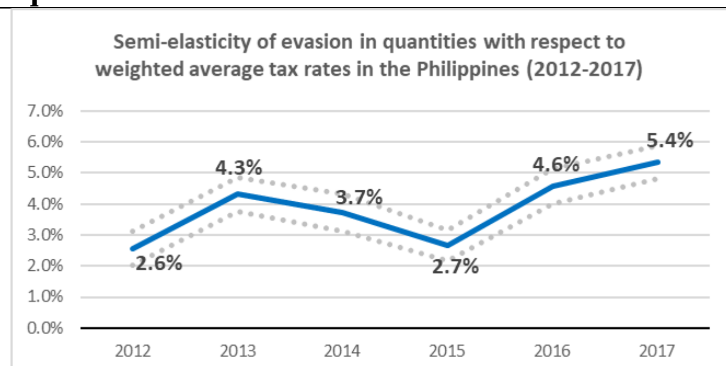
Evasion in values





Evasion in quantities





* The solid lines represent the semi-elasticity of evasion (B1) over time, as in Fisman-Wei. The dashed lines represent the 95-percent confidence interval. A result is statistically significant if the band does not include 0, which represents the situation in which there is no evasion with respect to tax rates.

The Elasticity as an Alternative Measure of the Quality of Customs Enforcement

37. **Mishra, Subramanian, and Topalova argue that these estimates can be used as a proxy for the quality of customs enforcement.** The higher these coefficients, the worse the control of smuggling. The lower the coefficients, the better the control of smuggling and "quality" of customs enforcement. This interpretation suggests that there was some degree of improvement in customs enforcement in 2014 to 2015, with some backsliding in the quality of enforcement from 2016 to 2017.

38. **Another way to interpret the evidence so far is that the major channel of smuggling from 2012 to 2017 may have been through cheating in prices rather than quantities.[28]**

[28] Discussions with Professor Arvind Subramanian. This interpretation assumes the conservative case.

Chapter 3.5. Author's estimates of underinvoicing for homogenous goods

39. **I find that from 2012 to 2017, the level of underinvoicing in the Philippines was between 0.15 and 0.38 percent of GDP.** Fully closing this gap would have yielded additional tax collections worth P16 to P38 billion ($320 to $760 million). This represents a 0.7 to 1.7 percent improvement in collections or a 0.02 to 0.05 percentage point increase in the tax to GDP ratio over this six-year period.

40. **I estimate underinvoicing by computing the weighted average price of every 6-digit product category per country per year.** I then construct several threshold prices 10 to 90 percent below this weighted average price. I create an alert that triggers an inspection if an import entry is below the reference price or threshold. I use 30 percent as my base threshold because under customs law, this discrepancy is prima facie evidence for fraud. I simulate these alert scenarios using import entry data from 2012 to 2017, limited only to homogenous and reference-priced goods, which represent 14 percent of transactions and 34 percent of total import value. I do not extend the analysis to differentiated products such as motor vehicles because they are difficult to assess in the same way. Publicly available descriptions do not allow us to discriminate clearly among models, so price thresholds are harder to set.

41. **These underinvoicing estimates, though transparent and straightforward, may be biased downward**. I compute threshold prices from current declared values of customs importers. I do not consider third party data or reference prices, unlike the Valuation Reforms of 2014-2015. I do not include fines and penalties in my computation. From experience performing customs audits from 2014 to 2016[29], I find that this simple method, while limited, is a sufficiently strong and interpretable predictor of underinvoicing.

42. **My estimates show that current customs revenue gap estimates that depend on Kar and LeBlanc's methodology may be too high.** Compare Mendoza et al's (2014) revenue gap estimates of 1.8 percent of GDP or Kar and LeBlanc's 1 to 2.8 percent of GDP with my partial estimates of 0.02 to 0.05 percent of GDP (representing a third of total import value). Their estimates are 20 to 50 times my estimate. Attempts to increase customs revenue targets based on the Kar and LeBlanc study should therefore be tempered.

[29] I helped set up the post entry audit team at the Department of Finance when the functions were transferred from customs in 2014.

Chapter 4. A program to restore public trust in the Bureau of Customs

Figure 11. A stylized map of the import clearance chain

Pre-entry	Entry	Post-entry
Importer accreditation	**Risk management, Inspection, Clearance**	Audit Prosecution
Organizational Reforms Governance Structure, Hiring, Firing, Rewards, Information Technology		

43. **For public trust to be restored, the experience of the public must change.** People see smugglers climbing to the highest rungs of the business hierarchy: this signals that smuggling works. Customs officials go unpunished as they live impossibly lavish lifestyles. Importers complain that processes are too unpredictable because of too much discretion. Businesses are forced to pay bribes because the cost of customs officers' delaying their shipments is too high. These are some factors that erode public trust in customs[30].

44. **To deter smuggling and restore public trust, the customs reform project must be viewed as a full system.** This means looking at pre-entry, entry, and post-entry processes, and their underlying organization, governance, and information technology structures. Reform teams over the years have laid out an operational vision to improve the customs clearance process: move to completely paperless processing, process 90 percent of import entries within four hours of submission of complete supporting documents, resolve all alerted shipments within two days, eliminate redundant import processing and permit procedures, institute the national single window system, achieve near certainty in sanctions of erring staff, complete x-ray inspection of all containers, perform post-clearance audit for the riskiest shipments. The elements of information technology reform, one of the hardest things to implement in a reform program, are discussed in Appendix 3.5.

45. **Unfortunately, this policy analysis has space for only three of these operational reforms.** I focus on risk management and valuation review upon the entry of imported goods, summarized in Figure 12. However, I emphasize that none of these operational reforms will last if they are not supported by a wider reform of the organization.

[30] This set of insights comes from Cesar Purisima, former Secretary of Finance (2012-2016). Interview by Ken Abante.

46. **Box 1 outlines a ten-point organizational reform agenda to restore public trust in customs.** The support of such a wide set of reforms must be backed by the Commissioner of Customs, Secretary of Finance, and the President, and pushed as a comprehensive reform. Reforms over the past twenty years that have attempted piecemeal reforms have fallen short of restoring public trust. The customs bureau is a leaky bucket with many holes. To truly succeed, we must not just plug holes. We must repair the bucket.

Figure 12. Three proposals to improve risk management in customs[31]

Reform	Technical Correctness	Administrative Feasibility	Political Supportability
1. Improve risk management: Lower physical inspection rates from current 27 percent and increase green lane to more than 25 percent of entries	**High** Inspecting as low as 2 to 4 percent of transactions from 2012 to 2017 could still have yield P16 to P38 billion ($320 to $760 million) in additional taxes, while saving 4.7 to 5.1 million days of shipments' time at port.	**Medium** Changes in inspection rates need to be staggered to mitigate unintended consequences. Only one percent of transactions tagged red or x-rayed yield negative findings upon inspection. May need improved algorithm, technology, and staffing to detect contraband.	**Medium** May encounter resistance from enforcement community, who want greater physical inspection. High support from business and traders who want freer movement of goods.
2. Expand the valuation reform program to focus inspections on high-risk transactions and products	**High** The Valuation Reforms of 2014-15 would have generated P18 billion ($360 million) if implemented earlier in 2012-13.	**High** Needs dedicated team to evaluate the response of importers to the price thresholds and to adapt to changes in world prices.	**High** This already exists to some degree, and it has proven to be successful at improving the valuation of some products in 2014-2015.
3. Create a central assessment office to implement reforms 1 and 2	**High** Assuming even a 25 percent success rate in collections on reviews on homogenous and reference-priced goods, the average additional tax yield per staffer would still be P37 million ($740,000).	**Medium** Needs 18 to 32 new technical staff who are product, valuation, and statistics specialists. With organizational reform, the potential yield in taxes more than justifies increases in pay. May be hard to retain talent if no improvements in pay or organizational reform occur.	**Medium** Office needs to work with port's formal entry division so there is truly no face-to-face interaction. Head needs to have continued political authorization by having regular meetings with senior officials. Office needs to manage unintended consequences of reform, such as inflationary pressure on sensitive products like rice.

[31] This Second Year Policy Analysis has space to cover reforms only upon the entry of goods. A longer policy paper will be written about the other aspects of reform that will make this sustainable. Box 1 outlines a ten-point organizational reform agenda to restore public trust in customs.

Box 1. A Ten-Point Organizational Reform Agenda to Restore Public Trust in Customs

1. **Institute a fixed-term senior leadership to reorient customs to pursue long-term systemic reforms.** This puts customs out of the vicious circle of short-tenured leadership that has frustrated efforts to reform processes and systems.

2. **Increase pay among customs officials by removing the customs bureau from salary standardization.** There is historical basis for this: the Philippine central bank is now the most trusted agency in government, following committed reform under the New Central Bank Act of 1993. Increases in base pay and compensation schemes allowed the central bank to recruit and retain talent. Improvements in pay can help stem the massive exodus of permanent staff from customs: from 3,400 officials in 2015 to just 2,700 in 2018.

3. **Install a management board to experiment on monetary and non-monetary incentive systems for customs officials.** The composition of the board should include honest customs professionals and trade practitioners with proven track records. The power to appoint members of the board should still be with the President, upon the recommendation of the Secretary of Finance. The board should regularly review the pay and incentive system to prevent "multitasking" or doing well on monitored indicators and performing badly on others.

4. **Institute professional examinations for hiring and promotion to higher posts and larger ports.** A model would be the Foreign Service Examinations or the Bureau of Local Government Finance's three-level certification system for local treasurers. These examinations shield the bureau from unqualified appointees.

5. **Require the waiver of bank secrecy rights for employees under the new customs.** With the improvements in base pay should come the responsibility of honest service. To prevent harassment of employees, the opening of bank accounts must be done under a court process or under strict information standards agreed with the Anti-Money Laundering Council. Smuggling and graft are already predicate crimes for money laundering.

6. **For current customs officials, prevent a mass strike by exploring a program that rewards people who cooperate with reforms**. This is a lesson on Philippine political economy: in the early 2000s, employees in the tax bureau paralyzed tax collection operations and held a strike against the commissioner who attempted to fire employees.

7. **Temper revenue targets: recognize that customs is also engaged in border control and trade facilitation.** Learn from the difficulty of implementation of the current law surrounding rewards and incentives.

8. **To fund all these reforms, grant customs fiscal autonomy by allowing them to retain 1.5 percent to 2.0 percent of collections (from the current 0.7 percent)**.

9. **Allow customs to engage in flexible procurement rules for information technology needs.** The general approach to IT reform in customs is bidding and purchasing a new technology, but it is the work of process reform and people integration that needs to come first.

10. **Look at the project of customs reform as a whole system**. It is critical to address the processes at the entry, before entry, and after the entry of goods. For pre-entry reforms: relax the bank secrecy law for accreditation and customs audit purposes, integrate up to 5,000 top importers into the Bureau of Internal Revenue's Large Taxpayer Service, request financial certification from the AMLC for high-risk importers. For entry reforms: improve risk management, as detailed in this policy analysis. For post-entry reforms: improve audit collection rates by working with the AMLC and improve the quality of prosecution.

Chapter 4.1. Lower physical inspection rates by improving risk management

Technical Correctness	Administrative Feasibility	Political Supportability
High	**Medium**	**Medium**

47. **Customs should lower physical inspection rates in the red lane from the current 27 percent and expand the green lane to more than 25 percent of entries.** This focuses limited staff capacity on only the riskiest transactions, cuts the average clearance time by half for imports no longer physically inspected, and potentially increases revenues if phased well.

48. **Customs should increase the green lane shipments from the current 25 percent to a much higher number.** One way would be to accredit more importers into the Super Green Lane (SGL) program. Only 205 importers are in this program[32], so there is a lot of opportunity for expansion. This program can be expanded to become a larger Authorized Economic Operator (AEO) program, which establishes a set of compliance criteria that allows the Commissioner of Customs give good importers green or blue lane privileges accompanied by very high penalties for cheating. This incentivizes compliance and discourages cheating from the importers' side and minimizes discretion from the customs officials' side. The AEO legal framework is already codified in the recently passed Customs Modernization and Tariff Act of 2016. Shipments by these AEO/SGL importers can still be randomly inspected to prevent abuse.

Technical Correctness: High

49. **I have high confidence in the technical correctness of this proposal.** Inspecting as few as 2 to 4 percent of transactions from 2012 to 2017 could still yield additional taxes worth P16 to P38 billion ($320 to $760 million)[33], while saving 4.7 to 5.1 million days of shipments' time at port. The average clearance time would be shortened from 4.9 days to 2.7 days, or by around half, for 2.4 million shipments no longer physically inspected. While these are important theoretical possibilities, lowering physical inspection rates must be staggered to prevent abuse and loss of border control. Figure 13 shows the explicit tradeoff between revenue generation and trade facilitation across different inspection thresholds.

[32] Agaton Uvero. Former Deputy Commissioner of the Assessment Operations Coordinating Group. Interview by Ken Abante.
[33] I use the same methodology here as in Chapter 3.5, where I analyze the effect of inspection thresholds on revenue generation for homogenous and reference-priced goods. Note, however, that this is a theoretical proposition. Because the counterfactual scenario is hard to establish, it is important to stagger the change in inspection rates to ensure any negative unintended consequences are mitigated. See feasibility analysis.

50. **Customs officials have massive discretion in the handling of shipments in the Philippines.** Around 27 percent of import entries are tagged red and physically inspected or x-rayed[34,35], 48 percent are tagged yellow and subjected to document inspections, while the last 25 percent are tagged green or blue and are subject to random inspections.

51. **However, despite the high rate of physical inspections, "only 1 percent of transactions tagged red or x-rayed yield negative findings upon x-ray or inspection."[36]** Meanwhile, 80 percent of shipments that are alerted at the border have yielded derogatory findings. This means that the current risk management system does not select the right entries to be physically inspected, but there is some level of enforcement capacity to detect smuggling activity. Therefore, any new risk management must come with a better algorithm for tagging shipments in the red lane, given the low success rate of the current system.

52. **Lowering discretion improves the flow of goods at the border and focuses limited staff capacity on inspecting the riskiest shipments.** Importers save 1 to 2 days on average by not being in the yellow or red lanes. Figure 14 shows the average clearance time from registry to release, with the latest available data from March 2015. Bribery at the ports occurs because importers do not want to incur the massive costs of time delays of being held at port.

53. **The Philippines lags other Southeast Asian countries in allowing green lane shipments.** While the Philippines tags 25 percent of its entries green, Vietnam has 57 percent, Malaysia has 80 percent, and Cambodia has 69 percent. The international standard for risk management is at most 20 percent of transactions tagged red, at most 20 percent tagged yellow, and at least 60 percent tagged green.[37]

54. **The Philippines ranks 104th of 190 countries in Trading Across Borders in the 2019 World Bank's Doing Business Report[38]**. The World Bank notes that "the Philippines made trading across borders more difficult by increasing the number of inspections for importing, thereby increasing the average time for border compliance." Improving risk management is also important to international competitiveness.

[34] This is the number of entries, not number of containers. For an entry with 100 containers, customs can physically inspect only a few of these.
[35] In a press briefing, former commissioner Lapeña said that 130 containers a day are x-rayed, or around 8 percent of total containers. Pablo, Romina. Port Calls. 2 October 2017. <https://www.portcalls.com/boc-chief-green-lane-suspension-lifted-sign-congestion/>
[36] Sunny Sevilla. Former Commissioner of Customs. Interview by Ken Abante.
[37] Sunny Sevilla. Former Commissioner of Customs. Interview by Ken Abante.
[38] World Bank Doing Business Report 2019.

Figure 13. Time saved and revenues raised by improving risk management (2012-17)[39]

Reference price threshold	Revenue generation	Trade facilitation		
Percent below weighted mean*	Potential collections (P billion)	% of transactions inspected**	Entries needing additional inspection	Time saved*** (days)
0%	63.2	6.1%	585,618	4,298,134
10%	**37.6**	**4.0%**	**381,767**	**4,739,079**
20%	**24.1**	**2.9%**	**277,144**	**4,965,387**
30%	**15.9**	**2.2%**	**209,900**	**5,110,841**
40%	10.4	1.7%	160,197	5,218,352
50%	6.6	1.3%	121,004	5,303,129
60%	3.9	0.9%	86,259	5,378,285
70%	2.0	0.6%	57,483	5,440,530
80%	0.9	0.3%	32,573	5,494,412
90%	0.2	0.1%	12,895	5,536,977

Figure 14. Processing times under different customs inspection lanes (March 2015) [40,41]

Lane	Description	Percent of transactions*	Time from registry to release (days)			
			Mean	**Median**	**SD**	**P75**
Blue	Fastest lane	9%	2.7	1.0	3.3	4.0
Green	Random inspection	16%	3.4	2.0	4.2	5.0
Yellow	Document inspection	48%	4.8	3.0	9.2	6.0
Red	Physical inspection, x-ray	27%	4.9	3.0	7.1	6.0

Administrative Feasibility: Medium

55. **There are two key risks to implementation that must be mitigated. First, lowering physical inspection rates must be staggered to prevent abuse**. This frees up limited staff time in ports to focus on higher risk shipments, as discussed in the next chapter. For example, “enhancements made to Japan Customs' risk assessment capabilities since 1999 helped Customs keep the staffing levels nearly unchanged since 1999, while the number of import transactions increased by almost 60% ... and exports transactions increased by around 50% (2007).”[42]

---

[39] Author’s calculations using publicly available data from the Bureau of Customs for 2012 to 2017.
* Percent below the weighted average price of a 6-digit HS code of the country from 2012 to 2017. Prior to computing the weighted average, I removed outliers 2 standard deviations greater than the simple average price within the country and product category for each year.
** There were 9,573,645 import transactions for consumption from 2012 to 2017.
*** If the physical inspection rate were lowered from 27% of 9,573,645 transactions to just the number of transactions inspected here.
[40] Latest available data as of March 2015 provided by former customs commissioner Sunny Sevilla.
[41] In an October 2017 PortCalls report, these numbers have shifted a bit towards 20% green, 60% yellow, and 20% red.
[42] United Nations Trade Facilitation Enhancement Guide. Accessed 3 March 2019. <http://tfig.unece.org/contents/customs-risk-management.htm>

56. **Second, to adapt to any unintended consequences, there must be a joint committee to manage, collect, and act on feedback about the reform.** A technical working group consisting of finance officials, customs officials, and representatives from the major port operators, brokers, and importers, should meet at least once a month to assess the impact of this reform on revenue generation, trade facilitation, and border control.

57. **The Risk Management Office (RMO) is the office in charge of managing the selectivity system of the bureau[43].** In 2009, under a presidential executive order, the RMO was lodged under the Office of the Commissioner. It is required to submit quarterly reports to the Secretary of Finance and the Commissioner of Customs. Its day-to-day operations are overseen by the Deputy Commissioner for Intelligence. It has four units performing administrative, strategic assessment, research and analysis, and risk assessment functions.

58. **Under this reformed selectivity system, the Head of the Risk Management Office must regularly report the results of physical inspection rates to the Commissioner of Customs and the Secretary of Finance to maintain authorization.** This system's impact on revenues, border control, and trade facilitation must be continuously assessed in the regular Revenue Cluster meetings of senior finance officials.

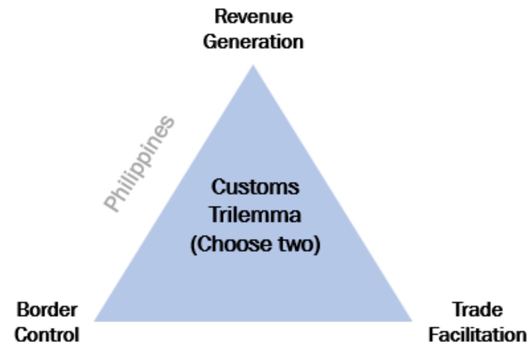
59. **There is financial capacity for the expansion of the green lane system:** P50 million ($1 million) from importer's fees who avail of the Super Green Lane program and a P297 million ($6 million) special budget for a non-intrusive container inspection program as of 2018. Further expansions to the budget can be requested in future proposals.

[43] Risk Management Office: Customs Administrative Order No. 6-2009 "Transforming the Risk Management Group of the Bureau of Customs into the Risk Management Office pursuant to Executive Order No. 836, series of 2009."
Executive Order No. 836, s. 2009 "Transforming the Risk Management Group of the Bureau of Customs into Risk Management Office"

Political Supportability: Medium

60. **Policymakers perceive a trilemma among customs's three mandates of revenue generation, border control, and trade facilitation.** I argue that Filipino policymakers, by relying heavily on physical inspections and the red lane, have implicitly chosen revenue generation and border control over trade facilitation.

Figure 15. The Perceived Customs Trilemma



61. **A strong risk management system is key to balancing this perceived trilemma. By improving risk management, customs can improve trade facilitation without abdicating its other mandates of border control and revenue generation.** Not only is a large rate of physical inspection undesirable for trade facilitation and its tendency to be abused; it is also terrible for border control staff who will be spread too thin with more inspections. It is more desirable to have a risk-based system. One effective way of to do this would be to expand the Valuation Reform of 2014-2015 to risky products, which I discuss in the next chapter.

62. **The main political risk of this reform may come from members of the enforcement community who believe that there should be a higher physical inspection rate of goods.** Policymakers tend to overcorrect when contraband slips past customs: the green lane was suspended by the Philippines in 2017 after the entry of illicit drug shipments[44]. These tendencies must be resisted in future reforms. Suspending green lane shipments and increasing discretion are not the answer to improving border control; improving risk management and the red lane selectivity criteria is. This must come with the realistic expectation that no risk management system will ever be perfect.

63. **In the sequencing of stakeholder meetings to support the reform, it is critical to leverage support from businesses and traders, who want freer and more predictable flows of goods at the border.** It is every Filipino's right to have a smooth import process, for as long as they follow the law, pay the right taxes, and get the right permits.

[44] Pablo, Roumina. *PortCalls Asia*. 2 October 2017. <https://www.portcalls.com/boc-chief-green-lane-suspension-lifted-sign-congestion/>

Chapter 4.2. Focus inspections on high-risk transactions and products

Technical Correctness	Administrative Feasibility	Political Supportability
High	**High**	**High**

64. **As customs lowers physical inspection rates in general, I recommend tightening inspections on specific products with the highest risk of underinvoicing.** The model can be based on the Valuation Reform of 2014-2015 that cracked down on systematic undervaluation of meat, steel, and plastic products with considerable success.

65. **Changing the inspection value thresholds of the Top 20 homogenous products could have generated around P10 billion ($200 million) in additional revenues from 2012 to 2017.** This represents a 0.5 percent improvement in revenues over this six-year period. Figure 24 shows my Top 20 priority list of products. Applying reference prices to this list, including distilled spirits, unmanufactured tobacco, copper ore, steam boilers, petroleum, and plant equipment, could yield at least P400,000 ($8,000) per inspection on average. None of the product lines in my suggested priority list were covered in the original Valuation Reforms of 2014-2015. There is a lot of room for expansion.

Technical Correctness: High

66. **I have high confidence that this reform has sound economic basis. These valuation reforms have been done before with considerable success.** In 2014 and 2015, Commissioner Sunny Sevilla embarked on a reform of inspection price thresholds for 15 product categories covering meat, iron and steel, and plastic[45]. He sent memoranda requiring importers to submit additional documents before clearance if shipments fell below a certain reference price, an indicator of the risk of underinvoicing and fraud.

67. **This is how the inspection and review systems were implemented in 2014 and 2015:** If a shipment of meat were declared below $3 per kilogram, then importers would need to send additional documents to a central assessment team before the shipment is released. The theory is that time-sensitive importers would rather not cheat on prices than have their shipments delayed at port.

[45] meat (1601 1602), iron and steel (7207 7208 7209 7210 7216 7225 7227 7228), and plastic resins (3901 3902 3903 3904 3907).

Figure 16. Meat prices (HS 1601) increased six-fold after the threshold price was set

Figure 16.1. Weighed average prices (red line) and reference price threshold (dashed line) (The higher the better.)

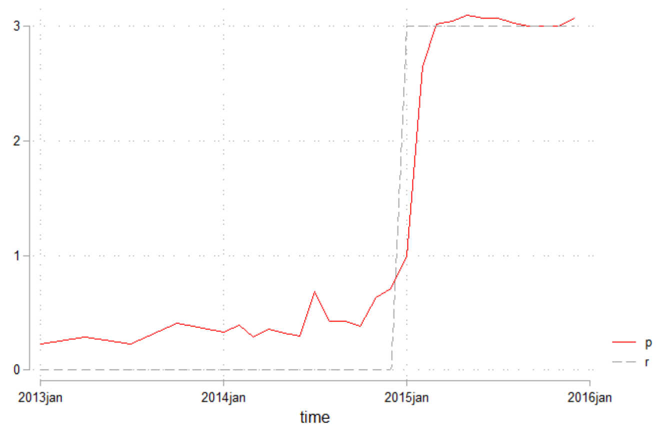
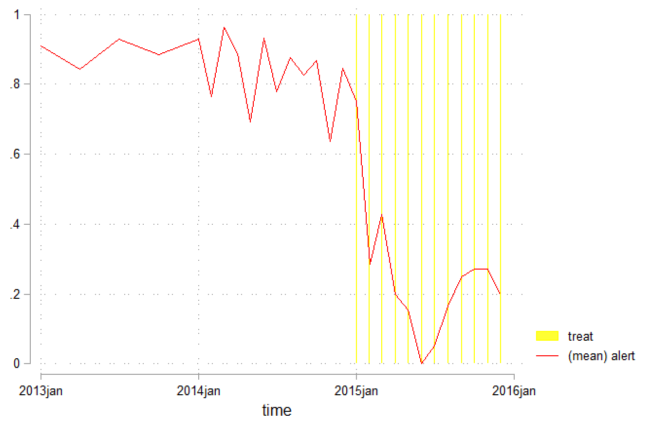


Figure 16.2. Percent of total transactions lower than reference price threshold (red line) (The lower the better.)



68. **Here is a case example: the weighted average declared price of meat (HS 1601) increased six-fold when the price threshold was introduced in January 2015**. Figure 16.1 shows the sharp rise in the weighted average price of meat (red line) from $0.50 per kilogram to $3 per kilogram. This tracks the inspection threshold (dashed line) closely. Figure 16.2 shows the sharp drop in the percentage of transactions lower than this threshold after the reform was introduced (yellow area). It dropped from 80 percent to near zero in the middle of 2015. The threshold was effective at stamping out underinvoicing under this product line.

69. **I find that inspection prices increased the weighted average declared prices of products under HS 1601, 3901, 3902, 3903, 7208, and 7216, but did not work well for products under HS 3904, 7207, 7225, and 7228.** Several factors may explain this variation: the importers' time-sensitivity to additional inspections, changes in the world prices, or the inspection thresholds themselves that may have been too high. Figure 26 and Figure 27 illustrate the changes in these products' weighted average declared prices.

70. **I find that if the earliest inspection values had been implemented in 2012 and 2013, customs would have collected P18 billion ($360 million) in taxes, a 3 percent increase in revenues over this two-year period.** 62 percent of 40,815 transactions under these product categories would have been reviewed. While this ratio may seem high, the inspection ratio is

only 1 percent of the total number of entries in 2012 and 2013. HS codes 1602, 3901, 3902, 7209, 7225, and 7227 would form bulk of potential collections. HS codes 1601, 1602, 7225, and 7227 would have yielded P2.4 million ($48,000) per inspection on average.

71. **These valuation reforms have sound basis in international trade agreements, which do not preclude the creation of risk profiles by customs authorities.** Box 4 explains the basis of an inspection system and its validity under the Revised Kyoto Convention and World Trade Organization Rules on Valuation. Customs law also stipulates that a 30 percent discrepancy between true and declared values is prima facie evidence for fraud.

Administrative Feasibility: High

72. **The Valuation Reform of 2014-2015 teaches us three important lessons about how to manage a possible scale up of this reform. The first lesson is that reference prices should be simple, reasonable, and responsive to world prices and stakeholder feedback.** If the reference price system is complicated, importers will likely not understand it and customs officers will likely not implement it. In the current customs information system, there is a trade-off between precision and implementability: one can be more precise by assigning inspection thresholds by product and by country. However, for homogenous products, simple price thresholds at the product level may be more effective. If some threshold prices are too high and unreasonable given world prices, then importers will not follow these reference prices. In fact, some price thresholds were adjusted after the team listened to feedback from stakeholders like companies importing meat, steel, and plastic products, and domestic producers. Hence, price inspection thresholds must be regularly reviewed. The policy should have a mechanism to regularly collect stakeholder feedback.

73. **The second lesson is that the office in charge of reviewing prices must be independent of operations to maintain the objectivity of the valuation reviews.** In the Valuation Reform of 2014-2015, importers were required to submit additional documents to a valuation review team under the Import Assessment Service (IAS) of the Assessment and Operations Coordinating Group, outside the formal organization and operations of the port. In the current system, instead of a central review body, valuations are reviewed by each port's formal entry division. A central review team like the IAS is the preferable system of

organization, so there can be consistent review and pricing standards across all valuation disputes. The details of how this office will be scaled up are in the next chapter.

74. **The third lesson is that the implementation must be focused and phased.** The customs bureau can start with top one or two commodities in my proposed priority list and steadily move down from there. In the Valuation Reform of 2014-2015, the inspection thresholds were first implemented for steel and then for meat and plastics. Staggered implementation allowed greater focus of implementation and clearer oversight from the commissioner of customs. These three factors contributed to the reform's considerable success.

Political Supportability: High

75. **There are three political risks that can be mitigated by proper communication, phasing, and monitoring. The first risk area may be from importers who use their political clout to prevent price threshold values from being imposed on their industries.** This risk can be mitigated by the proper consultation of these stakeholders. The team must be open to feedback if the price thresholds truly are off the mark. Because of the high revenue gains and the relatively low cost of implementation, this reform can be supported at the level of the Secretary of Finance, who has demonstrated the political will to make tough choices in economic policy. The secretary's support is needed to manage these risks.

76. **The second risk area is from customs officers at the ports who may not follow the price thresholds and who may find other ways to exercise discretion over shipments.** To get their support, the reform must be communicated as a part of the larger risk management strategy to ease large workloads from current staff by focusing on a few high-risk transactions. Note that there is a high rate of attrition among permanent customs staff; the staffing levels are 20 percent lower in 2018 than in 2015. But there is a limit to this communication strategy. For non-compliant customs officers, the risk of collusion can be mitigated by better monitoring. A **joint oversight team** consisting of the central assessment team and finance officials can work together to identify customs officers who do not follow the price thresholds. The commissioner can send these customs officers escalating levels of formal memoranda, from a simple reprimand to the filing of administrative and criminal

cases. This data can be easily collected and analyzed by a central team. This system of sending memos to specific officers has proven to be successful in a bureaucracy not used to being monitored: Among 1,700 Philippine local treasurers, financial reporting compliance increased from 30 percent in 2014 to 90 percent in 2015 after the Secretary of Finance wrote each treasurer a letter about their local fiscal sustainability grades and informed them about the administrative and criminal consequences of not submitting their financial reports.

77. **The third risk area is from customs officers and importers who might game the system.** Any inspection price threshold system will set off a chain of unintended consequences that should be proactively monitored and managed. First, importers who might have otherwise declared higher prices might declare at the lower inspection thresholds. Second, importers might game the system by lowering their quantities to jack up price declarations.

78. **These risks can be managed.** The central assessment team can match transaction-level trade quantities with the trade representatives of selected exporting countries, as in trade transparency units. The proposed price inspection system should be just one element of a larger risk management strategy. The Central Assessment Office must inform the Risk Management Office when new ways of cheating are discovered. There are new prediction and machine learning techniques that can be used by both the CAO and RMO to detect risky transactions that rely on predictors other than price. This customs data is accessible and can be studied at relatively low cost. The steady phasing of products into the implementation plan will allow the team to grow more in confidence. Then they can expand into new product categories. Overall, these political risks can be mitigated with proper planning, coordination, and adaptation.

Chapter 4.3: Create a Central Assessment Office to Implement Reforms 1 and 2

Technical Correctness	Administrative Feasibility	Political Supportability
High	**Medium**	**Medium**

79. **To systematically implement the first two reforms, I recommend the creation of a central assessment office.** This office will be tasked to periodically review the price thresholds given market conditions and business intelligence. Importers would be required to send documents to this office if the price they declare is below the set threshold. The office's operations should be independent from local port operations and should have minimal face-to-face contact with importers.

Technical Correctness: High

80. **I have high confidence in the technical correctness of this reform, given the evidence discussed in Chapter 4.2. Assuming even a 25 percent success rate in collections on these reviews, the average additional tax yield per staffer would still be P37 million ($740,000).** This tax yield is more than enough to justify the creation of a unit, and in long-term reforms, to justify an increase in base pay to hire and retain talent. These revenue estimates are still biased downwards, because these do not yet cover the payments of surcharges which may range from 250 to 500 percent of the deficiency (Box 3).

81. **For the central assessment office to work, it must be given the power to tag shipments yellow to start a documentary review, or at least be allowed to recommend to one of the officers with the power to alert shipments.** The current system of alerting shipments for additional inspection can be performed by several officials[46,47]: the commissioner of customs, the deputy commissioner for intelligence, the deputy commissioner for enforcement, and each of the 17 district collectors. Once an alert order is issued, inspection of the good ensues and the customs official can issue a warrant of seizure and detention if a discrepancy between the declaration and actual goods is found. Forfeited goods can be sold: around P1.5 billion ($30 million) was successfully bid in 2014 and 2015.

[46] http://customs.gov.ph/wp-content/uploads/2016/10/Alert-Orders-and-Risk-Management-in-Customs-Control.docx
[47] Customs Memorandum Order (CMO) 14-2017 <http://customs.gov.ph/wp-content/uploads/2014/04/CMO_14-2017-Abolition-of-Command-Center-and-Authorization-to-Issue-Alert-Orders.pdf>

Figure 17. Technical staffing requirements for the Central Assessment Office

Threshold Value	Computing staff requirements for the central assessment office			
Percent below weighted mean*	Transactions reviewed per year (a)	Transactions per work day (b)	Transactions per person per day (c)	Staff required (a) / (c)
0%	97,603	390	8	**49**
10%	63,628	255	8	**32**
20%	46,191	185	8	**24**
30%	**34,983**	**140**	**8**	**18**

Figure 18. Average tax collections per central assessment staff per year

Threshold Value	Potential tax (PHP billion)	Average collection per staff per year given different collection success rates (PHP million)			
Percent below weighted mean*	2012-2017	25%	50%	75%	100%
0%	63.2	53.8	107.5	161.3	215.0
10%	37.6	49.0	98.0	147.0	196.0
20%	24.1	41.9	83.8	125.8	167.7
30%	**15.9**	**36.9**	**73.8**	**110.7**	**147.6**

Administrative Feasibility: Medium

82. **The greatest barrier to the successful implementation of this central assessment office is hiring and retaining talent.** The number of technical staff required to run the office is anywhere from 18 to 32, depending on the valuation threshold used. The skill set of the central assessment office must be based on product and valuation expertise. Statistical analysis is also a key skill for building the customs risk model. There are talented customs officers with field experience who can contribute their insights to this unit. Senior officials must be open to recruiting talent from within the bureau as well. Finally, the appointed head of the central assessment office must be honest and competent. In Philippine government offices, honest and competent civil servants tend to flock to honest and competent leaders.

83. **Training on tariffs and commodity-specific knowledge is already provided by customs educational institutions in the Philippines.** The Tariff Commission has institutional knowledge on product and tariff classification. The Philippine Tax Academy can help train new customs staff. Working with these training institutions is important to the sustained success of these reforms.

84. **There are three areas of expansion for managing customs risk, once the office is fully staffed and the team is confident about price thresholds on homogenous goods.** First, price thresholds can be expanded to differentiated or finished goods, such as motor vehicles. These studies have conducted before by the Fiscal Intelligence Unit Analytics Team of the Department of Finance: they found evidence of underinvoicing among finished goods like iPads and electronic equipment. Gomez (2014) found potential collections of around P1.2 billion ($24 million) in taxes from potential underinvoicing in motor vehicles. Second, the central assessment team can work with the trade transparency units of each of the top countries identified in Figure 7 to match incoming imports and find discrepancies in values, quantities, or tariff classifications used. Third, the central assessment team can use machine learning methods to improve the risk model beyond just price predictors.

Political Supportability: Medium

85. **Most of the political risks of this reform have already been detailed in Chapter 4.2, but there are two additional risks that should be managed**. The first is from customs port collectors and local political actors who want to retain discretion over shipments. The second is from the risk of inflationary pressure from the pass-through of declared prices to domestic market prices, especially among important food items like rice.

86. **To manage this first political risk, the centralization of valuation systems can start from smaller sized ports and then work their way up to the major ports, with clearance from senior finance staff.** This will improve the chances of success and lower resistance among customs officers at the major ports (see Figure 4). This will also make staff workload more manageable and give importers and customs officers enough time to transition to this new system.

87. **To manage the second political risk and ensure continued political authorization, the Head of the Central Assessment Office must be in regular meetings with the Commissioner of Customs and senior finance officials.** This can be done either at the level of the joint oversight team consisting of finance and customs officials, or at the level of the Revenue Cluster of the Department of Finance. For inflation risks, the head may need to report developments to the Secretary and the cabinet-level economic team.

Conclusion: The Call of Levi at the Customs Post

88. **This paper aims to temper sweeping statements that customs is hopeless, that all customs officials are corrupt, and that everyone should be fired**. All these characterizations are reductionist. They evade the hard but necessary questions of reform. My hope is that by investigating the governing political, administrative, and economic systems surrounding the bureau, I can help Filipino policymakers and citizens understand not only why smuggling persists, but also why customs officers are vulnerable to engaging in corrupt practices under this current institutional environment. This does not absolve individuals from engaging in dishonest practices, but I hope this policy analysis gives readers more empathy into their condition.

89. **The hope lies in the possibility of changing these sets of identified institutions. This reform program is difficult and ambitious. It requires massive political commitment from policymakers and citizens.** Citizens must remain vigilant and continue to put their leaders to task. Political leaders need to balance both discipline and tolerance in this learning process. Every reform team needs time to learn. There will be inevitable mistakes in the process. But these are risks worth taking for the public whose trust we want to regain.

90. **The problem of public trust in customs is as at least as old as the Christian Bible**. Before Jesus called Matthew to be his apostle, he was first the tax collector Levi[48] who sat at the customs post of Capernaum. Among policymakers, it is this belief that must prevail: that any person, no matter how spotted the history, can be called to reform and with proper guidance succeed. This policy analysis calls neither for cynicism nor despair at the size of the task, but for faith and reimagination of what is possible.

[48] Matthew 9:9, Matthew 10:3, Luke 5:27

Appendix 1. Additional Figures and Boxes

Figure 19. Conservative Mishra-Subramanian-Topalova regression (2012-2017)

	(1) gap_value	(2) gap_value	(3) gap_value	(4) gap_value	(5) gap_qty	(6) gap_qty	(7) gap_qty	(8) gap_qty
tax_mean	0.00999***	0.0101***	0.0119***	0.0201***	0.0008	0.0008	-0.0035***	0.0079***
	[0.000729]	[0.000729]	[0.000750]	[0.00124]	[0.0008]	[0.0008]	[0.0009]	[0.0001]
Constant	0.347***	0.475***	-0.136	1.402	0.223***	0.291***	1.018***	2.892
	[0.0126]	[0.0181]	[0.120]	[1.137]	[0.0142]	[0.0217]	[0.0895]	[2.609]
Fixed effects								
Product (4-digit)				Yes				Yes
Year		Yes		Yes		Yes		Yes
Country			Yes	Yes			Yes	Yes
Observations	193,441	193,441	193,441	193,441	187,518	187,518	187,518	187,518
R-squared	0.001	0.006	0.023	0.0855	0.000	0.001	0.016	0.0716

	(1) gap_value	(2) gap_value	(3) gap_value	(4) gap_value	(5) gap_qty	(6) gap_qty	(7) gap_qty	(8) gap_qty
tax_p50	0.00897***	0.00836***	0.0112***	0.0158***	0.00191**	0.00163**	-0.00231***	0.00638***
	[0.000698]	[0.000701]	[0.000717]	[.0011644]	[0.000788]	[0.000793]	[0.000821]	[0.00129]
Constant	0.353***	0.497***	-0.138		0.202***	0.277***	0.999***	2.924
	[0.0128]	[0.0181]	[0.120]		[0.0145]	[0.0217]	[0.0896]	[2.609]
Fixed effects								
Product (4-digit)				Yes				Yes
Year		Yes		Yes		Yes		Yes
Country			Yes	Yes			Yes	Yes
Observations	193,363	193,363	193,363	193,363	187,440	187,440	187,440	187,440
R-squared	0.001	0.005	0.023	0.085	0.000	0.001	0.016	0.072

Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1

Figure 20. Extreme Mishra-Subramanian-Topalova regression (2012-2017)

	(1) gap_value	(2) gap_value	(3) gap_value	(4) gap_value	(5) gap_qty	(6) gap_qty	(7) gap_qty	(8) gap_qty
tax_mean	0.0161***	0.0162***	0.0158***	0.0267***	0.0368***	0.0377***	0.0288***	0.0484***
	[0.000538]	[0.000540]	[0.000497]	[0.00104]	[0.00115]	[0.00116]	[0.00104]	[0.00209]
Constant	0.0230**	0.147***	-1.951***	-1.556**	-0.494***	-0.417***	-4.725***	-4.249***
	[0.0106]	[0.0148]	[0.619]	[0.636]	[0.0217]	[0.0309]	[1.256]	[1.278]
Fixed effects								
Product (4-digit)				Yes				Yes
Year		Yes		Yes		Yes		Yes
Country			Yes	Yes			Yes	Yes
Observations	455,793	455,793	455,793	455,793	443,931	443,931	443,931	443,931
R-squared	0.002	0.009	0.262	0.312	0.003	0.011	0.281	0.326

	(1) gap_value	(2) gap_value	(3) gap_value	(4) gap_value	(5) gap_qty	(6) gap_qty	(7) gap_qty	(8) gap_qty
tax_p50	0.0144***	0.0140***	0.0148***	0.0239***	0.0326***	0.0321***	0.0252***	0.0392***
	[0.000535]	[0.000535]	[0.000492]	[0.000999]	[0.00114]	[0.00114]	[0.00102]	[0.00199]
Constant	0.00395	0.145***	-1.961***	-1.725***	-0.547***	-0.425***	-4.716***	-4.521***
	[0.0110]	[0.0151]	[0.616]	[0.643]	[0.0226]	[0.0314]	[1.251]	[1.289]
Fixed effects								
Product (4-digit)				Yes				Yes
Year		Yes		Yes		Yes		Yes
Country			Yes	Yes			Yes	Yes
Observations	449,065	449,065	449,065	449,065	437,207	437,207	437,207	437,207
R-squared	0.002	0.008	0.266	0.314	0.002	0.010	0.287	0.328

Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1

Figure 21. Conservative Fisman-Wei regression per year (2012-2017)

	Plain vanilla regression					
dv: gap_value	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
tax_mean	0.0121***	0.0145***	0.0101***	0.00113	0.0109***	0.0126***
	[0.00185]	[0.00179]	[0.00190]	[0.00167]	[0.00185]	[0.00166]
Constant	0.441***	0.419***	0.488***	0.395***	0.346***	0.0172
	[0.0322]	[0.0315]	[0.0323]	[0.0279]	[0.0317]	[0.0290]
Observations	28,919	30,210	31,250	33,730	33,832	35,500
R-squared	0.002	0.002	0.001	0.000	0.001	0.002

	Plain vanilla regression					
dv: gap_qty	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
tax_mean	0.00145	0.00758***	-0.00204	-0.0103***	0.00535**	0.00453**
	[0.00206]	[0.00201]	[0.00211]	[0.00189]	[0.00210]	[0.00194]
constant	0.335***	0.295***	0.393***	0.289***	0.269***	-0.0369*
	[0.0252]	[0.0237]	[0.0244]	[0.0202]	[0.0221]	[0.0211]
observations	26,014	30,370	31,761	33,398	32,881	33,094
R-squared	0.000	0.000	0.000	0.002	0.000	0.001

Figure 22. Extreme Fisman-Wei regression per year (2012-2017)

	Plain vanilla regression					
dv: gap_value	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
tax_mean	0.0113***	0.0161***	0.0138***	0.0102***	0.0160***	0.0323***
	[0.00126]	[0.00128]	[0.00145]	[0.00120]	[0.00137]	[0.00131]
constant	0.234***	0.135***	0.217***	0.117***	0.176***	-0.774***
	[0.0253]	[0.0260]	[0.0280]	[0.0227]	[0.0269]	[0.0262]
observations	72,317	74,543	75,028	77,607	77,010	79,288
R-squared	0.001	0.002	0.001	0.001	0.002	0.008

	Plain vanilla regression					
dv: gap_qty	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
tax_mean	0.0256***	0.0431***	0.0373***	0.0267***	0.0457***	0.0536***
	[0.00280]	[0.00284]	[0.00303]	[0.00248]	[0.00288]	[0.00271]
constant	0.00502	0.0349	0.116***	0.0962***	0.0777***	-1.411***
	[0.0340]	[0.0324]	[0.0336]	[0.0271]	[0.0302]	[0.0283]
observations	68,160	73,264	73,998	75,775	74,763	77,971
R-squared	0.001	0.003	0.002	0.001	0.006	0.004

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Figure 23. Author's estimates on underinvoicing of homogenous and reference-priced imports (2012-2017)

	Additional collectible taxes under different thresholds, PHP billion						
Threshold	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**
0%	8.8	9.5	9.5	11.0	10.9	13.5	63.2
10%	**5.6**	**6.1**	**5.6**	**6.3**	**6.2**	**7.9**	**37.6**
20%	**3.8**	**4.3**	**3.6**	**3.6**	**3.7**	**5.1**	**24.1**
30%	**2.6**	**3.0**	**2.3**	**2.1**	**2.3**	**3.6**	**15.9**
40%	1.7	2.0	1.3	1.4	1.4	2.6	**10.4**
50%	1.1	1.2	0.8	0.9	0.9	1.7	**6.6**
60%	0.6	0.7	0.4	0.5	0.5	1.1	**3.9**
70%	0.3	0.3	0.2	0.3	0.3	0.6	**2.0**
80%	0.1	0.1	0.1	0.1	0.1	0.3	**0.9**
90%	0.0	0.0	0.0	0.0	0.0	0.1	**0.2**

	Potential underinvoicing under different thresholds, PHP billion						
Threshold	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**
0%	87.7	65.2	75.2	86.6	89.6	101.7	506.0
10%	**58.7**	**39.0**	**43.9**	**49.3**	**49.6**	**55.5**	**296.0**
20%	**43.6**	**26.9**	**27.8**	**27.3**	**28.6**	**33.5**	**187.8**
30%	**33.6**	**18.6**	**17.0**	**15.4**	**17.0**	**23.0**	**124.6**
40%	25.4	12.2	9.5	9.7	10.0	15.7	**82.5**
50%	18.9	7.4	5.4	6.0	6.2	10.2	**54.1**
60%	13.5	4.1	3.0	3.5	3.5	6.3	**33.8**
70%	8.9	2.1	1.5	1.8	1.8	3.4	**19.4**
80%	5.3	0.9	0.6	0.7	0.7	1.4	**9.7**
90%	2.3	0.2	0.1	0.2	0.2	0.3	**3.2**

	Additional collectible taxes under different thresholds, % of GDP						
Threshold	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**
0%	0.084	0.083	0.075	0.082	0.075	0.086	0.081
10%	**0.053**	**0.053**	**0.044**	**0.047**	**0.043**	**0.050**	**0.048**
20%	**0.036**	**0.037**	**0.029**	**0.027**	**0.026**	**0.032**	**0.031**
30%	**0.025**	**0.026**	**0.018**	**0.016**	**0.016**	**0.023**	**0.020**
40%	0.017	0.017	0.010	0.010	0.010	0.016	**0.013**
50%	0.011	0.011	0.006	0.007	0.006	0.011	**0.008**
60%	0.006	0.006	0.003	0.004	0.004	0.007	**0.005**
70%	0.003	0.003	0.002	0.002	0.002	0.004	**0.003**
80%	0.001	0.001	0.001	0.001	0.001	0.002	**0.001**
90%	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**

	Potential underinvoicing under different thresholds, % of GDP						
Threshold	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**
0%	0.830	0.565	0.595	0.650	0.619	0.644	0.646
10%	**0.556**	**0.338**	**0.347**	**0.370**	**0.342**	**0.352**	**0.378**
20%	**0.413**	**0.233**	**0.220**	**0.205**	**0.198**	**0.212**	**0.240**
30%	**0.318**	**0.162**	**0.135**	**0.116**	**0.117**	**0.145**	**0.159**
40%	0.241	0.106	0.075	0.073	0.069	0.099	**0.105**
50%	0.179	0.064	0.043	0.045	0.043	0.065	**0.069**
60%	0.128	0.035	0.024	0.026	0.024	0.040	**0.043**
70%	0.084	0.018	0.012	0.013	0.012	0.021	**0.025**
80%	0.051	0.007	0.005	0.005	0.005	0.009	**0.012**
90%	0.022	0.002	0.001	0.001	0.001	0.002	**0.004**
nGDP	10,561	11,538	12,634	13,322	14,480	15,797	**78,333**

Figure 24. Top 20 Priority List for Valuation Reform (Author's simulation for 2012-17)*

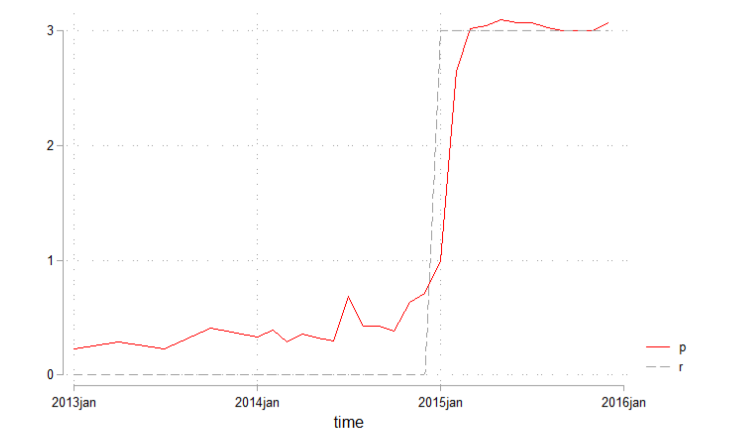
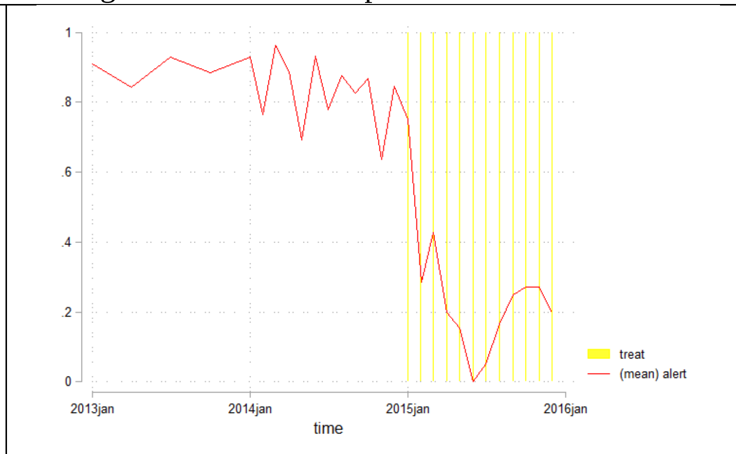
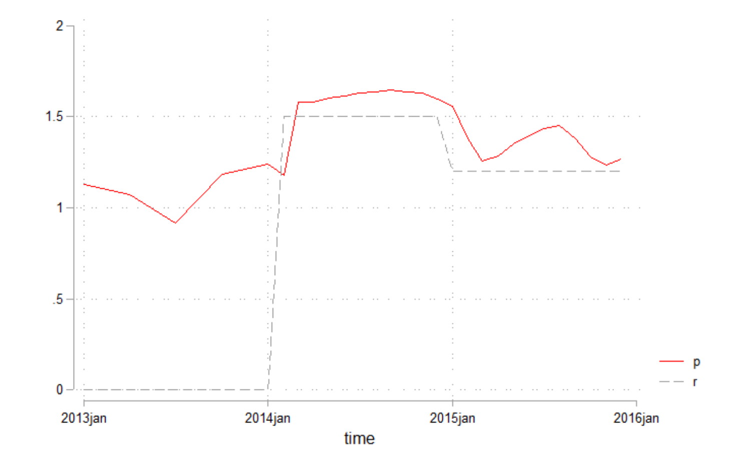
Rank	HS Code	Simplified description	Potential Collection (P billion)	No. of entries inspected	% of total transactions inspected	Average tax per inspection
1	2603	Copper ore	1.2	20	17%	61,493,160
2	3921	Plastic foil and strips	1.2	4,431	21%	263,738
3	2709	Petroleum oil	1.0	62	6%	15,775,135
4	3920	Plastic, non-laminated	0.7	9,384	27%	78,794
5	2208	Distilled spirits, <80% alcohol	0.7	1,584	27%	424,782
6	2401	Unmanufactured tobacco	0.6	1,267	20%	501,698
7	8431	Machine parts	0.6	7,723	22%	78,521
8	3808	Insecticides	0.6	2,480	28%	224,747
9	8402	Steam boilers	0.3	712	36%	480,935
10	2204	Wine, other than 2009	0.3	1,971	24%	172,790
11	3901	Plastic, ethylene	0.3	1,804	12%	186,584
12	3506	Glues and adhesives	0.3	6,892	27%	48,825
13	4819	Cartons and boxes	0.3	17,324	43%	16,609
14	8414	Air vacuum and pumps	0.3	5,082	26%	54,395
15	3902	Plastics, propylene	0.3	1,128	16%	227,176
16	2309	Animal feed	0.3	6,998	25%	36,116
17	1704	Confectionary, exc. chocolate	0.2	4,648	31%	51,178
18	8404	Auxiliary plant equipment	0.2	246	31%	783,208
19	8421	Centrifuges, dryers	0.2	3,903	21%	46,111
20	1006	Rice	0.2	428	7%	402,717
		Top 20	9.8	78,087	26%	125,506
		All Others	6.1	134,352	13%	45,698
		All homogenous and reference-priced products	15.9	212,439	16%	75,033

***This assumes a threshold of 30% below weighted average price at the 6-digit level**

Figure 25. Tax yields if the Valuation Reforms were implemented in 2012-2013

HS code	Potential taxes (PHP billion)			Transactions inspected (number of entries)			Tax yield per inspection (PHP billion)		
	2012	**2013**	**Total**	**2012**	**2013**	**Total**	**2012**	**2013**	**Total**
1601	0.15	0.20	0.34	115	148	263	1,266,862	1,329,294	1,301,995
1602	**1.67**	**1.78**	**3.44**	**623**	**616**	**1,239**	**2,675,202**	**2,882,769**	**2,778,400**
3901	0.73	1.35	2.08	3,494	3,321	6,815	208,492	407,118	305,284
3902	0.80	1.15	1.95	1,857	1,650	3,507	431,706	694,427	555,313
3903	0.08	0.15	0.23	279	389	668	290,663	379,127	342,179
3904	0.11	0.11	0.22	320	323	643	342,501	342,863	342,683
3907	0.16	0.16	0.33	744	832	1,576	221,222	196,066	207,942
7207	0.02	0.26	0.28	64	292	356	360,717	895,920	799,703
7208	0.31	0.50	0.82	881	1,310	2,191	353,340	384,676	372,076
7209	0.64	0.78	1.43	1,339	1,479	2,818	480,266	529,020	505,854
7210	0.24	0.32	0.56	1,259	1,563	2,822	191,680	206,206	199,725
7216	0.35	0.53	0.88	415	667	1,082	836,738	798,235	813,002
7225	**0.86**	**1.06**	**1.92**	**408**	**370**	**778**	**2,106,946**	**2,875,049**	**2,472,239**
7227	**1.09**	**2.34**	**3.43**	**199**	**317**	**516**	**5,462,246**	**7,378,685**	**6,639,593**
7228	0.00	0.00	0.01	150	74	224	19,551	41,469	26,792
All	**7.21**	**10.70**	**17.91**	**12,147**	**13,351**	**25,498**	593,838	801,459	702,550

Figure 26. Selected products where the 2014-2015 Valuation Reforms were effective

<table>
<tr><td>Graph A. Prices (red) and reference price threshold (dashed line) over time
(The higher the better.)</td><td>Graph B. Percent of transactions lower than reference price over time
(The lower the better.)</td></tr>
<tr><td colspan="2">HS 1601 (Meat). Prices jumped from $0.50/kg to $3.00/kg after the reference price was introduced.</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td colspan="2">HS 3901 (Plastic resins). There were almost zero transactions below the threshold price of $1.50.</td></tr>
<tr><td>

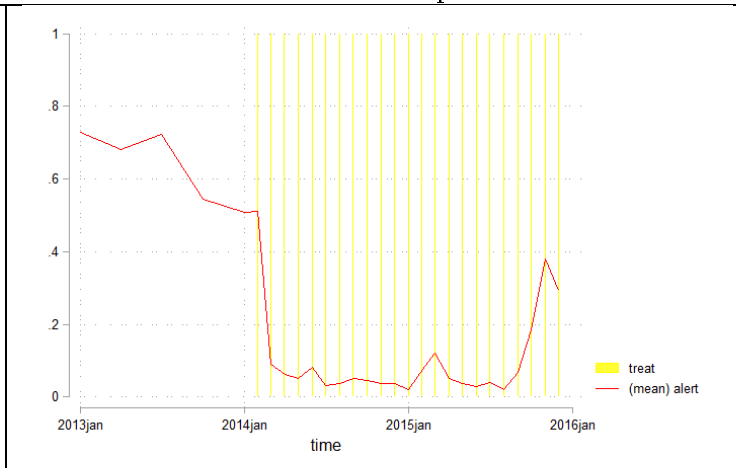
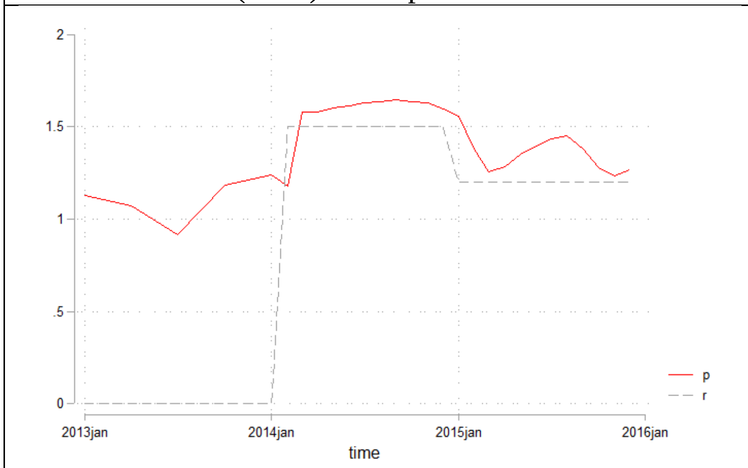
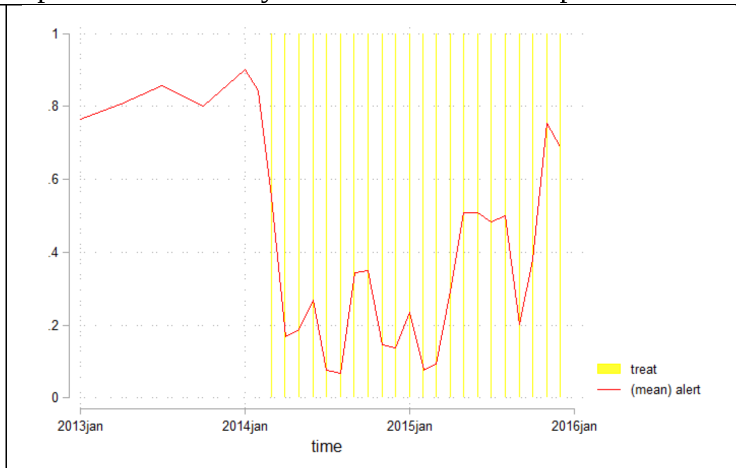
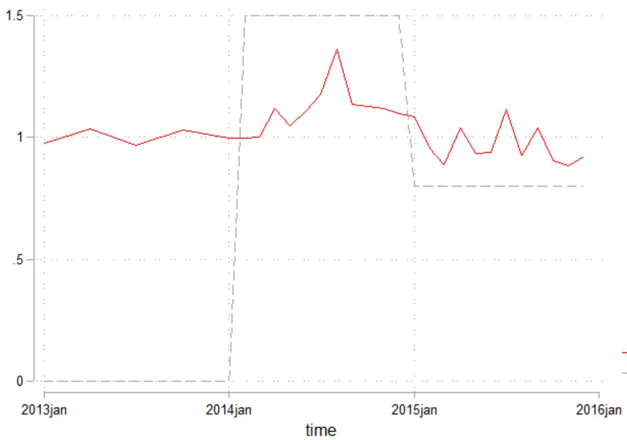
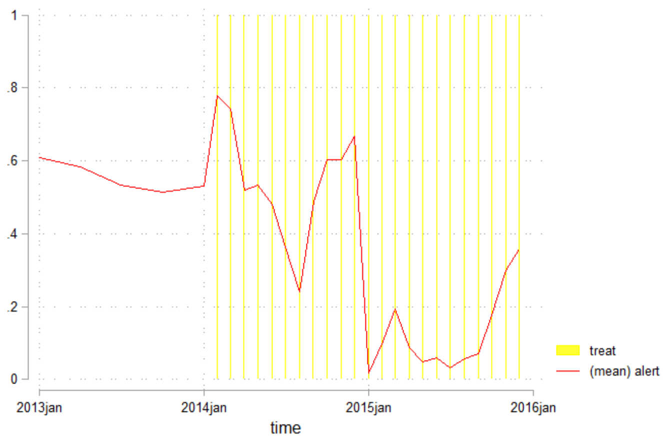
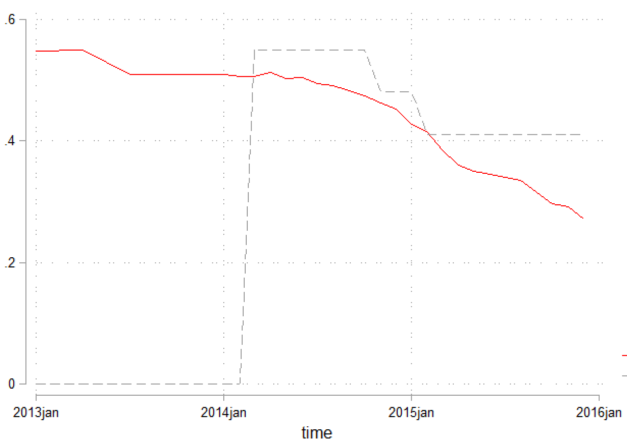
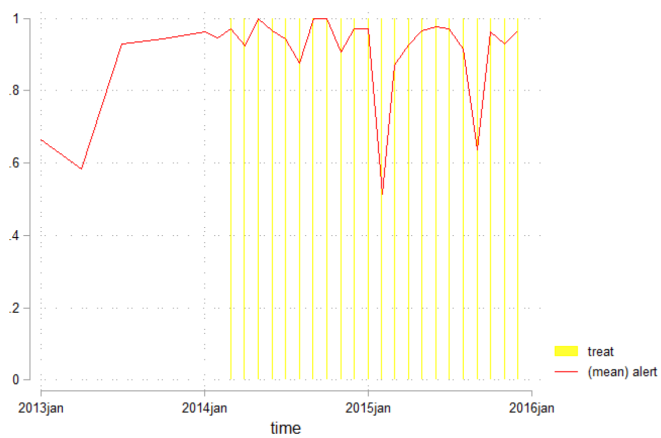
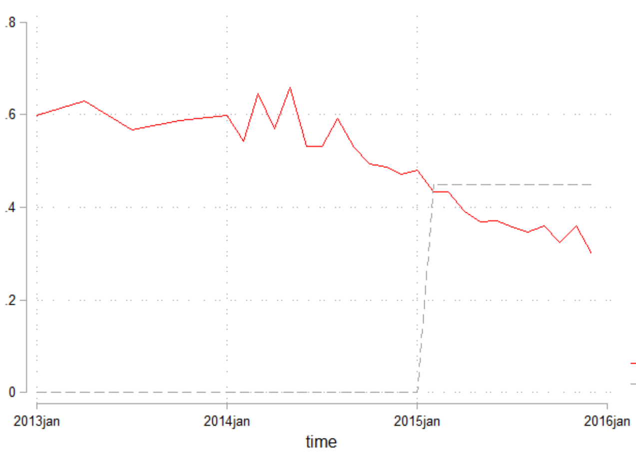
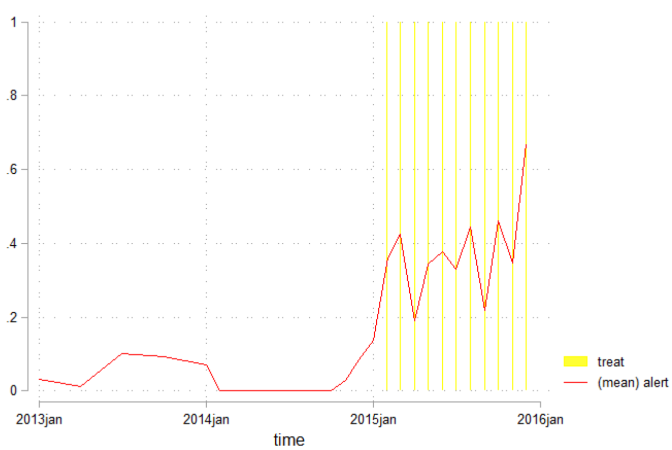
-</td><td>
</td></tr>
<tr><td colspan="2">HS 7207 (Steel). Steel prices followed the reference prices but as many as 40% were not compliant.</td></tr>
<tr><td>
</td><td>
</td></tr>
</table>

Figure 27. Selected products where the 2014-2015 Valuation Reforms were not as effective

<table>
<tr><td>Graph A. Prices (red) and reference price threshold (dashed line) over time
(The higher the better.)</td><td>Graph B. Percent of transactions lower than reference price over time
(The lower the better.)</td></tr>
<tr><td colspan="2">HS 3904 (Plastic resins). This is a case where the reference price may have been set too high in 2014.</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td colspan="2">HS 7207 (Steel). There was minimal compliance to the threshold values, but there are spikes in compliance.</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td colspan="2">HS 7228. (Steel). Prices continued dropping even after the reference price was introduced.</td></tr>
<tr><td>
</td><td>
</td></tr>
</table>

Box 2. Timeline of Salient Events in the Bureau of Customs (1986-2017)

1986: A popular revolution ousts Marcos after 20 years of dictatorship. Cory Aquino is elected president. The country reels from the great recessions of 1984 and 1985, a culmination of the debt and banking crisis in 1983 triggered by the assassination of opposition leaders like Ninoy Aquino in 1981 and the Macros regime's profligate spending and debt accumulation in the 1970s.

1987: The new Philippine Constitution is ratified. The new administrative code outlines the legal relationship between the Bureau of Customs and the Department of Finance.

1988: A 10% Value-Added Tax (VAT) is introduced to help fund the deficit. The new tax law helps lift tax collections following depressed tax takes after the recession.

1989: A foiled coup attempt roils the Aquino presidency.

1991: The economy tanks following the Gulf War, an oil crisis, and a major volcanic eruption.

1992: Fidel Ramos is elected president. He appoints General Guillermo Parayno, the only customs chief to serve a whole presidential term. From 1992-1998, he gives the political authorization for customs to undertake a series of computerization reforms, widely regarded by international trade experts a success. By 1998, 42 signatories needed for customs approval are reduced to 7. Major ports in Manila are plugged into the new computer system. Human resources are reduced from 7,302 to 6,530 for efficiency. (USAID, 2016)

1993: The law requiring the inspection of 100% of all imported goods is relaxed. This allows customs to create a traffic light system of risk management and selectivity to speed up clearance at the border.

1994-97: The country experiences budget surpluses, buoyed by customs and internal revenue collections. Customs tax to GDP peaks at 5% in 1993 and total tax to GDP peaks at 15.3% in 1995 and 1996.

1995: The Philippines joins the World Trade Organization (WTO). The country had been a member of the General Agreement on Tariffs and Trade since 1979. Both nominal and effective tariff rates go down.

1997: The Asian Financial Crisis slows down the region, depresses trade, and erodes gains in tax and customs collections. A new law decreasing income tax rates is passed.

1998: As the financial crisis evolves into a recession, Joseph Estrada is sworn in as president. This follows an unpopular attempt by Ramos to change the constitution.

2000: Customs terminates the contract with SGS, a pre-shipment inspection agency, ending a relationship that has spanned since the 1980s. In 2010, pre-shipment inspections are required again for bulk and break-bulk cargo.

2001: The Philippines adopts the WTO rules on transaction values as the basis for assessing import duties and taxes. Smuggling is declared one of the predicate crimes to money laundering. Later into the year, Estrada is ousted in a popular revolt in EDSA 2. Vice President Gloria Macapagal-Arroyo succeeds him.

2002-03: The fiscal deficit yawns widest at 5% of GDP partly by the low tax take and partly by the electricity subsidies that caused state-owned power companies to bleed into losses.

2004: Arroyo wins a second term and is determined to tame the deficit. The VAT is raised to 12% to respond to the crisis; implementation is delayed until 2005. The senator who shepherded the VAT hike through the Senate loses his reelection bid.

2005: Arroyo is embroiled in an election scandal that causes the resignation of ten cabinet secretaries, including her secretary of finance and tax and customs commissioners.

2008: The North American Financial Crisis slows global trade, and with it, Philippine customs revenues.

2010: Benigno Aquino III is elected president on a platform of anti-corruption.

2012: Higher taxes on tobacco and alcohol are levied. The tax take improves.

2013: Aquino supports a massive organizational revamp of the customs bureau, which included the movement of customs audit functions to the finance department.

2016: The customs modernization law is passed.
Rodrigo Duterte is elected president.

2017: A new tax reform law is passed, cutting personal income taxes and increasing oil excise taxes and sin taxes.

Box 3. Offenses and Penalties for Smuggling under Philippine Customs Law

The Customs Modernization and Tariff Act of 2016 (Title XIV, Chapter 1) is the law that defines the crimes and offenses related to smuggling. Under Philippine law, misdeclaration is the same as quantity evasion, misclassification is the same as mislabeling, and undervaluation is the same as under-invoicing.

CMTA Section 1400 defines the offenses and penalties for different types of smuggling.

Offense	Penalties
Misdeclaration of quantity, quality, description, weight, or measurement*	250% surcharge of duty and tax due
Misclassification through insufficient or wrong tariff headings*	250% surcharge of duty and tax due
Undervaluation when declared value fails to disclose the full price, or when an incorrect valuation method is used**	250% surcharge of duty and tax due
If discrepancy of duty and tax payments is >30% When misdeclaration, misclassification, or undervaluation is intentional	Prima facie evidence for fraud 500% surcharge of duty and tax due Seizure of goods Other fines and penalties in 1401

CMTA Section 1401(a) to (g) defines the penalty schedule for the unlawful (fraudulent) import or export of goods. For each of these cases, the penalty may be fines or imprisonment or both:

If value of shipments + duties and taxes is	Fines	Imprisonment
< P250,000	P25,000 to P75,000	31 days to 6 months
P250,000 to P500,000	P75,000 to P150,000	6 months 1 day to 1 year
P500,000 to P1,000,000	P150,000 to P300,000	1 year 1 day to 3 years
P1,000,000 to P5,000,000	P300,000 to P1,500,000	3 years 1 day to 6 years
P5,000,000 to P50,000,000	P1,500,000 to P15,000,000	6 years 1 day to 12 years
P50,000,000 to P200,000,000	P15,000,000 to P50,000,000	12 years 1 day to 20 years
> P200,000,000	>P50,000,000	Life imprisonment *(Reclusion perpetua)*

CMTA Section 1401(h) sentences suspects to prison mayor for serious injuries or life imprisonment for the crime of homicide committed under unlawful importation or exportation of goods.

---

* No surcharge imposed when the discrepancy is less than ten percent (10%) or when the declared tariff heading is rejected in a formal customs dispute settlement process or when the tariff declaration relied on an official government ruling (usually with the Tariff Commission).

** No surcharge shall be imposed when the discrepancy in duly is less than ten percent (10%); or the declared value is rejected as a result of an official ruling or decision under the customs dispute settlement process involving difficult or highly technical question relating to the application of customs valuation rules.

Box 4. Are inspection price reforms consistent with the Revised Kyoto Convention and the WTO Valuation Agreement?

The **Customs Modernization and Tariff Act of 2016 (CMTA)** is the governing law for the determination of the customs value. It brings Philippine customs law up to standard with the **Revised Kyoto Convention**, or the International Convention on the Simplification and Harmonization of Customs Procedures, which entered into force in February 3, 2006 and which the Philippines acceded to in June 25, 2010[49].

The **Revised Kyoto Convention** spells out customs risk management and audit standards. Meanwhile, **CMTA Sections 701 to 708**, under Title VII, Chapter 1 determine the six methods for assessing and ascertaining the value of the importation, based on the **WTO Valuation Agreement**[50].

Price inspections based on severely undervalued goods have legal basis under CMTA Section 707, which maintains that "Nothing in this section shall be construed as restricting or calling into question the right of the Bureau to ascertain the truth or accuracy of any statement, document or declaration presented for customs valuation purposes." If there is delay, then the importer has recourse to secure a bond while appealing the valuation of the good. **CMTA Section 1402** grants a 20% surcharge on the dutiable value of the good if the importer refuses to give evidence or submit documents for assessment.

Method 1 – Transaction Value: The price actually paid or payable for the goods when sold for export to the Philippines.

Method 2 – Transaction Value of Identical Goods: If the dutiable value of imported goods cannot be determined under the Transaction Value Method, the dutiable value shall be the transaction value of identical goods sold for export to the Philippines and exported at or about the same time as the goods being valued. The involving such identical goods must also be the same commercial level and in substantially the same quantity as the goods being valued. "Identical goods" shall mean goods which are the same in all respects, including physical characteristics, quality and reputation. Minor differences in appearances shall not preclude goods otherwise conforming to the definition from being regarded as identical. If there are 2 or more transactions that are identical, the lowest value shall be used.

Method 3 – Transaction Value of Similar Goods: "Similar goods" are defined as goods which, although not alike in all respects, have like characteristics and like component materials which enable them to perform the same functions and to be commercially interchangeable. The quality of the goods, their reputation and the existence of a trademark shall be among the factors to be considered in determining whether goods are similar. If there are two or more transactions that are identical, the lowest value shall be used.

Method 4 – Deductive Value: The dutiable value is determined on the basis of sales in the Philippines of the goods being valued or of identical or similar imported goods, less certain specified expenses resulting from the importation and sale of the goods. The deductive value can be computed from the day of importation to ninety (90) days after such importation. If there are two or more transactions that are identical, the lowest value is used.

Method 5 – Computed Value: Under this method, the dutiable value is determined on the basis of the cost of production of the goods being valued, plus an amount for profit and general expenses usually reflected in sales from the country of exportation to the Philippines of goods of the same class or kind.

Method 6 – Fallback Value: When the dutiable value cannot be determined under any of the previous methods of valuation, it shall be determined by using other reasonable means consistent with the principles and general provisions of GATT 1994, the agreement on the implementation of Article VII of the General Agreement on Tariffs and Trade as contained in the Uruguay Round Final Act, and on the basis of the data available in the Philippines.

[49] Instrument of Accession of the Philippines to the Revised Kyoto Convention. <http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/legal-instruments/conventions-and-agreements/contracting-parties-and-instruments/philippines/ph201003ia.pdf?la=en>
[50] World Trade Organization: Brief Guide to the Customs Valuation Code. <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/valuation/instruments-and-tools/gatt/brief-guide-to-the-customs-valuation-code.pdf?db=web>

Box 5. Lessons from the Failure of the Attrition Act of 2005

The total revenue target is set every year in the budget committee[51] co-chaired by the secretaries of finance and budget. It is then distributed by the tax and customs bureaus across their different district units and, in theory, individual officers. Under the Attrition Act of 2005, if a bureau goes beyond its collection target, 15-20% of the revenues is placed in a rewards and incentives fund and distributed according to the contribution of each of its district. If a bureau misses its target by less than 10%, the districts who did exceed their district targets still get 10% of their excess collections. At least a quarter of the fund should be used for professional development programs. Officers who fall below 7.5% of their individual targets should be fired under certain conditions[52]. A revenue performance evaluation board chaired by the finance department decides on the firing and rewards actions, and reports to an oversight committee in Congress.

The failure of the attrition law is a classic case of a principal-agent problem, that is "the problem of motivating one person (or agent) to act in the interest of another" (Khan, 2018). There are two reasons for the existence of the problem: first, the principal and agent's interests do not align when the principal delegates a task to an agent (conflict of interest); second, an agent engages in opportunistic behavior because the agent has more information than the principal (information asymmetry). (Corduneanu-Huci et al, 2012)

The current law does not work because there is a conflict of interest between the cabinet budget committee who sets the targets (principal) and the tax and customs officers (agents). In this case, the objective of the cabinet committee is to maximize revenue for the country to further their party's objectives and programs, while the objective of the tax and customs officers is to maximize personal gain, be it in the form of salaries, bribes, and the positive feeling of fulfilling public duty, netting out the effort they put into collecting these taxes. For the principals, revenue has been a priority over non-revenue outcomes.

Information asymmetry occurs because the cabinet committee has imperfect to zero information about the true potential that an individual tax or customs officer can collect, while the agents, knowing the true collection potential of their clients, can solicit bribes from or collude with tax evaders and smugglers and take away from the country's tax base without getting punished. In the standard model of bargaining between taxpayers and tax inspectors, there is a trade-off between engaging in bribery and collecting the right taxes (Khan, 2018).

On one hand, principals contend that high, stretch targets nudge officials to perform better[53]. On the other hand, former commissioners have criticized the target setting mechanism, saying that these targets are set using macroeconomic assumptions that may or may not occur, are not within the bureaus' control, and ultimately cause demoralization among employees.

That the targets are set high is one reason tax and customs officers have historically refused to sign individual contracts bearing individual revenue targets, making the attrition law impossible to implement and the rewards and punishment schemes moot. The principals have little legal recourse to force officers to sign because civil service laws protect the agents from expulsion without due process.

It would be fair to say therefore that over the last decade, there has been no financial incentive system that rewards or punishes bad performance in the tax and customs bureaus in the Philippines[54]. If fiscal authorities are to narrow the gap in smuggling, officials will have to solve this principal-agent problem and apply lessons from the standard model of bargaining between taxpayers and inspectors.

---

[51] This is called the Development Budget Coordinating Committee (DBCC), the body that convenes regularly to set the macroeconomic assumptions for the national budget of the Philippines.
[52] Implementing Rules and Regulations of the Attrition Act of 2005, Section 21. Non-Disciplinary Nature of the Separation. – Employees and Officials of the Bureau who are separated from the service by virtue of Section 7 (a) of the Act shall be deemed dropped from the rolls, in accordance with Civil Service laws, rules and regulation, without prejudice to the receipt of whatever benefits due the official or employee concerned, including re-employment to other government agencies, at the discretion of the appointing authority concerned.
[53] The budget committee set a deficit ceiling of 3% of GDP to formulate spending and revenue targets.
[54] Some non-financial incentives have been in place, such as promotions. There have been increases in the salaries of the entire bureaucracy, and there are steady increases from 2016 to 2019.

Box 6. Customs jargon on bribes and money-making schemes
Source: Reports from Veneracion (2015) and Esplanada (2015)

Customs jargon	Direct translation	Constructed meaning
AC-DC	attack-collect, defend-collect	the practice of criticizing officials to extort bribes (attack) and then defending them after the bribe is collected
alert me, release me	n/a	a scheme in which alert / hold orders issued on suspected smuggled items are used to extort money from consignees of shipments
araw ng pagpapala	day of blessings	the day when the collected "tara" (bribe) is distributed among personnel (see "Fridays")
bagman	someone who brings bags	one who collects money for a principal (someone who brings bags of cash)
balato	share	share in bribe money
baldog	hitting one's head on a hard surface	money obtained from businessmen whose shipment are completely legitimate. Businessmen are threatened anyway, and they are forced to fork out money to avoid delays.
basura	garbage or trash	shipment that is sacrificed from time to time to provide Customs with an anti-smuggling accomplishment, and for media presentation.
benchmark	n/a	the process of setting values to a minimum declared value
bukol	lump, tumor, bump	when bribes are unfairly distributed, or some parties are excluded from the distribution of money.
cinco huli, lusot veinte	five caught, twenty set free	for every twenty-five illegal containers, five are caught and twenty are set free.
clustering	n/a	a scheme in which a group of either smugglers or legitimate importers are assigned to certain customs frontline personnel to expedite the collection of bribes
enrollment fee	as in school fees	the amount that players give to a customs officer to exempt their shipments from alerts and harassment.
expedition	n/a	fees paid by traders to expedite the processing of import papers and subsequent release without the required examination
Fridays	as in the day of the week	the day when the collected "tara" (bribe) is distributed among personnel
gurami	small fish	a small-time broker
hao shiao	funny, ridiculous, laughable (from the Mandarin hǎoxiào)	unofficial or informal employee or representative assigned by a customs officer to collect "tara"; media personnel who engage in ACDC (attack-collect, defend-collect) schemes.
hatag	offering or gift	bribes or payola given by customs officials to political patrons, in exchange for recommendations
isang manok	one chicken	one million pesos (P1,000,000 or $20,000)
patong	on top of	a transactional relationship where an influential person (a politician or a known media personality) gains a share of profits by attaching his name to a shipment in need of special facilitation assistance. (Ex. Broker: "Boss, naka-patong si _____ dito.")
OT	overtime	the payment to a customs employee for rendering "extra time and effort to process documents or facilitate a transaction."
pangkape	coffee money / smiling money	money given voluntarily given by importers and brokers to build goodwill or to show gratitude for lawful help
parking fee	as in what one pays for a parking lot	also called sitting fee; amount paid to an employee or an office to deliberately delay action; commonly reported in offices responsible for investigations.
patalon	to jump over	the transfer of a set of import entry documents to a particular customs official in cahoots with smugglers
patay-sindi	turn off-turn on	temporary activation of an expired registration account to allow a shipment through customs
per lata	for every tin can	amount that needs to be paid for every containerized shipment
picture	photograph	"to be included in the picture" means "to get a share of the money"
pindot	to press a button	a scheme of misrouting money: the payment for the release of a customs shipment that supposedly goes into customs cash collections is withdrawn elsewhere
pitcha	n/a	"just settle the amount" for the shipment to be released
suki	loyal customer	customs examiner or appraiser who has developed a close affinity with the broker for mutually-beneficial arrangements.
swing	as in the playground swing	outright smuggling; the clearance of an imported shipment despite the absence of the correct papers
tara	n/a	grease money, refers to the system of bribes in the bureau.
thank you	n/a	expression of gratitude, usually requiring P3,000 ($60) in payments
timbre	to inform someone in advance	a pre-arranged entry of an importation that is either misdeclared or undervalued
trabaho	job	a smuggling activity, whether outright or technical smuggling.
ulo ng aso	ear of a dog	A thousand peso bill ($50); refers to the corners of the P1,000 bill that look like dog ears.

Appendix 2.1. Philippine Bureau of Customs Data Codebook

Written by Ken Abante (for future scholars of Philippine customs)

Variable	Definition
hscode	The harmonized system product classification (11-digit code)
countryorigin	Country of origin (ISO alpha-2 country code[55])
countryexport	Country of export (Full country name)
grossmasskgs	Gross mass in kilogram
netmasskgs	Net mass in kilogram
customsvalue	FOB (freight-on-board) value of imports in foreign currency
currency	Foreign currency denomination used in transaction (e.g. USD, EUR, JPY)
dutiable_foreign (dutiableforeign)	Dutiable value of imports in foreign currency, including cost of insurance and freight (CIF)
exchange_rate (exchangerate)	Exchange rate applied on the foreign currency during the applicable period
dutiablevaluephp	Dutiable value in Philippine pesos
freight	Cost of freight in Philippine pesos
insurance	Cost of insurance in Philippine pesos
arrastre	Cost of arrastre (“receiving, conveying, and loading or unloading merchandise on piers”) in Philippine pesos the amount which the owner, consignee, or agent of either, of merchandise or baggage has to pay for the handling, receiving and custody of the imported or exported merchandise or the baggage of the passengers.
prefcode	The preferential trade agreement used to determine tariff rates (e.g. AFTA – ASEAN Free Trade Agreement, AKFTA – ASEAN-Korea Free Trade Agreement, ACFTA – ASEAN-China Free Trade Agreement)
dutypaid	Duties paid in Philippine pesos
vatbase	Value added tax base in Philippine pesos. Cost + insurance + freight + duties paid + excise taxes paid
vatpaid	Value added tax paid in Philippine pesos
exciseadvalorem	Excise taxes paid in Philippine pesos
dutiestaxes	Duties and taxes paid in Philippine pesos
goodsdescription	Description of goods for classification purposes
entry	Type of import entry C: consumption (for domestic consumption, which needs to be levied duties and taxes) T: transshipment (entry for further shipping as is, either to another port or to another country) W: warehousing (entry for further processing, usually in an economic zone or export processing zone)
normaldutyrate	Normal duty rate (MFN)
actualdutyrate	Actual duty rate (with preferential free trade agreements)
dutyforgone	Duties forgone from preferential trade agreements
finesandpenalties	Fines and penalties levied on the import entry
othertax	Other taxes levied
t	Time when entry was filed (Quarterly yyyyqq for 2012 - 2013 Monthly yyyymm for 2014 - 2018)
entrycode	Unique import entry identifier for the year

[55] Initial source of country coding table for Philippine customs data cleaning: Country Masterkey: ISO https://github.com/lukes/ISO-3166-Countries-with-Regional-Codes/tree/master/all

Variable	Definition
	Example: 2014P02AH C0001677 (Year) (Port number) (Entry Type) (Entry Number) Available: 2014 08
port	name of port of entry
control_no	control number of import entry
item_no	supplementary units of quantity (deleted) Available: 2016 09
wharfage	"amount assessed against the cargo of a vessel engaged in the foreign trade, based on the quantity, weight or measure received and/or discharged by such vessel. The owner, consignee, or agent of either, of the merchandise is the person liable for such charge." (Republic Act 1371)
natl_proc_code extended_proc_code	If consumption, warehousing, or transshipment (deleted) Available: 2016 06

Notes to cleaning data:
- Starting 2014 02, start of variables normaldutyrate actualdutyrate
- Starting 2016 11, countryorigin is spelled out in full; need to readjust matching code.
- Starting 2017 11, countryorigin back to ISO alpha-2 country code.
- Starting 2017 09, entry not available; readjust totals (unusable months)

Outlier behavior:
- normaldutyrate < actualdutyrate (300-400 entries a month exhibit this behavior)
- For 2015 09, cleaned entries not aligned with their variables.
- For 2015 06, cleaned entries not aligned with their variables. Goods description broken up into several columns.
- For 2016 05, there are "Y" entry types. Cleaned and assumed to be "C" entry for conservatism.
- For 2016 10, there are some months without entry. Extract entry type from entrycode.
- For 2017 09 to 2017 12, entry and entrycode NOT available.
- For 2014, those with countryorigin as "MANY" are adjusted to make equivalent to countryexport.

Country-level adjustments:
- ETF (Ethiopia, excludes Eritrea)
- ETH (Ethiopia, includes Eritrea)
- BLX (Belgium-Luxembourg: check current treatment in the HS code data)
- DDR (Democratic Republic of Germany – East Germany)
- DEU (Germany – merged East and West Germany)
- EUN (European Union)
- COG (Congo, Rep. of) vs DRC (Democratic Republic of Congo)
- MNT (Montenegro) in WITS is different from ISO-3 code of MNE.
- PCE (Pacific Islands) in WITS is different from ISO-3 code of PCI.
- SER (Yugoslavia, 891) in WITS is different from ISO-3 code of YUG (890)
- ZAR (Democratic Republic of Congo) is different from ISO-3 code of COD (180).

Appendix 2.2. UN Comtrade Data Availability on Trade and Tariff Rates

Trade data availability

UN	Nomenclature	Years available (m_phl_world)	Years available (x_world_phl)	Years available for data analysis
H0	HS 1988/92	1996-2017	1988-2017	1996-2017
H1	HS 1996	2000-2017	1996-2017	2000-2017
H2	HS 2002	2007-2017	2002-2017	2007-2017
H3	HS 2007	2017	2007-2017	2017
H4	HS 2012	2017	2012-2017	2017
H5	HS 2017	n/a	2017	n/a
S1	SITC Revision 1	1962-2017	1962-2017	1962-2017
S2	SITC Revision 2	1977-2017	1976-2017	1976-2017
S3	SITC Revision 3	1991-2017	1988-2017	1991-2017
S4	SITC Revision 4	2017	2007-2017	2017

m_phl_world – imports of the Philippines from the world, **x_world_phl** – exports of the world to the Philippines

Source: UN Comtrade Data, Accessed 11 November 2018
World Bank World Integrated Trade Solutions (WB WITS)

Tariff rate data availability*
(TRAINS from WB WITS)

Tariff rates	Nomenclature	MFN	Applied MFN*	Preferential	Applied Preferential*
H0	HS 1988/92	1988-1995	1988-90, 1992	n/a	n/a
H1	HS 1996	1996-2003	n/a	n/a	n/a
H2	HS 2002	2004-2007	2004-2007	2004-2007	n/a
H3	HS 2007	2008-2012	2008-12	2008-2012	n/a
H4	HS 2012	2013, 2015-17	2013, 2015-17	2013, 2015-17	n/a
H5	HS 2017	n/a	n/a	n/a	n/a

Only 6-digit HS codes are available.

*These are mostly done for robustness checks. I used customs data to do the matching of tariff and tax rates.

Source: TRAINS, UN Comtrade Database

Appendix 3. Further Reading on Tax and Customs Organizational Reform

Appendix 3.1. Does increasing pay improve collection performance?

It depends. Mishra, Subramanian, and Topalova (2007) find that at the margin, increases in customs officials' wages in India had little effect on evasion. Khan, Khwaja, and Olken (2016) found that Pakistani real property tax collection teams with revenue-based incentives collected 46 percent higher than those in the control group, with no change in taxpayer satisfaction or assessment accuracy. They give a warning: in a world of collusion, simply increasing pay may lead to perverse outcomes, such as increasing bribes.

Appendix 3.2. Does privatizing the pre-shipment inspection process[56] increase collections?

Results are mixed for the Philippines, with pre-shipment inspection from 1987 to 2000. Anson (2006) finds that it did improve collections in the Philippines as opposed to Argentina and Indonesia. But Yang (2008) finds that pre-shipment inspections did not have a statistically impact on collected tariff revenue. Yang concludes that increased enforcement can displace crime and push activity to alternative law-breaking methods. He also evaluates the effect of lowering the threshold value of pre-shipment inspections from $5,000 to $500 in 1987. He finds that this policy yielded net losses for government amounting to $36.8 million.

Byrne (1995) argues that these pre-shipment inspection companies (a) have computer capacity and technical expertise in valuation that many customs agencies lack, (b) are less subject to corruption than customs, because they have an international reputation to protect, and (c) get more data from the exporting country, which should improve value-added tax enforcement. He cautions, however, that having this system is "useless" if the receiving customs authority does not use the data. He also argues against using multiple pre-shipment inspection services that compete with one another may drive down valuation.

Appendix 3.3. Do semi-autonomous revenue authorities (SARA) work?

Results are mixed. On one hand, Jenkins (2000) finds revenue gains to be impressive at 4%-10% growth, but Devas (2001), Fjeldstat and Moore (2008, 2009) find that the effects on revenues do not persist. On the other hand, Dom (2018) does not find any significant revenue increase in SARAs over for the last 30 years among 45 countries in Sub-Saharan Africa. Jenkins (1994) develops principles in building SARAs that integrate tax and customs functions. Jenkins, Kelly, and Kadhka (2000) illustrate this for the case of Nepal.

[56] Pre-shipment inspection is delegating the physical inspection of goods to a private entity in an exporting country. The Philippines outsourced pre-shipment inspections to a private company (SGS) from 1987 to 2000 (Clarete, 2005)

Appendix 3.4. What lessons can we learn from the Philippine central bank's successful organizational reforms since 1993?

Lessons can be learned from the central bank's reform in 1993 after its bankruptcy. First, policymakers clarified the central bank's mandate by removing developmental banking functions and sharpening its focus on price stability to support economic growth. Second, the central bank attracted and retained "highly qualified and competent members of the [monetary] board and staff" (Lamberte, 2003). Third, the new central bank act provided a degree of independence in the conduct of the professional staff's decisions[57]. These reforms allowed the central bank to become the most trusted government agency in public opinion polls. If these reforms were to be instituted in customs, the critical question is whether professional independence can be maintained.

Appendix 3.5. How did the Philippines succeed in introducing computer systems in customs in 1992-1998?

Commissioner Parayno (2002), the only customs commissioner since 1986 to serve a full 6-year term, writes about the World Economic Forum's (2002) list of nine success factors[58] responsible for the Philippines having "one of the most significant and effective [information technology] programs":

1. Political support at the presidential and Cabinet level
2. Congressional support for required legislation and enough budget allocations
3. Committed and courageous BOC leadership to drive the reform process through the entire BOC organization
4. Engagement of local stakeholder community, including the businesses and non-governmental organization sector
5. Harmonization with international best practices and standards by organizations such as the World Customs Organization, APEC, and ASEAN
6. Engagement with international organizations such as the World Bank, which played a significant role in the overall modernization effort, and the IMF, which assisted in program monitoring
7. Effective leveraging of enterprise software
8. Strong monitoring and auditing of the reform and modernization program
9. Effective and comprehensive change management program

Parayno lists the following reasons for success: strong government support, strong private sector involvement and support, strong leadership for the program, use of a generic customs software, the passage of supporting legislation which removed the 100% inspection requirement

Parayno lists these reasons for the backsliding of current IT: financial resources running dry, other trade sectors failing to keep up, the changing information technology leadership within the bureau, and bureaucratic corruption.

[57] Following Kydlan and Prescott's and Barro and Gordon's seminal papers on the time-inconsistency and inflationary bias problems
[58] Nine success factors identified by the World Economic Forum:

Appendix 3.6. Should we just fire all customs officials?

Hors (2011), in a comparative case study of Pakistan, the Philippines, and Bolivia, argues that purges do not work. In the Philippines in 1972, 414 personnel were purged during martial law. In 1990, another 300 personnel were fired. But the results were "disappointing" and did not "lead to lasting change."

Appendix 3.7. What is the relationship between bureaucratic and political corruption in the Philippine customs bureau?

De Dios and Ferrer (2000) provide case studies of Philippine corruption since the Marcos dictatorship. They argue that corruption must be viewed as a political phenomenon; bureaucratic corruption is often merely secondary. They argue that the customs bureau got a reputation for being professional during the Marcos dictatorship but political power was centralized and bureaucratic power was suppressed "to the extent it was autonomous and did not fall in line with the requirements of the cronies and the ruling families."

Appendix 3.8. How does taxation influence a country's development?

Pritchett, Andrews, and Woolcock (2012) argue that the process of development of the nation-states is a four-fold transformation of economy (higher productivity), polity (aggregation of preferences of citizens), society (rights and opportunities extended to all social goods), and public administration (such as the state's capacity to tax, create a competent police force, and deliver the mail). Better taxation has been linked to higher real per capita incomes (Roser, 2018), democratization (Ross, 2004), public goods provision (Timmons, 2005), quality of governance (Moore, 2004).[59]. Besley and Persson (2014) argue that state capacity is shaped by the interaction between tax capacity, legal capacity, and public administration capacity. Gaspar, Jaramillo and Wingender (2016) further argue that tax capacity depends crucially on social norms of compliance, which is then linked to higher demands for accountability from the State.

These links to taxation map directly into these four transformations. These in turn allow citizens, empowered by linked freedom of politics and opportunity and protection from abject poverty to live lives to their fullest potential (Sen, 2001). Bessley and Persson (2014) argue that the power to tax is at "the core of state development." A nation-state's politics develops with economics, as people demand better use of the taxes they pay to government. Subramanian (2007) categorizes fiscal institutions such as tax and customs agencies as having market-stabilizing functions[60] and illustrates measures to evaluate the customs agency's institutional quality. Gaspar, Haramillo, and Wingender (2016) find that countries that pass a "tax tipping point" of 12¾ percent of GDP, real income per capita increases over the next decade. While the Philippines crossed this 12¾ percent threshold in 1990, the country's real per capita GDP *contracted* in 1991, 1992, 1993, 1998, and 2009. Notably, the tax ratio dipped below this level from 2001 to 2005, and again in 2009 to 2011. Domestic revenue mobilization is still therefore a key issue in the Philippines.

---

[59] As quoted in Gaspar, Jaramillo and Wingender (2016)
[60] Citing works from North (1990), Hall and Jones (1999), Acemoglu et. al. (2001), and Rodrik et. al. (2004), Subramanian argues that public institutions perform economic functions: they create markets, regulate and/or substitute for markets, stabilize markets, and legitimize markets.

Appendix 4. References

Data Used

Bureau of Customs Daily Filed Import Entries (2012-2017). Publicly available data downloaded from the customs website. Accessed 22 November 2018 to 2 February 2019. <http://customs.gov.ph/import-reports/>

World Bank World Integrated Trade Solutions (1962-2017). United Nations Comtrade Analysis, for the value and quantity gaps across countries and products. Accessed 22 November 2018.

Rauch, James E. 2007. *James K. Rauch's Website.* "Classification of SITC Rev. 2 commodities into organized exchange, reference priced, and differentiated." <https://econweb.ucsd.edu/~jrauch/rauch_classification.html>

Social Weather Stations (SWS) Survey. 2016. Survey of Enterprises on Corruption, February 2 to May 6, 2016. Accessed July 2018. <https://www.sws.org.ph/downloads/publications/2016%20Survey%20of%20Ent%20on%20Corrup%20for%20CEBU%20roadshows%20(10-Oct).pdf>

Expert Interviews

Belgado, Nell. Project Manager for *TradeNet.gov.ph* and member of the Anti-Red Tape Team. Interview by Ken Abante. 25 January 2019.

Purisima, Cesar. Former Secretary of Finance of the Government of the Philippines (2010-16). Interview by Ken Abante. 30 January 2019.

Parayno Jr, Guillermo. 2018. Interview by Marites Vitug. Rappler. Accessed 12 November 2018<https://www.rappler.com/newsbreak/rich-media/216126-interview-guillermo-parayno-jr-reforming-bureau-customs>

Sevilla, Sunny. Former Commissioner of Customs (2013-15). Interview by Ken Abante. 22 January 2019.

Tambago, Joeshias. Anti-Money Laundering Council. Interview by Ken Abante. 24 January 2019.

Uvero, Agaton. Former Deputy Commissioner for Assessment and Operations Coordinating Group (2013-15). Interview by Ken Abante. 21 January 2019.

Bibliography

Alano Jr. Bienvenido P. 1984. "Import Smuggling in the Philippines". Journal of Philippine Development No. 20, Volume XI, No. 2.

Anson Jose & Cadot Olivier & Olarreaga Marcelo, 2006. Tariff Evasion and Customs Corruption: Does Pre-Shipment Inspection Help?". *The B.E. Journal of Economic Analysis & Policy*, De Gruyter, vol. 5(1), pages 1-26, December. <https://ideas.repec.org/a/bpj/bejeap/vcontributions.5y2006i1n33.html>

Aure, Mark and Amurao. 2011. "On RA 9337: The Performance of the Reformed Value-Added Tax." *National Tax Research Center*. <http://www.ntrc.gov.ph/images/journal/j20111112b.pdf>

Bautista, Romeo M. and Gwendolyn R Tecson. 1976. "Philippine Import Flows from Japan and the United States: Accuracy of Trade Recordings," *Journal of Philippine Development* III (1976): 195-215.

Becker, Gary S. 1974."Crime and Punishment: "An Economic Approval." In Essays in the Economics of Crime and Punishment. New York: NBER. Cited in Alano, 1984.

Besley, T. and T. Persson. 2014. "Why do Developing Countries Tax So Little?," Journal of Economic Perspectives, Vol. 28, No. 4, Fall 2014, pages 99–120.

Bhagwati, Jagdish. 1964. "On the Underinvoicing of Imports." Bull. Oxford Univ. Inst. Statis. 26: pp. 389–97

Byrne, Peter D. 1994. "Privatizing in the Area of Tax Administration: An Overview." Harvard University International Tax Program.

Chua, Karl Kendrick. Forthcoming. "Tax Notes for Personal Income Tax, Value Added Tax, Petroleum Tax, Excise Tax, Capital Income Tax." *World Bank Philippine Country Office.*

Clarete, Ramon. 2005. Philippines: Adopting the transaction basis for customs valuation. In P. Gallagher, P. Low, & A. Stoler (Eds.), Managing the Challenges of WTO Participation: 45 Case Studies (WTO Internal Only, pp. 502-515). Cambridge: Cambridge University Press. doi:10.1017/CBO9781139030526.038

De Dios, Emmanuel S., and Ricardo D. Ferrer. 2001. "Corruption in the Philippines: Framework and context." *Public Policy* 5.1 (2001): 1-42

<http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan013133.pdf>

Department of Finance. Tax Watch Ad: Post-Entry Audit of Iron and Steel Companies. <https://www.dof.gov.ph/index.php/tax_watch/iron-and-steel-post-entry-audit/> Accessed 11 November 2013.

Devas, N., Delay, S., and Hubbard, M. (2001). Revenue Authorities: Are They the Right Vehicle for Improved Tax Administration? Public Administration and Development, 21(3):211–222.

Dom, Roel. 2018. Semi-Autonomous Revenue Authorities in Sub-Saharan Africa: Silver Bullet or White Elephant, The Journal of Development Studies.

Ehrlich, Isaac. 1974. "Participation in Illegitimate Activities: An Economic Analysis". In Essays in the Economics of Crime and Punishment. New York: NBER.

Fisman, Raymond, and Shang-Jin Wei. 2004. "Tax Rates and Tax Evasion: Evidence from 'Missing Imports' in China," *Journal of Political Economy*, Vol. 112, No. 2, pp. 471-96.

Fisman, Raymond, Peter Moustakerski & Shang-Jin Wei. 2008. "Outsourcing Tariff Evasion: A New Explanation for Entrepôt Trade," The Review of Economics and Statistics, MIT Press, vol. 90(3), pages 587-592, 03.

Fisman, Raymond and Shang-Jin Wei. 2009. "The Smuggling of Art, and the Art of Smuggling: Uncovering the Illicit Trade in Cultural Property and Antiques," American Economic Journal: Applied Economics, American Economic Association, vol. 1(3), pages 82-96, July.

Fjeldstad, O.H. and Moore, M. 2008. Tax Reform and State-Building in a Globalised World. In Brautigam, D., Fjeldstad, O.-H., and Moore, M., editors, Taxation and State-Building in Developing Countries - Capacity and Consent. Cambridge University Press, Cambridge.

Foster, James; Joel Greer; Erik Thorbecke. 1984. "A class of decomposable poverty measures". *Econometrica*. 3. **52**: 761–766. <doi:10.2307/1913475>

Gallagher, Mark. 2005. Benchmarking Tax Systems. Public Administration and Development, Vol 25, Issue 2.

Gaspar, Jaramillo, and Wingender. 2016. Political Institutions, State Building, and Tax Capacity: Crossing the Tipping Point. IMF Working Paper. Accessed 10 November 2018.<https://www.imf.org/external/pubs/ft/wp/2016/wp16233.pdf>

Gomez, Ray Cristofer. 2014. "Building an Excel Solver Model to Technical Smuggling in the Bureau of Customs." Operations Research Thesis submitted to Dr. Mari-jo Ruiz. Ateneo de Manila University Management Engineering.

Hors, Irene. 2001. "Fighting corruption in customs administration: what can we learn from recent experiences?" *OECD*.

Hutchcroft, Paul. 2014. "Linking Capital and Countryside: Patronage and Clientelism in Japan, Thailand, and the Philippines", in Diego Abente Brun & Larry Diamond (ed.), Clientelism, Social Policy, and the Quality of Democracy, Johns Hopkins University Press, Baltimore, USA, pp. 174-203.

Jenkins, Glenn. 1994. "Modernization Of Tax Administrations: Revenue Boards And Privatization As Instruments For Change", No 1994-01, Development Discussion Papers, JDI Executive Programs

Jenkins, Kelly, and Kadhka. 2000. "Modernization of Tax Administration in Low-Income Countries: The Case of Nepal." *Harvard International Tax Program*.

Kar, Dev and Brian LeBlanc. 2014. "Illicit Financial Flows to and from the Philippines: A Study in Dynamic Simulation, 1960-2011". *Global Financial Integrity*.

Khan, Adnan, Asim I. Khwaja, and Benjamin Olken. 2014. "Tax Farming Redux: Experimental Evidence on Performance Pay for Tax Collectors". National Bureau of Economic Research Working Paper 20627.

Khan, Adnan. 2018. Notes in Course DEV325: Opening the Black Box of Governance. Harvard Kennedy School.

Kitain, Alexander and Bill Gardner. 2014. USAID Facilitating Public Investment Project. Technical Assistance to the DOF. Comparable countries include non-OECD tax administration

Klau, Arne and Thomas Friedheim. 5 February 2018. World Trade Organization Trade Review for the Philippines. World Trade Organization Trade Review Body. WT/TPR/S/368

Lamberte. 2003. Central Banking in the Philippines: Then, Now, and the Future. Philippine Institute for Development Studies. <https://dirp4.pids.gov.ph/ris/books/pidsbk03-ppsbanking.pdf>

Mendoza, Ronald, Enrico V. Gloria, and Ser Percival Peña-Reyes. 2014. "Recasting the Bureau of Customs as a Developmental Agency". *AIM*

Working Paper Series. <http://ssrn.com/abstract=2492897>

Mishra, Prachi, Arvind Subramanian, and Petia Topalova. 2007. "Policies, Enforcement, and Customs Evasion: Evidence from India." *IMF Working Paper*.

Moore, M. 2004. "Revenues, State Formation, and the Quality of Governance in Developing Countries," *International Political Science Review*, 25(3):297–319. Quoted in Gaspar, et al.

Mylenko, Nataliya, Jay Peiris, and Ken Abante. 2014. Policy Note on Bank Secrecy and Money Laundering to the Secretary of Finance.

Ortiz-Ospina, Esteban and Diana Beltekian. 2018. "International trade data: why doesn't it add up?" *Our World in Data*. Web. Accessed 10 November 2018. <https://ourworldindata.org/trade-data-sources-discrepancies>

Pangetsu, Mari and Ahmad Habir. 1989. "Trends and Prospects in Privatization and Deregulation in Indonesia." ASEAN Economic Bulletin Vol. 5, No. 3. pp.224-241.

Parayno Jr., Guillermo L. 2004. "Trade Facililtation and Customs Modernization: The Philippine Experience". Seminar on Trade Facilitation and Customs Reform in South Asia.

Pomeranz, Dina. 2015. "No Taxation Without Information: Deterrence and Self-Enforcement in the Value Added Tax." American Economic Review 2015. 105(8): 2359-2569.

Pritchett, Lant, Michael Woolcock, and Matt Andrews. 2012. Looking Like a State: Techniques of Persistent Failure in State Capability for Implementation. *WIDER Working Paper 2012/063*. Helsinki: UNU-WIDER.

Pritchett, Lant, and Geeta Sethi. 1994. "Tariff rates, tariff revenue, and tariff reform: some new facts (English)". *The World Bank economic review. -- Vol. 8, no. 1 (January 1994), pp. 1-16*.

Rauch, James E. 1999. "Networks Versus Markets in International Trade," Journal of International Economics 48, no. 1: 7-35.

Rotunno, Lorenzo and Pierre-Louis Vezina. 2011. "Chinese Networks and Tariff Evasion". *Graduate Institute of International and Development Studies.* <https://voxeu.org/article/chinese-networks-and-tariff-evasion> Accessed 11 November 2018.

Ross, M.L. 2004. "Does Taxation Lead to Representation?" British Journal of Political Science 34(02):229–249. Quoted in Gaspar, et. al.

Sen, Amartya. 2001. Development as freedom (2nd ed.). New York: Oxford University Press.

Simkin, C. G. F. 1974. "lndonesia's Unrecorded Trade." In Illegal Transactions in International Trade, edited by Jagdish N. Bhagwati. Armsterdam: North Holland Publishing Co.

Slemrod, Joel and Wojciech Kopczuk. 2002. "The Optimal Elasticity of Taxable Income," Journal of Public Economics No. 84, pp. 91-112.

Subramanian, Arvind. 2007. "The Evolution of Institutions in India and its Relationship with Economic Growth." *Peterson Institute for International Economics.* Accessed 10 November 2018. <https://piie.com/publications/papers/subramanian0407b.pdf>

Timmons, J.F. 2005. "The Fiscal Contract: States, Taxes, and Public Services," World Politics 57:530–67. Quoted in Gaspar, et al.

USAID. 2006. Customs Reforms in the Philippines: Improving Efficiency, Effectiveness, and Anti-Corruption Outcomes. Report by Management Systems International Corporate Offices.

United Nations Trade Facilitation Enhancement Guide. Accessed 3 March 2019. <http://tfig.unece.org/contents/customs-risk-management.htm>

Walkenhorst, P and T. Yasui. 2003. "Quantitative assessment of the benefits of trade facilitation." UNCTAD, Geneva. Accessed by Mendoza, et al on 22 August 2014. <http://vi.unctad.org/files/studytour/strussia10/files/12%20April/Hoffmann%20UNCTAD/OECD_Quantitative%20Assessement%20TF%20benefits.pdf>

World Bank Ease of Doing Business Rankings. 2019. Accessed 3 March 2019. <http://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf>

Yang, Dean. 2008. "Can Enforcement Backfire? Crime Displacement in the Context of Customs Reform in the Philippines". *The Review of Economics and Statistics*, Vol. 90, No. 1 (Feb., 2008), pp. 1-14 Published by: The MIT Press Stable <https://www.jstor.org/stable/40043120>. Accessed 11 November 2018.

News Articles for Tables and Graphs

_____. BOC Official Website. “Commissioners: 1947-Present”. Accessed 10 November 2018.<https://web.archive.org/web/20130603160935/http:/customs.gov.ph/about/history/history-commissioners/>

Botial, Jerry. 8 January 2000. “Tan: We lost in public perception.” *The Philippine Star.* Accessed 10 November 2018. https://www.philstar.com/headlines/2000/01/08/93835/tan-we-lost-public-perception

Cosgrove-Sacks, Carol and Mario Apostolov. 2003. Trade Facilitation: The Challenges for Growth and Development, Volume 763.

Doronila, Amando. 30 August 2011. “The mystery of the missing container vans.” *Inquirer.NET*. Accessed 10 November 2010. <https://opinion.inquirer.net/10999/the-mystery-of-the-missing-container-vans>

Esplanada, Jerry. 24 June 2015. “Customs grafters have own jargon”. *Inquirer.NET*. Accessed 10 November 2010. <https://newsinfo.inquirer.net/700374/customs-grafters-have-own-jargon>

Francisco, Katerina. 24 August 2017. “FAST FACTS: Who is outgoing chief Nicanor Faeldon?” Rappler. Accessed 10 November 2018. <https://www.rappler.com/newsbreak/iq/179889-fast-facts-customs-chief-nicanor-faeldon>

KBK. 21 June 2010. “Morales bids customs adieu”. GMANews.TV. Accessed 10 November 2018. <http://www.gmanetwork.com/news/news/nation/194059/morales-bids-customs-adieu/story/>

Orosa, Rosalinda L. 2 June 2013. “Former Customs chief [Titus Villanueva] to launch biography”. *The Philippine Star.* Accessed 10 November 2018. <https://www.philstar.com/entertainment/2013/06/02/949130/former-customs-chief-launch-biography>

Rivera, Blanche S. 6 February 2002. “Finance usec [Bernardo] named new customs chief”. *Philippine Daily Inquirer*. Accessed 10 November 2018. <https://news.google.com/newspapers?nid=2479&dat=20020206&id=u1o1AAAAIBAJ&sjid=kiUMAAAAIBAJ&pg=917,2067981&hl=en>

Santos Jr., Reynaldo. 24 April 2015. “FAST FACTS: Changing leaders in the Bureau of Customs”. *Rappler.* Accessed 10 November 2018. <https://www.rappler.com/newsbreak/iq/91011-fast-facts-changing-leadership-bureau-customs>

Tolentino, Lilia and Danilo Garcia. 7 August 2004. “Customs chief [Bernardo] nag-resign”. The Philippine. <https://www.philstar.com/bansa/2004/08/07/260391/customs-chief-nag-resign#6gwZIhAPfVBRM4c1.99>

Vanzi, Sol Jose. 24 December 1998. “Erap Fires Family Friend for Gun-Toting at Manila Hotel”. Newsflash Accessed 10 November 2018. <http://www.newsflash.org/199812/pe/pe000610.htm>

Vanzi, Sol Jose. 7 March 2000. “Farolan bows out as BOC chief”. Newsflash. Accessed 10 November 2018. <http://www.newsflash.org/2000/03/hl/hl011945.htm>

Veneracion, Jun. 8 June 2015. “‘Ulo ng aso’: Corruption lingo at the Bureau of Customs”. GMANews.TV. Accessed 10 November 2018. <http://www.gmanetwork.com/news/news/specialreports/500322/ulo-ng-aso-corruption-lingo-at-the-bureau-of-customs/story/>

Villanueva, Marichu. 8 August 2004. “Customs chief [Bernardo] up for promotion” *The Philippine Star*. Accessed 10 November 2018. <https://www.philstar.com/headlines/2004/08/08/260477/customs-chief-promotion>

Laws and Executive Issuances Cited

Republic Act No. 9160. The Anti-Money Laundering Act of 2001.

Republic Act No. 9335. The Attrition Act of 2005.

Republic Act No. 10863. Customs Modernization and Tariff Act of 2016.

Executive Order No. 836, s. 2009 “Transforming the Risk Management Group of the Bureau of Customs into Risk Management Office”

Department of Finance Department Order No. 11-2018, amending DOs 12-2014 and 18-2014. Accreditation of Importers and Brokers.

Customs Administrative Order No. 6-2009 “Transforming the Risk Management Group of the Bureau of Customs into the Risk Management Office”

Customs Memorandum Order 14-2017. Abolition of Command Center and Authorization to Issue Alert Orders.