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Customs revenue in Ghana: Recent trends and their causes

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Preface

This report was prepared under the auspices of the Centre for Tax Analysis in Developing Countries (TaxDev), which aims to promote more effective tax policymaking in low- and middle-income countries through research, applied analysis, and partnerships with policymakers. The report is the product of a collaboration between the Institute for Fiscal Studies (IFS) and the Tax Policy Unit in the Ministry of Finance of Ghana, with support from the Ghana Revenue Authority (Customs Division).

The views expressed in this report are, however, those of the authors and do not necessarily reflect the views of the funders or of the other individuals or institutions mentioned here, including IFS, which has no corporate views, and the Ministry of Finance, Ghana and the Ghana Revenue Authority (GRA).

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Contents

Abbreviations	4
Executive summary.....	6
1. Introduction	9
2. Import volumes and revenues	10
2.1 Overview of system	10
2.2 Trends in imports and revenues	16
3. Drivers of revenue 2016–19	31
3.1 GCMS data.....	31
3.2 Total revenues, the tax base and the tax rate.....	32
3.3 Tax types	37
3.4 Import composition.....	40
3.5 The discount policy (2019)	52
4. Conclusion	59
References.....	61
Appendix.....	62

Abbreviations

ACP	Africa, the Caribbean and the Pacific
AfCFTA	African Continental Free Trade Area
AGOA	Africa Growth and Opportunity Act
AU	African Union
BoG	Bank of Ghana
CCVR	Customs Classification and Valuation Report
CEPS	Customs, Excise and Preventive Service
CET	Common External Tariff
CIF	cost, insurance and freight
COVID-19	coronavirus disease (severe acute respiratory syndrome coronavirus 2)
CPC	Customs Procedure Code
ECOWAS	Economic Community of West African States
EDRL	Energy Debt Recovery Levy
EFL	Energy Fund Levy
EPA	Economic Partnership Agreement
ESRC	Economic and Social Research Council
ETLS	ECOWAS Trade Liberalisation Scheme
ETR	effective tax rate
EU	European Union
EXIM	export–import
FOB	free on board
GATT	General Agreement on Tariffs and Trade
GCMS	Ghana Customs Management System
GDP	gross domestic product
GETFL	Ghana Education Trust Fund Levy
GHS	Ghanaian cedi
GIPC	Ghana Investment Promotion Centre
GIZ	German Agency for International Cooperation
GNPC	Ghana National Petroleum Corporation
GRA	Ghana Revenue Authority
HC	home consumption

5 Customs revenue in Ghana: recent trends and their causes

HS code	Harmonised Commodity Description and Coding System
ICTD	International Centre for Tax and Development
ICUMS	Integrated Customs Management System
IFS	Institute for Fiscal Studies
LMICs	low- and middle-income countries
MoF	Ministry of Finance
NHIL	National Health Insurance Levy
SIL	Special Import Levy
SPT	Special Petroleum Tax
SSA	sub-Saharan Africa
TaxDev	Centre for Tax Analysis in Developing Countries
UK	United Kingdom
UKAID	United Kingdom Agency for International Development
UN	United Nations
US	United States
USD	United States dollar
VAT	value added tax
WTO	World Trade Organization

Executive summary

The collection of tax revenue at customs has long been an important revenue source in Ghana. However, recent years have seen substantial falls in customs revenue collections, with the share of taxes collected at the country's ports falling from 42% in 2017 to 30% in 2019. With increasing tax revenues high on the government's agenda, understanding the underlying drivers of such trends is important for public policy. To that end, this report analyses Ghana's customs revenues in historical and international context, before using detailed data to investigate the drivers of revenue in recent years.

Key findings

- 1 The majority of customs revenue collections comes from taxes on imports, and nearly all of this comes from payments at the point of declaration. Thus, import consignments are key to understanding overall customs revenue performance.
- 2 Over time, the assessed value of Ghana's commodity imports has maintained a relatively stable share of gross domestic product (GDP) – between 18% and 26% – comparable with other countries in the region. However, in 2019 and 2020, this figure fell to 13% and 10%, respectively.
- 3 China accounts for an increasingly large share of Ghana's total imports, whereas imports from the UK have become much less important in recent decades. In 2019, more than a third of imports came from countries where Ghana has signed trade agreements, which may limit revenue policy options for customs. Vehicles and machinery have remained important commodities in Ghana's imports.

- 4 Revenue collected at customs remains an important part of overall tax revenue but has declined from around 55% of tax revenue collections in the early 2000s to 30% in 2019 and 2020. Over the period as a whole, this largely reflects faster growth in revenues from domestic direct and indirect taxes. While there are two periods of decline in customs revenue, from 2007 to 2010 and then from 2017 onwards, customs revenues (as a percentage of GDP) are only slightly lower now than in 2000 due to steady growth aside these two periods.
- 5 With respect to the fall in annual customs revenue in 2018 and 2019, two specific periods of decline are observed. The first began in late 2017 and continued in early 2018, and was driven by a decline in the average effective tax rate (ETR) collected on imports. In contrast, the decline in 2019 accompanied substantial declines in the assessed value of imports, which was sustained into 2020.
- 6 Import duty and import VAT fell the most in those two periods. Fuel tax revenues at customs held up well throughout 2018 and 2019, such that they surpassed value added tax (VAT), the National Health Insurance Levy (NHIL) and the Ghana Education Trust Fund Levy (GETFL) as the biggest sources of customs collections in late 2019.
- 7 Since 2016, the main trade partners and commodities have remained stable, with some exceptions, and new trade agreements are likely to be important going forward. There have been some declines in imports from 'high-tax' Customs Procedure Codes (CPCs), such as direct home consumption (HC), and some decreases in ETRs in others.
- 8 Overall, the composition of imports appears to be crucial in driving monthly variation in revenue collections for a given value of imports. Import composition can explain most of the fall in the

average ETR in the first period of revenue decline in late 2017 and early 2018, due to changes in the classification of imports.

- 9 The 2019 discount policy appears to be the key driver of revenue decline in 2019. The average assessed value and tax paid per consignment decreased substantially post-reform, conditional on other observable import characteristics. While it is difficult to estimate revenue losses from the policy without a good counterfactual, an upper bound effect of a GHS 3 billion reduction in customs collections in 2019 is estimated.

1. Introduction

Trade is a vital component of any modern economy. Exporting around the world can provide a vehicle for job creation and economic growth, and imports can often provide access to goods and services at lower cost than producing domestically. In many countries though, trade also contributes significantly to government revenues. Taxes on imports have historically been an important revenue source for many countries around the world; however, in line with a consensus that import taxes are harmful to economic growth, reliance on them has declined over time (e.g. Besley and Persson, 2013).

However, taxes on imports remain important in many low- and middle-income countries (LMICs), where a lack of administrative capacity and information on domestic transactions presents a challenge to domestic enforcement (Lee and Gordon, 2005; Besley and Persson, 2014). Ghana is no exception in this respect: as recently as 2008, more than half of the country's tax revenues were collected at customs. Recent years have seen notable declines though: customs revenue collections fell from 42% of tax revenue (5.3% of GDP) in 2017 to 30% of tax revenue (3.9% of GDP) in 2019. The effect of the COVID-19 pandemic on global trade in 2020 presented a further hit to import volumes and associated revenues.

In this report, we set out to explore these trends. In Section 2, we study Ghana's imports and associated customs revenues in aggregate, considering the composition of Ghana's imports and how recent patterns compare with historical and international benchmarks. In Section 3, we seek to explain the declines in revenue collections in 2018 and 2019 in particular. Using a detailed dataset covering individual import consignments processed by the Ghana Revenue Authority (GRA), we consider: how the tax base and ETR have changed; the evolution of different tax handles; the role of import composition in determining ETRs; and the impact of the 2019 discount policy. Importantly, the scope of this report is not to consider the desirability of any of the revenue sources studied; we only seek to explain trends in aggregate revenue collections.

2. Import volumes and revenues

In this section, we provide an overview of customs revenues in Ghana, starting with the key background information necessary for understanding the analysis that follows. We then provide a high-level overview that documents the composition of customs revenues in Ghana and how these have changed over time. In doing so, we draw attention to changing patterns of trade, and make comparisons with other countries around the world.

2.1 Overview of system

Institutional background

The Customs Division of the GRA was established under the Ghana Revenue Authority Act 2009 (Act 791) of the Parliament of the Republic of Ghana, and is responsible for the collection of international trade taxes, fees and levies charged on goods entering the country. In addition, the Customs Division is responsible for preventing smuggling and carrying out non-revenue functions such as enforcing laws concerning import and export restrictions and prohibitions. Prior to this, the Customs, Excise and Preventive Service (CEPS) was responsible for such tasks.

Box 2.1. History of customs in Ghana prior to the GRA

The Gold Coast His Majesty's Customs Department was established in 1839 to collect revenue by way of customs duties and other taxes. The Head was also made the Treasurer of the Colony and his subordinates had the added responsibility as Magistrates in their areas of jurisdiction at the sub-ports. In 1933, the name Customs Department was changed to Customs and Excise Department to reflect the added responsibility that arose due to the levying of excise duty on locally brewed beer. The Customs and Excise Department was restructured due to the promulgation of PNDC Law 144 in 1986. Consequently, the name

Customs and Excise Department was changed to Customs, Excise and Preventive Service (CEPS) to reflect its new Para-military and quasi self-accounting status.

The remit of the Customs Division means that it collects revenue from a wide range of sources (taxes and levies), and a comprehensive list of these is provided in Table A.1 in the Appendix using the revenue codes provided by the Customs Division.¹ These charges and levies can broadly be categorised into two groups.

Firstly, there are taxes and charges levied on imported consignments. These include taxes (sometimes also termed ‘levies’) applying exclusively to imported commodities (such as import duty), as well as taxes set out in other legal provisions and that do not apply exclusively to imported goods (such as VAT and excise duties).² Thus, policies that affects customs revenue collections can come from many different sources.

Secondly, revenue is collected from various charges that can apply at different parts of customs processing, such as licence fees, rent charges, administrative fees and penalties.

Both of these types of customs revenue are provided for in the Customs Act 2015 (Act 891, as amended) of the Parliament of the Republic of Ghana, which outlines the imposition, collection and accounting of import duty in Ghana. It also sets out the procedures by which goods are imported and assessed for applicable duties under the Harmonised Commodity Description and Coding System (HS code), provides for exemptions, outlines customs controls, procedures and licensing, and outlines security, offences and penalties, among other things.

Processing of import consignments

Figure 2.1 shows a breakdown of the revenue collected by the Customs Division of the GRA for an example month – May 2020.³ It is clear that taxes account for the vast majority (89% in this case) of customs revenue and thus are likely to be key to understanding overall customs revenue performance in Ghana. In May 2020, the

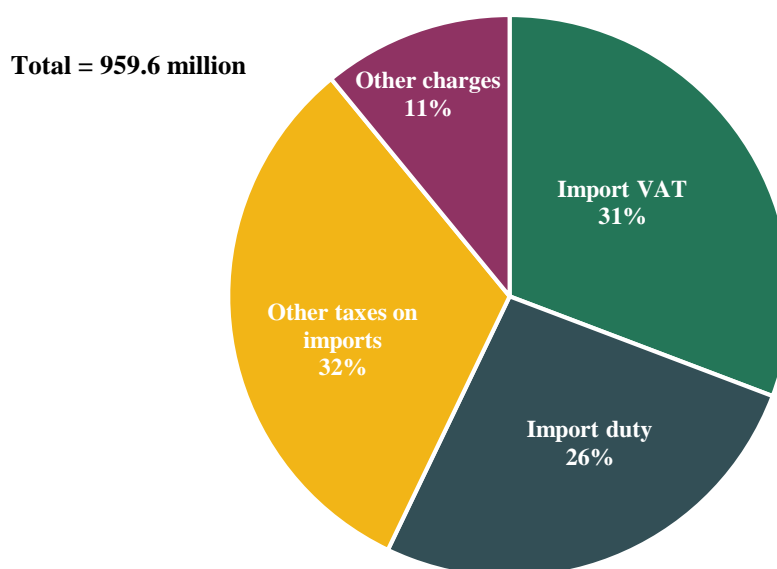
¹ See Customs Regulations, 2016, (L.I. 2248: Fifth schedule).

² Primarily these apply to imported goods, although exports may also be subject to taxation in selected cases. For instance, aviation spirit and kerosene type jet fuel exports are taxed.

³ We utilised only one month’s data here as comparable data for a longer period are not available.

two major taxes on imported goods (i.e. import duty and import VAT) accounted for about 57% of total customs collections. A full summary of the revenue breakdown from May 2020 is shown in Table A.2 in the Appendix for reference. This breakdown also highlights that the vast majority of total customs revenue comes from ‘declaration payment’ – that is, revenues associated with a particular import consignment on the GRA’s system. In May 2020, such revenues accounted for close to 99% of total customs revenues; the data we use in Section 3 pertain to this portion of overall collections.

Figure 2.1. Components of customs revenue collections in an example month (May 2020)



Source: GRA.

The Customs Division operates on functionary lines referred to as customs regimes, which are related to the classification of goods entering or leaving Ghana. There are nine standard regimes comprising one direct revenue regime, four suspense regimes and four non-revenue regimes. The revenue regime is imports for home consumption while the suspense regimes are Warehousing, Free Zones,

Transit/Transshipment and Temporary imports regimes.⁴ The non-revenue regimes are Export⁵, Temporary Export, Re-export⁶ and Re-import regimes.

Every consignment processed by the Customs Division is allocated to one of these customs regimes. These are the various sets of procedures made available to importers and exporters to declare their intentions with respect to the goods being imported or exported. At a more granular level within these nine high-level customs regimes, each import and export is allocated a CPC, which may be defined by the nature of the commodity, the use of the particular consignment, or who the import is for (or a combination of these). CPCs are created in line with customs regimes for the purposes of determining specific clearance procedures and processes as well as how duties and taxes are computed, and how trade data are captured on a customs declaration.

Customs assessment of import duty on consignments is based on the value of the imported good, and since 2016 Ghana's import duty rates have largely been determined by the Common External Tariff (CET) of the Economic Community of West African States (ECOWAS).⁷ The ECOWAS Trade Liberalisation Scheme (ETLS) provides for trade and investment liberalisation among its 15 member countries, generally allowing for the free movement of goods originating in the region. For imports from non-members, import duty applies at 0%, 5%, 10%, 20% or 35% of the cost, insurance and freight (CIF) value, depending on the precise classification (or HS code) of a given import. Table 2.1 provides a broad overview of the rates applying to different types of goods.

⁴ Suspense regimes are potential revenue regimes.

⁵ This excludes export of aviation turbine kerosine (ATK) and marine gas oil (MGO) foreign; the associated revenues are reported under petroleum collections.

⁶ This excludes re-export from warehousing, in which case a processing fee equal to 1% of CIF is charged.

⁷ Some discretion is retained, however, with tariff deviation admitted for a maximum of 184 tariff lines (representing 3% of all items).

Table 2.1. Import duty rates under the ECOWAS CET

Type of good	Duty rate
Basic social goods (e.g. pharmaceutical products)	0%
Basic, raw and capital goods (e.g. steel ingots, flat-rolled products of iron)	5%
Inputs and semi-finished goods (e.g. tomato paste concentrate)	10%
Finished goods (e.g. electric domestic appliances)	20%
Specific goods for economic development (e.g. meat and edible offal)	35%

Source: ECOWAS CET Factsheet, GIZ, and GRA staff.

Prior to joining ECOWAS, Ghana was a member of the World Trade Organization (WTO) since its founding in 1995, as well as the preceding General Agreement on Trade and Tariffs (GATT) since 1957. As a result, it by default applies Most Favoured Nation treatment to all other trading partners that are members of the WTO. It is also part of a number of other trade agreements, as follows.

- Ghana has signed and ratified the African Continental Free Trade Area (AfCFTA) Agreement and currently hosts the AfCFTA Secretariat. Officially, the AfCFTA took effect on 1 January 2021. AfCFTA was created among 54 of the 55 members of the African Union (AU), creating the biggest free-trade area in the world by number of participating countries, and is expected to boost intra-African trade substantially. Participating countries are required to reduce and ultimately eliminate tariffs on 90% of goods traded under the AfCFTA. However, the timeline for achieving this varies across country income groups; least developed countries (LDCs) are expected to achieve this over a ten-year period and non-LDCs over a five-year period. Up to 7% of tariff lines for sensitive products will be fully liberalised over 13 years for LDCs and 10 years

for non-LDCs, while 3% of tariff lines will be excluded from tariff liberalisation.⁸

- Ghana entered into an Economic Partnership Agreement (EPA) with the European Union (EU) (excluding the UK) in December 2016. Under this agreement, the EU will provide duty-free and quota-free access for Ghana's exports to the European markets once implemented. In return, Ghana will progressively reduce its tariffs to zero for 78% of its imports from the EU by 2029.⁹
- Ghana signed a new trade agreement with the UK in March 2021 to replace the EU EPA following the UK's departure from the EU. This agreement replicates the tariff schedule of the EU EPA, providing Ghanaian products with tariff-free access to the UK market in exchange for gradual tariff liberalisation for most products imported from the UK to Ghana by 2029.

In the long term, some of these trade deals are likely to have important implications for customs revenue collections in Ghana. Estimating these effects is beyond the scope of this report but is something that we intend to consider in future work.

Aside from these existing and imminent trade deals, which may affect the duties Ghana can charge on its imports, Ghana is also a member of:

- the ACP-EU Partnership Agreement (the successor to the Lomé Convention), which involves 28 states in the EU and 79 countries in Africa, the Caribbean and the Pacific (ACP)¹⁰ – the ACP–EU agreement provides a non-reciprocal trade preferences and financial aid to all ACP countries;
- the US African Growth and Opportunity Act (AGOA) of 2000, which grants Ghana duty-free access to the US market.

⁸ See 'On implementing the AfCFTA in 2021' by D. Luke, J. Ameso and M. G. Bekele, <https://trade4devnews.enhancedif.org/en/op-ed/implementing-afcfta-2021>.

⁹ The regional EU–West Africa EPA was signed in December 2014 by the EU and 13 West African countries including Ghana (with The Gambia and Mauritania doing same in 2018) and this will replace the Ghana–EU agreement when entered into force.

¹⁰ The partnership between the EU and the ACP states dates as far back as the 1963 with the signing of first Convention of Yaounde. The Yaounde convention sought to bind the then European Economic Community and former colonies of some of its member states.

2.2 Trends in imports and revenues

Data sources

For this report, a number of data sources have been compiled and will be used interchangeably for different purposes, as each has its own strengths. These are briefly summarised in Table 2.2.

Data from UN Comtrade provide a time series of trade data compiled from national sources that is internationally comparable. These data are suitable for studying long-term changes in Ghana's trading patterns, which are relevant for understanding customs revenue performance. However, the data contain information on only the CIF values of imports. It is also in USD and without the relevant annual exchange rate, thus making comparisons with official government series more difficult. The GRA's own aggregate revenue series provides an important baseline for studying changes in customs revenue over time; however, because it is an aggregate series, the extent of detailed analysis that is possible using these data is limited. Nonetheless, combining these two series provides a strong basis for understanding Ghana's customs revenue performance over the long term at the aggregate level.

Table 2.2. Data sources

Dataset	Time period	Description
UN Comtrade	1996–2019 (annual) 2012–19 (monthly)	Data on trade flows (CIF of imports; FOB of exports) by trade partner and commodity (up to HS6) in USD
GRA series	2005–20 (annual) 2012–20 (monthly)	Total official CIF volume of imports and total Customs Division revenue in GHS
GCMS data	2016–19	Micro-data on import consignments logged on system, including detailed commodity information, value, mass, country of origin, CPC and all levies paid and exempt at time of import

Note: UN Comtrade data are compiled from information provided by the Ghana Statistical Service and are free to download at <https://comtrade.un.org/>. GRA series and GCMS data were provided by GRA staff for this project.

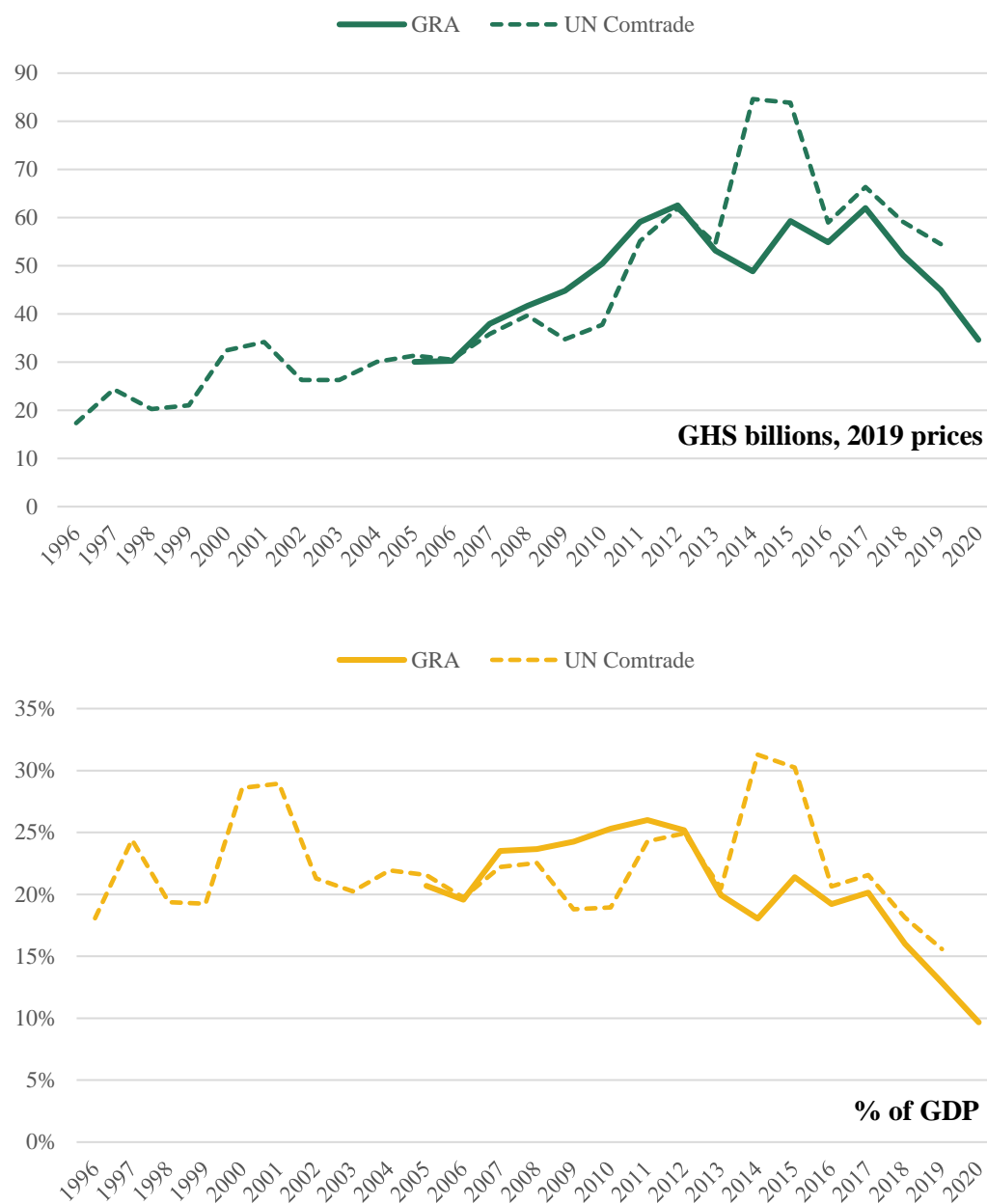
The Ghana Customs Management System (GCMS) data, which are provided in an administrative, micro-level dataset, are better suited to studying recent revenue trends in granular detail; we discuss and use these data comprehensively in Section 3. These data underlie the more detailed empirical work undertaken in Section 3.

Import volumes

Over the past two and half decades, the real value of Ghana's commodity imports has increased, though not in a constant manner. Figure 2.2 shows this trend, using both GCMS data (back to 2005) and UN Comtrade data (which go back to 1996). For the most part (2014 and 2015 are notable exceptions), these two series move together closely. Though we refer to the GRA Customs series when it is available, the UN Comtrade data can provide insight for earlier years. The GRA Customs series here provides an aggregate estimate of the tax base for customs duties. Importantly, the 2019 and 2020 figures incorporate a change in the way that imports are valued at ports, which we return to in Section 3.5; this policy change means the GRA data may not align well with internationally reported trade statistics in those two years in particular.

Despite some substantial year-on-year variation, the real CIF value of imported goods increased, on average, up to 2012 in line with economic growth, specifically from GHS 17 billion in 1996 to over GHS 62 billion by 2012 (in 2019 prices). Since then, however, imports have not grown overall. In only one year (2017) since 2012 has total CIF exceeded GHS 60 billion in real terms. The total value of commodity imports fell in 2013 and 2014, and after recovering somewhat began to fall precipitously after 2017 again. The assessed value of commodity imports registered in 2019 was the lowest since 2009; the 2020 figure of under GHS 35 billion was the lowest since 2006.

Figure 2.2. Long-term trend of CIF value of imports into Ghana, 1996–2020



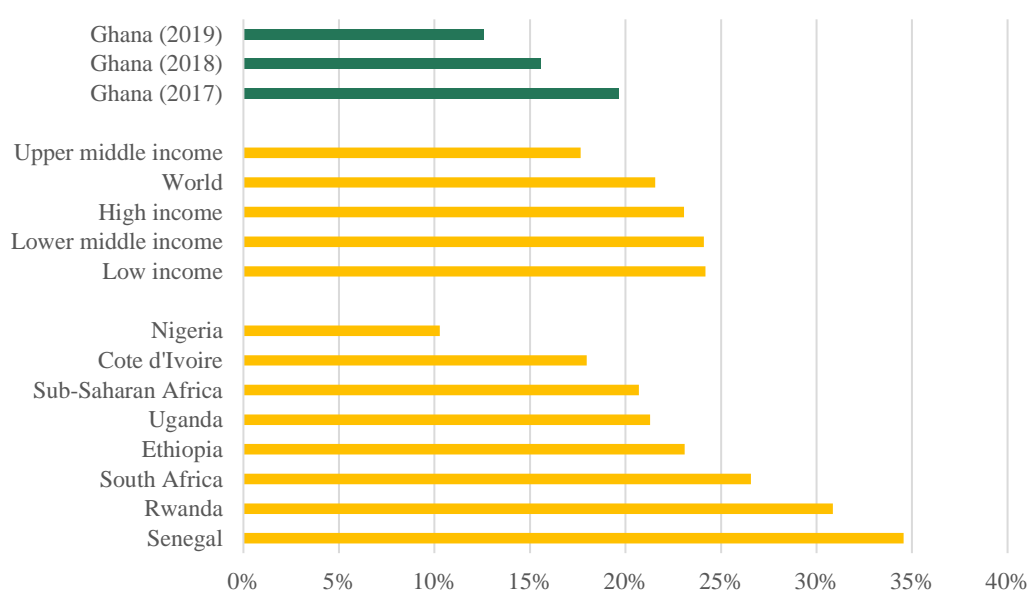
Note: Real CIF value deflated to 2019 prices using Bank of Ghana GDP deflator.

Source: Authors' calculations based on data from the GRA, the Bank of Ghana, Ghana Statistical Service and UN Comtrade.

Viewed in terms of percentage of GDP, Ghana's commodity imports have been somewhat steady for most of the period, largely hovering between 18% and 26% of GDP, suggesting that Ghana has not become more import-intensive with regards to

goods as the economy has grown.¹¹ The last few years (2018–20) are an exception in this respect, with the reported CIF value of imports declining to 16% of GDP in 2018, 13% in 2019, and 10% in 2020. This might partly be explained by the 2019 reform to how goods are valued for assessment of duties (discussed in detail in Section 3), although this would not account for the decline in the GDP share in 2018.

Figure 2.3. Commodity imports as a share of GDP in different countries and country groupings



Note: This figure is based on merchandise imports from the reporting economy, which refer to the CIF value of goods imported. For more detail on data definitions, see <https://data.worldbank.org/indicator/TM.VAL.MRCH.CD.WT>. The figures for all countries and country groupings except Ghana relate to 2019. For Ghana, three separate years of data are shown (i.e. 2017, 2018 and 2019).

Source: GRA and Ghana Statistical Service (Ghana); World Bank (all others).

The further decline in imports in 2020 was likely driven to a significant extent by the impact of the COVID-19 pandemic on global trade flows and domestic demand,

¹¹ Ghana's GDP figures have been rebased a couple of times in the recent past (e.g. in 2010 and 2018). This has resulted in upward adjustments to the country's GDP figures, by 60% and 26% in 2010 and 2018, respectively. These revisions are incorporated in our data. Table A.3 presents Ghana's GDP series, which compares trends in oil and non-oil GDP in million GHS.

although the fact that the discount policy was in place for the entirety of that year may also be a factor.

Compared with other countries in sub-Saharan Africa (SSA), commodity imports of around 20% of GDP – as Ghana has seen for much of the 21st century – is relatively typical (Figure 2.3). Considering very broad country groupings, there does not appear to be a strong gradient between GDP per capita and commodity import intensity, with high- and low-income countries showing only a 1 percentage point difference on aggregate as of 2019 on this metric. However, the fall in import values registered by Ghana in 2019 (i.e. before the effect of the COVID-19 pandemic) does place it below that of comparable regional peers in terms of commodity import intensity.

Import characteristics

In this subsection, we highlight a few features of imports into Ghana in recent years that may be important for revenue collections.

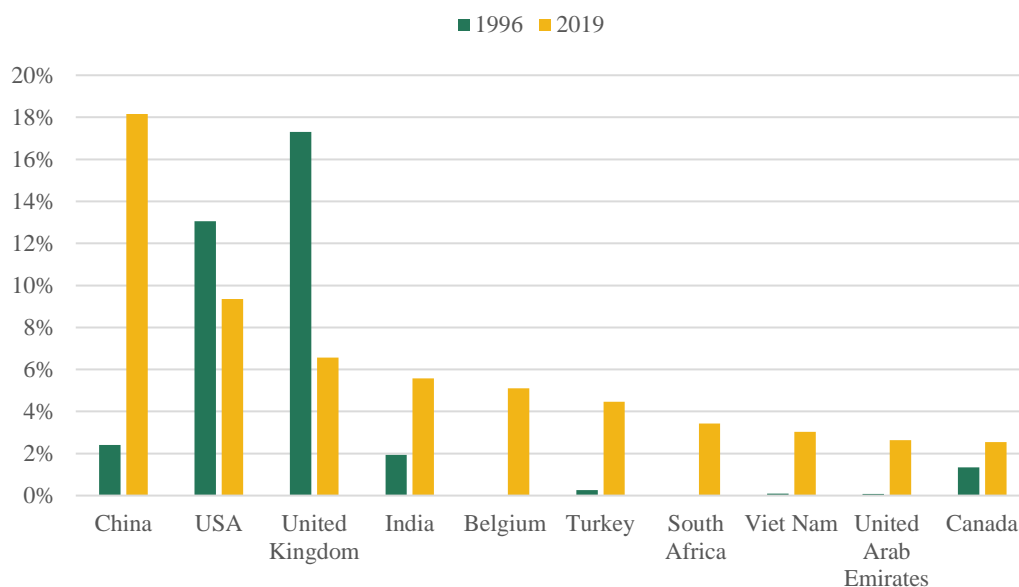
Major origins of imports (trade partners)

The composition of trade partners and changes in this composition over time may be important for revenues. In terms of the trends in the shares of key partner countries, the composition of Ghana's major trading partners has changed substantially, since the 1990s (Figure 2.4). For instance, while the UK accounted for more than 17% of imports in 1996, making it the number one source of imports into Ghana, this share had fallen below 7% by 2019, although this still made the UK the country's third biggest import partner that year. The relative importance of the US for imports has also declined somewhat. The rise of China as an import partner is clear over the last two decades, with the Chinese import share rising from 2% to 18%. Overall, the share of imports coming from Ghana's top ten trading partners has declined over time; it stood at 71% and 61% in 1996 and 2019, respectively. An alternative measure suggests that the concentration of Ghana's imports from a small number of partner countries has not changed as of 2019 compared to its level in the mid-1990s: for instance, calculating the Herfindahl–Hirschman index by year yields values of 0.063 in 1997 and 0.062 in 2019.¹² This

¹² The Herfindahl–Hirschman index is a commonly used measure of concentration, often applied to market power. It is calculated as the sum of squared shares. In 1996, the value of this index was 0.077, but this appears to be an anomaly.

does mask a slight increase in diversification in partner countries from 2000 to 2009, however, with the index falling below 0.05 in all but one of those ten years.

Figure 2.4. Share of imports from Ghana's top ten import partners in 2019 compared to their 1996 share



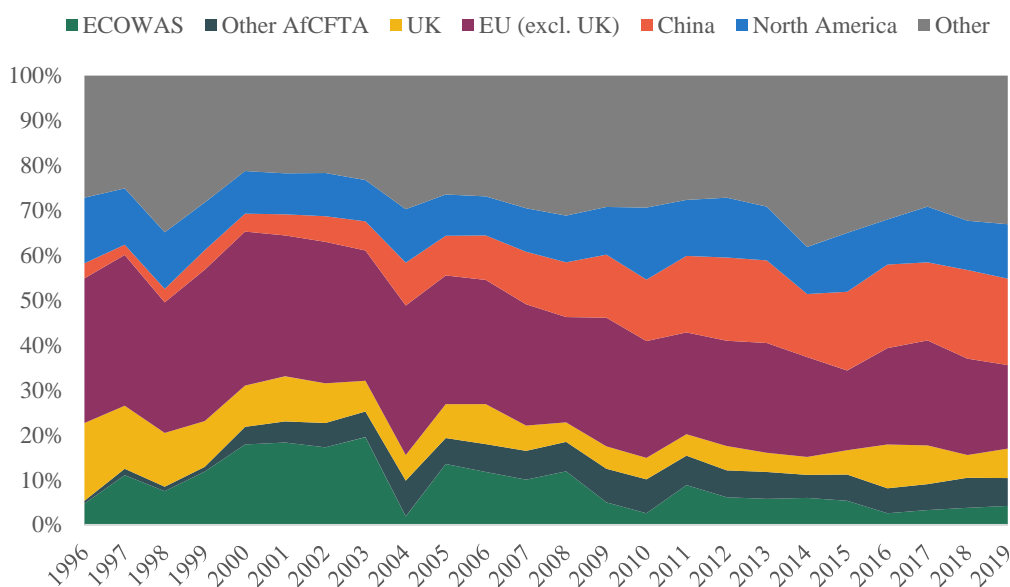
Note: Values of zero do not imply that absolutely no imports came from that country of origin in that year; only that such imports were not captured in the annual data.

Source: UN Comtrade

Another way of looking at who Ghana trades with is through the lens of some of the major countries or groups of countries with which Ghana has a trade agreement, which limits their ability to change duty rates. Figure 2.5 shows significant changes in the trade shares of major regional trade and economic blocs, over time. In particular, relatively less of Ghana's overall imports have been coming from the EU (excluding the UK) over time. Similarly, and as presented earlier, the share of the UK imports in Ghana's total trade value has declined markedly, while that of China has been on the rise since the 1990s. Ghana's relative trade with its regional and continental neighbours has been modest in recent years, mostly reflecting a falling import share from ECOWAS since the 2000s; imports from other AfCFTA countries have actually increased to some extent over time. Imports from groups of countries with which Ghana has signed a trade agreement still account for a large share (36%) of overall imports as of 2019 – and one might expect this to increase in

response to the trade agreements, or at least to reverse a declining trend. This has had a direct effect on customs revenues, as well as influencing the ability of the government to change customs revenue policies.

Figure 2.5. Share of imports from major regional and economic blocs, 1996–2019



Note: ECOWAS consists of 15 member countries including Nigeria, Liberia, Mali and Togo. These countries are also members of the AfCFTA. 'Other AfCFTA' relates to members of the AfCFTA that are non-ECOWAS members (e.g. Kenya). 'EU (excl. UK)' refers to the European Union and consists of 28 member countries including Austria, Belgium, Bulgaria and Denmark. 'North America' consists of Canada, Mexico and the US. 'Other' represents countries not included in any of the aforementioned groups.

Source: UN Comtrade.

Major imported commodities

Relevant from a revenue perspective is the composition of imports by product type, as certain types of goods are conferred lower duty rates (e.g. because they are an essential good or are considered important to economic development). Table 2.3 presents the shares of the top ten commodities imported into Ghana in total import values for the years 1996 and 2019. In 1996, the Ghana's top ten groups of commodity imports included a range of manufactured and capital goods, plus electrical and electronic equipment, iron or steel articles and mineral fuels, oils and distillation products.

Since then, some commodities (including cereals, plastics and articles thereof, as well as wood and articles of wood including charcoal), which did not make it to the top ten list of imported products in 1996, have become major imported products in the country in recent years. The top imported commodities in 2019 were still dominated by machinery and capital goods, however.

The share of imports accounted for by the top three commodity groups declined from 43% to 36% between 1996 and 2019. The share of the top ten commodity groups in total annual import values declined by more than 10 percentage points between 1996 and 2019. This suggests increased diversification in Ghana's commodity import basket over the past two decades or so, reflecting changes in the pattern of production and consumption activities in the country.

Table 2.3. Share of Ghana's top ten commodity imports in total annual import values (1996 and 2019)

Commodity and year	CIF share
1996	
Optical, photo, technical, medical, etc., apparatus (90)	2.5%
Fish, crustaceans, molluscs, aquatic invertebrates ne (3)	2.6%
Articles of iron or steel (73)	3.1%
Furniture, lighting, signs, prefabricated buildings (94)	4.4%
Inorganic chemicals, precious metal compound, isotope (28)	4.4%
Mineral fuels, oils, distillation products, etc. (27)	5.8%
Electrical, electronic equipment (85)	7.5%
Commodities not specified according to kind (99)	7.7%
Vehicles other than railway, tramway (87)	17.6%
Nuclear reactors, boilers, machinery, etc. (84)	17.7%
Top ten	73.3%
2019	
Wood and articles of wood; wood charcoal (44)	2.9%
Mineral fuels, mineral oils and distillation products, etc. (27)	2.9%
Iron and steel (72)	3.5%
Salt; sulphur; earths, stone; plastering materials, lime and cement (25)	3.6%
Iron or steel articles (73)	3.8%
Plastics and articles thereof (39)	4.8%
Cereals (10)	5.0%
Electrical machinery and equipment and parts thereof (85)	6.6%
Nuclear reactors, boilers, machinery and mechanical appliances, etc. (84)	13.1%
Vehicles; other than railway or tramway rolling stock, etc. (87)	16.3%
Top ten	62.4%

Note: HS2 code in brackets.

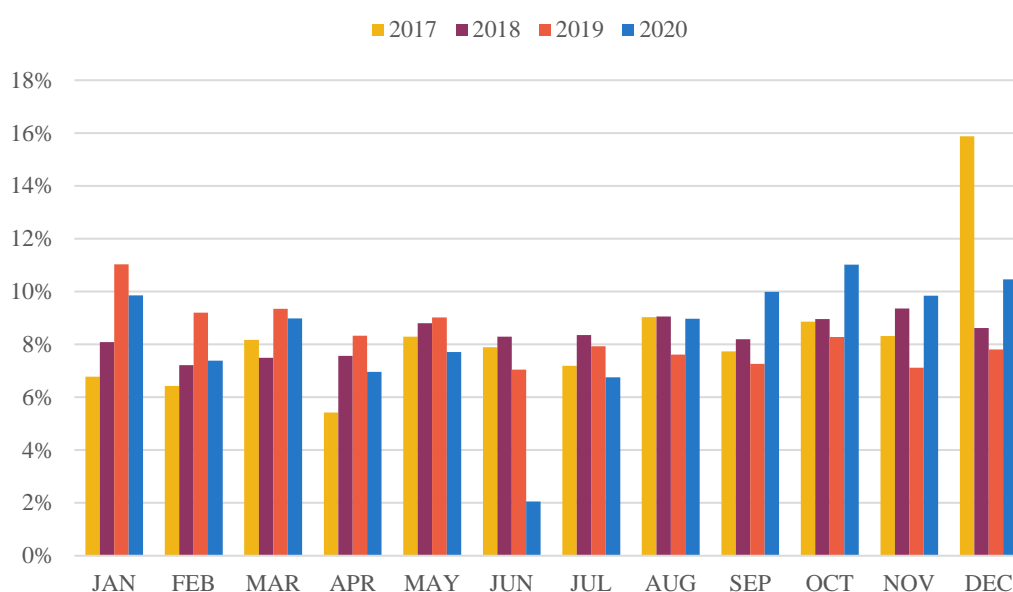
Source: UN Comtrade.

In-year timing

From the perspective of the GRA and the government generally, the date that imports arrive into the country within a given year matters for monitoring revenues. One might expect a degree of seasonality – for instance, due to the seasonal nature of agricultural production, tourism or national holidays and events. As Figure 2.6 shows, however, in ‘normal’ years at least, there is broadly an even spread in the

total annual value of imports across the various months in a year. Considering 2017 and 2018, for instance, most months account for approximately 8% of CIF, though December 2017 stands out as an outlier. The pattern in 2019 is slightly different, with CIF somewhat front-loaded in the early months of the year – likely because of the introduction of the discount policy in April 2019. In 2020, there was a resurgence in imports towards the end of the year after depressed values in the second quarter amidst the global shock of the spread of COVID-19.

Figure 2.6. Average share of monthly imports in annual import values



Source: GRA Customs.

Customs tax revenue

As shown in Figure 2.1, only a small share of total revenue (e.g. 11% in May 2020) collected by the GRA Customs comes from non-tax sources in the form of various fees and penalties. Customs tax revenue collections (constituting taxes due on the import of goods, plus Energy Fund and Road Fund Levies' collections) are an important part of total tax revenue collections in Ghana, as shown in Figure 2.7, which focuses specifically on tax collections by the GRA. These data refer to gross collections accounted for by GRA, not final tax revenues, although herein we use

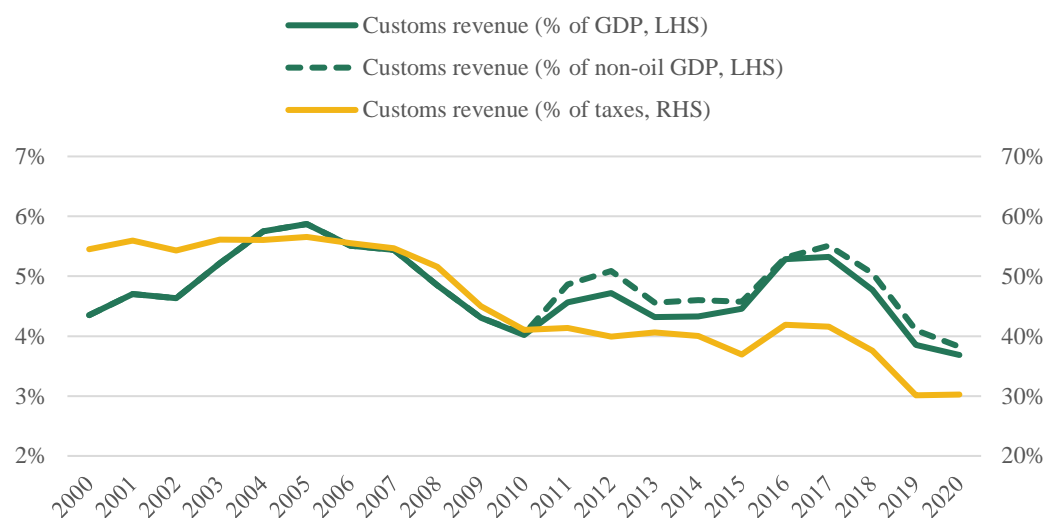
the two terms interchangeably for ease of exposition.¹³ In 2019, customs taxes constituted 30% of total tax collections – equivalent to 4.1% of GDP. Similar figures continued in 2020, though with a fall in revenues as a share of GDP, which fell just below 4% – lower than at any point since the turn of the millennium.

However, this aggregate contribution has changed substantially over the past two decades. Customs tax collections were at their highest as a share of GDP in the mid-2000s. They rose during the early 2000s, such that despite growth in other tax revenue sources, customs revenues averaged around 55% of total tax revenues and peaked at 5.9% of GDP in 2005. Between 2007 and 2010, customs revenues fell both as a share of GDP and as a share of overall tax revenues.

After this, customs revenues grew strongly again up to 2017, hitting a ten-year high above 5.3% of GDP in 2017. During this period, their share of overall tax revenues remained relatively stable, as other sources of tax revenue grew also grew as a share of GDP in the same period. In 2018 and 2019, however, customs revenues fell substantially both as a share of GDP and as a share of overall tax revenue, making up 30% of overall tax revenues in 2019 and 2020.

Overall, customs revenues as a share of GDP in 2019 in Ghana was not dissimilar to that in 2000, and the 2020 total was only half a percentage point lower than in 2000. As a percentage of non-oil GDP, customs revenue is marginally higher but the broad patterns over the previous decade or so are unchanged. However, in light of the growth of other tax revenue sources (direct taxes and domestic indirect taxes), the overall contribution of customs revenues to government revenues has declined substantially.

¹³ Tax collections by the GRA exclude collections from upstream petroleum and also do not account for tax refunds.

Figure 2.7. Total and customs tax revenue in Ghana 2000–20

Note: Customs revenue includes revenue collected by the Customs Division and reported in GRA tax collections. This includes taxes also levied on domestic expenditure (e.g. VAT).

Source: Ghana Revenue Authority, Bank of Ghana and Ghana Statistical Service.

Figure 2.8 makes clear that different sources of customs tax collections have contributed to the growth and decline of total revenues for the various periods over the past two decades. Import duty revenues (which include various taxes levied specifically on imported goods, plus excise duty on imports) specifically increased somewhat between 2000 and 2017, from just below 1.5% of GDP in 2000 to 2.2% of GDP in 2017. The significant growth (by over 1% of GDP) between 2002 and 2005 came primarily from taxes on fuel and the introduction of the NHIL, despite some offsetting effect from reduced VAT collections in 2005.¹⁴ The large decline in customs revenues in the years that followed owes primarily to a fall in fuel tax revenues collected at customs.¹⁵ The decline in fuel tax revenues during the mid-2000s can be attributed to the provision of exemptions on the import of petroleum products (especially gas oil) to some mining companies.¹⁶ This also followed

¹⁴ Collections of VAT at the border may be later reclaimed by taxpayers as an input tax deduction. Thus, changes in VAT collections at the border will not generally translate one-to-one into changes in overall tax revenue.

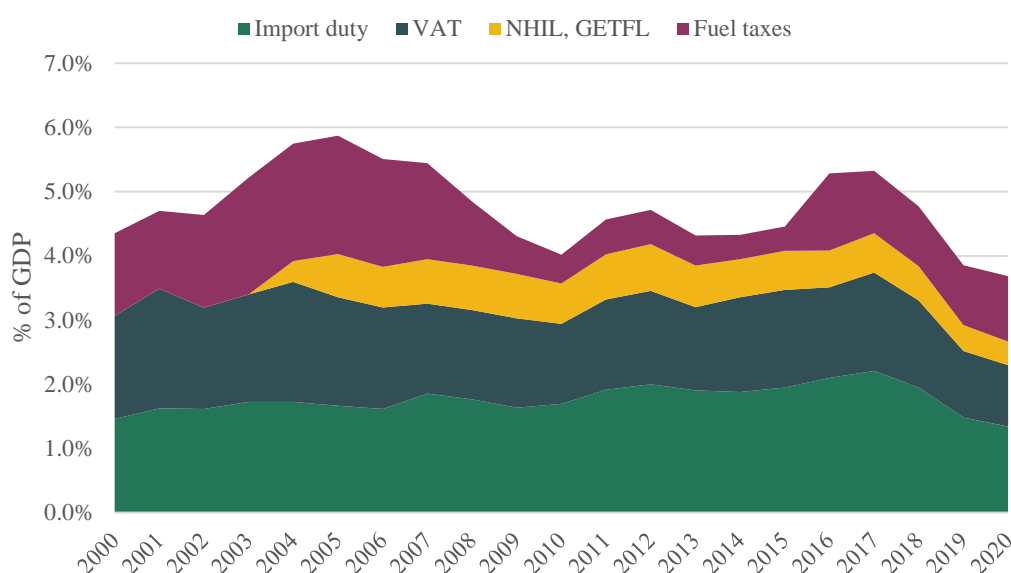
¹⁵ These collection figures only refer to gross collections, however, and do not account for the subsidisation of fuel products.

¹⁶ These are companies that had a stability agreement with the Government of Ghana (i.e. Gold Fields Ltd and Newmont Ghana Ltd).

increases in world oil prices and decreases in the tax rates applied to petroleum products in order to ameliorate the effects on local producers and consumers (Iddrisu et al., 2021).

A different pattern emerges in the most recent episode of decline in customs revenue collections: since 2017, it has been import duties and import VAT that have accounted for almost all of the fall in customs revenue collections, with fuel taxes holding up comparatively well.

Figure 2.8. Composition of customs tax revenues over time



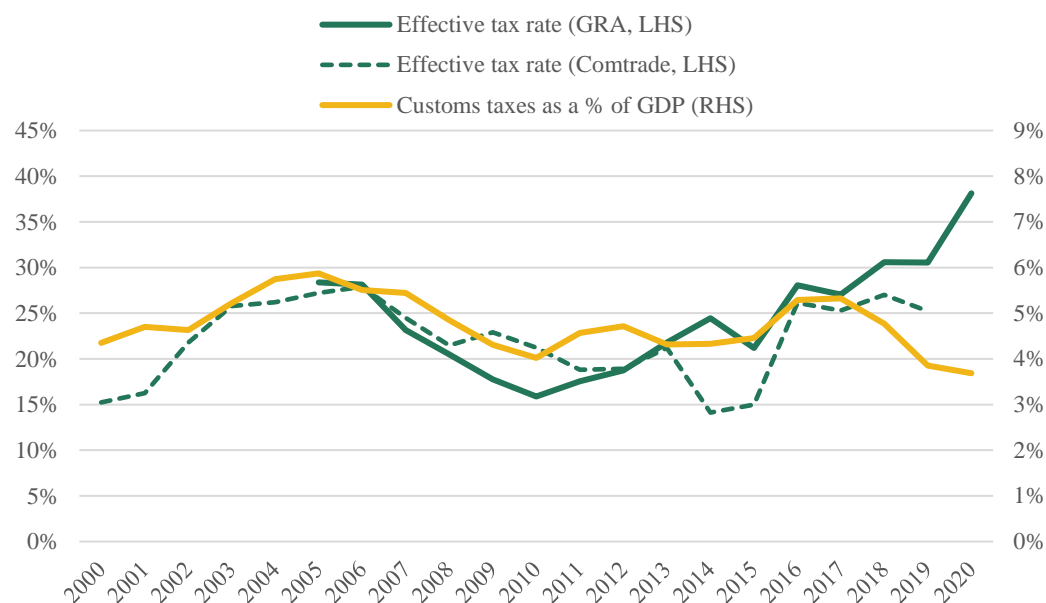
Note: This figure shows only collections, so does not account for any refunds or offsets. Import duty includes all taxes levied specifically on imports, plus import excise duty. Fuel taxes include all taxes levied specifically on energy products; these revenues are gross so do not account for any offset spending from subsidisation.

Source: GRA, Bank of Ghana and Ghana Statistical Service.

Given the evidence presented previously, which suggested that commodity imports as a share of GDP have not changed drastically in the last two decades aside from the last couple of years, substantial changes in revenue collections imply changes in the effective duty rate on imports. This is confirmed in Figure 2.9, which plots the estimated overall ETR based on total customs tax collections and the total CIF value of imports. In line with the evidence shown in previous charts, this suggests that the aggregate tax rate applied to imports has been a key driver of customs

revenues in the past two decades: the correspondence between the two series is clear in all years bar a select few, with 2014–15 and 2018–20 standing out somewhat. The jump in the effective duty rate in 2020 is especially striking, where the ratio of customs taxes to assessed CIF hits almost 40%.

Figure 2.9. Effective tax rate on imports overall



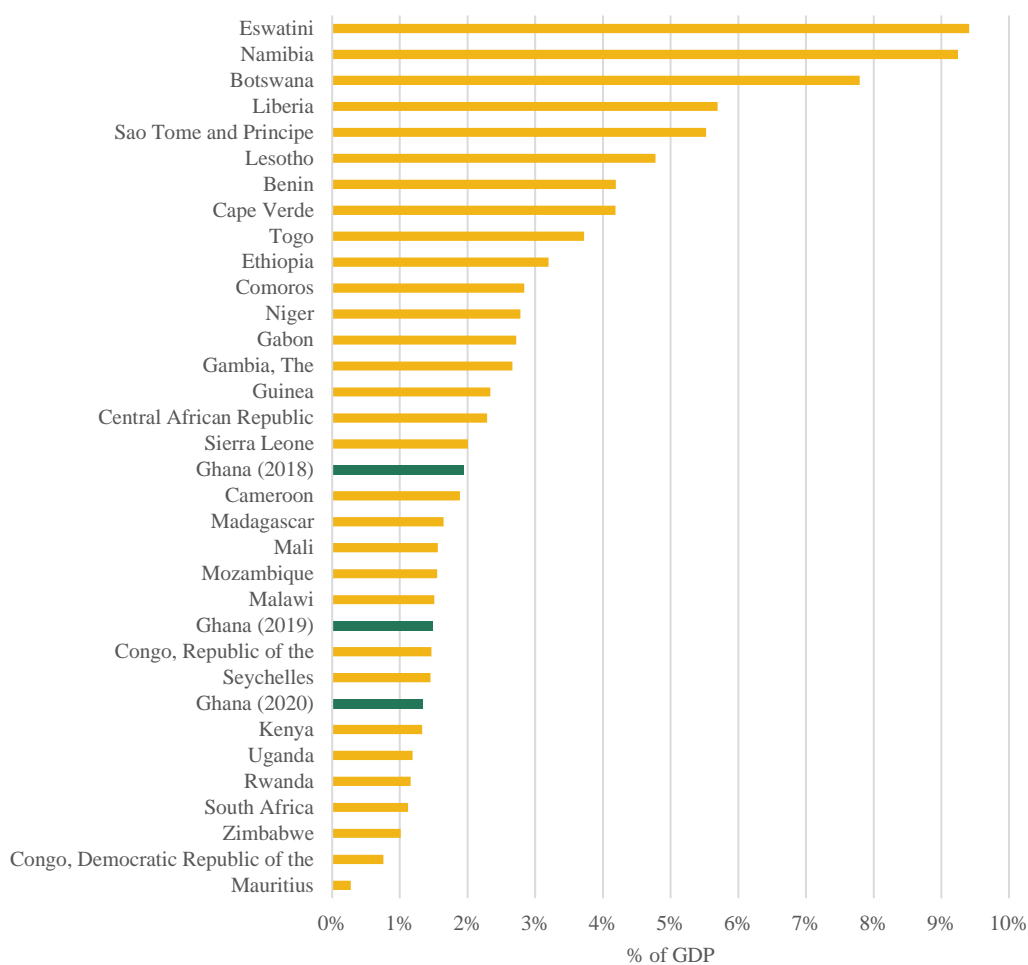
Note: The ETR is calculated as total tax collections by customs as a share of total CIF value of imports. This does not account for VAT refunds, for instance. CIF is calculated from UN Comtrade at official annual exchange rates.

Source: Authors' calculations using data from GRA, World Bank and UN Comtrade.

Comparing the overall quantum of tax revenue collected at customs to that of other countries is not possible. International statistics do not generally separate out revenues according to where they are collected; thus, whether VAT, for instance, is collected domestically or at the border is not something that can be contrasted across countries. However, it is possible to look at import duties specifically, as in Figure 2.10 for a range of countries in SSA. As of 2018, Ghanaian import duty revenues were close to the middle of the overall SSA distribution, although some countries collect considerably more as a share of GDP. The fall in import duty revenues in 2019 would have put Ghana 23rd out of 32 SSA countries based on 2018 data, however. In 2020, many other countries in the region are also likely to have seen falls in their collections, which might change the picture in Figure 2.10

considerably. These cross-country differences will reflect differences in economic structure (in particular, trade intensity) as well as policy choices (and constraints) over import duties.

Figure 2.10. Import duty revenues across countries in SSA



Note: For most countries, data come from the International Centre for Tax and Development (ICTD), and concern 2018. The reported values include 'Taxes on international trade and transactions', which may include both import and export duties, and in some cases VAT on imports. Values for Ghana reflect import duties only, as reported by the GRA.

Source: ICTD Government Revenue Dataset, GRA and Bank of Ghana.

3. Drivers of revenue 2016–19

In Section 2, we showed aggregate trends in customs revenue collections in Ghana, documenting a striking fall in overall collections in 2018 and 2019 as a share of GDP and of total collections. In this section, we use detailed data extracted from the GCMS to study these trends from 2016 to 2019 in more detail, considering how the composition of imports and revenues have changed in this period, and drawing conclusions as to what has driven this fall in customs revenue. The data used here pertain to revenues linked to particular import consignments, with revenues studied over time according to declaration date – as shown in Section 2, such revenues account for the vast majority of total customs collections.

3.1 GCMS data

The main dataset that is used in the rest of this report is four years of micro-level data (2016–19) extracted from the GCMS, which was replaced by the Integrated Customs Management System (ICUMS) in May 2020; as a result, our analysis in this section focuses on the years 2016–19. This also allows us to abstract from the impact of the COVID-19 pandemic on trade flows and customs revenues. The GCMS dataset is a detailed dataset provided at the consignment level: for each import consignment processed through the GCMS system at Ghana’s ports, the data provide detailed information on the processing date, product, value, country of origin, CPC, weight and all taxes paid and exempt *at the point of entry*, or ‘by declaration date’. This level of detail allows one to study various dimensions of customs revenue in detail. Customs revenue collected from import consignments at the point of entry constitutes the vast majority of total customs revenue (nearly 99% in May 2020, for instance; see Table A.2). Thus, these data can provide important

insights into the system as a whole.¹⁷ The richness of the GCMS dataset is therefore exploited to provide insights into the drivers of customs revenue performance in Ghana.

The full dataset contains more than 9.9 million observations, and Table 3.1 presents summary statistics for a few key variables contained in the GCMS dataset. The difference between the mean and median, and the large standard deviations, highlights that the distribution of import consignments includes some very large observations, which may account for large shares of overall import volumes and associated revenue collections.

Table 3.1. Summary statistics for key variables

Description	Mean	Std dev.	Median
CIF value (GHS)	23,404.6	1,302,085.0	845.7
FOB value (GHS)	21,213.9	1,050,687.0	658.3
Total taxes and charges (GHS)	5,857.7	72,625.7	244.9
Total exemptions (GHS)	2,313.8	223,699.6	0.0
Net mass (KG)	6,886.0	281,260.3	96.3

Source: GCMS data.

3.2 Total revenues, the tax base and the tax rate

As Section 2 showed, revenue collections by GRA Customs have not increased overall since 2017, and decreased significantly in 2019. Figure 3.1 reiterates this, showing trends in nominal revenue for two measures: one covering all revenue

¹⁷ We note, however, that a small portion of this revenue is not captured in our GCMS data. For instance, our extract pertains only to CPCs in the range 40–49, which account for the vast majority of customs revenue collections. Any revenue collected by customs that is not entered onto GCMS is also missed; conversations with GRA staff suggest such revenues are negligible.

collected on consignments, and one pertaining to what GRA defines as ‘import duties and levies’ in its collection figures.¹⁸ Total customs revenue increased somewhat during 2016 (with the growth concentrated at the beginning of the year) and then grew relatively quickly in the second and third quarters of 2017; the growth in revenues during this period may partially be attributed to the cancellation of upfront exemptions in the first half of 2017.¹⁹ However, it then declined towards the end of 2017 and during the first four months or so of 2018. After recovering in the rest of the year and into the start of 2019, revenue begins to drop sharply again following the introduction of the discount policy in 2019. The revenues from ‘duties and levies’ follow a similar pattern. At the aggregate level then, there appear to be two periods of declining customs revenue to pay particular attention to: approximately October 2017 to April 2018, and then from April 2019 onwards.

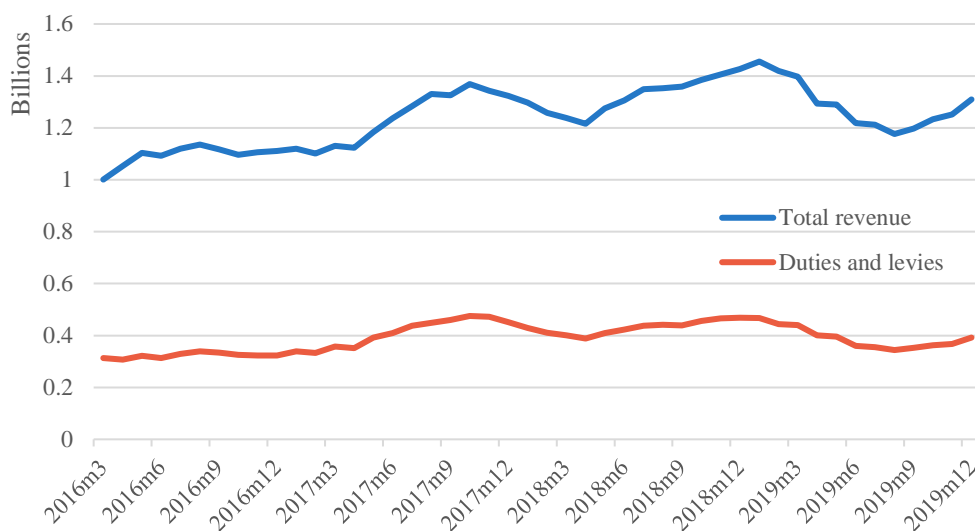
A key question is the extent to which these overall trends in customs revenues reflect changes in the quantity or value of imports that enter the country versus the tax rate applied on those imports. Figure 3.2 shows the evolution of overall volumes of imports into Ghana – as measured by their CIF value – alongside the estimated overall ETR on imports.²⁰ This reveals distinct patterns for each series across the four years shown which relate to the revenues series discussed above.

In particular, in the first period of revenue decline noted above, the CIF value of imports did not fall substantially, on average. In contrast, after first increasing somewhat from its 2016 level, the ETR applied to those imports did decrease by more than 2.5 percentage points in 2017Q4, and remained at the new depressed level for the subsequent 18 months. This suggests that understanding why the ETR fell in 2017–18 is important for understanding the poor revenue outturn in that period. For instance, there could be a role for the application of zero import duty rate on spare parts, pharmaceuticals and fertiliser products in 2017.

¹⁸ Specifically, this includes import duty, import special tax, import excise duty, processing fee, ECOWAS levy, vehicle examination, vehicle overage penalty, import levy, environmental excise tax, special import levy, EXIM levy, AU import levy.

¹⁹ The cancellation of upfront exemptions on imports imply that all exempt goods were to pay import duties at the time of entry and then apply for refunds once they have been verified and are passed for exemptions.

²⁰ The ETR is measured as total declared tax on consignments divided by total CIF value of consignments.

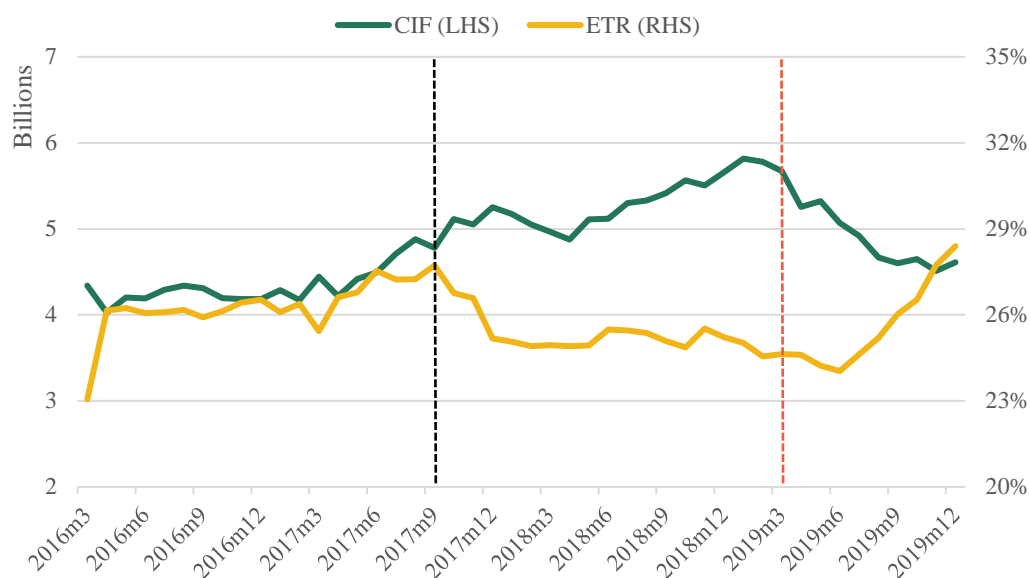
Figure 3.1. Monthly customs revenue (three-month rolling average, 2016–19)

Note: Three-month rolling average shown. November 2017 is excluded entirely due to an incomplete dataset for that month; in addition, one large outlier observation exceeding GHS 3 billion CIF is excluded in November 2018.

Source: GCMS.

Through 2018, growing import volumes (as measured by CIF) drove higher collections at the lower ETR of around 25%. There is a different story from the start of 2019, however. In this second period of revenue decline, it is the CIF value of imports which declines substantially and appears to drive the aggregate pattern. Decreases in revenue collection in that year correspond closely to decreases in declared CIF. In fact, the measured ETR begins to increase rapidly in the latter part of 2019 – this has the effect of beginning to reverse the revenue decline caused by the significantly reduced CIF values registered in that year.

Figure 3.2. Import CIF, customs revenue and ETR (three-month rolling average, 2016–19)

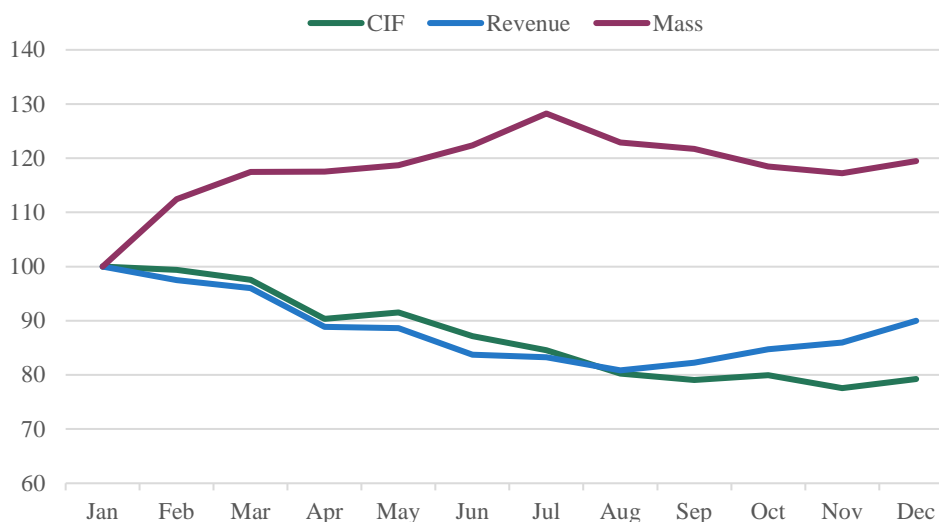


Note: Three-month rolling average shown for CIF and revenue, with ETR calculated based on these averages. November 2017 is excluded entirely due to an incomplete dataset for that month; in addition, one large outlier observation exceeding 3 billion GHS CIF is excluded in November 2018.

Source: GCMS.

The decline in import CIF in 2019 appears to be closely related to the introduction of the discount policy in April 2019. The nature of the reform, which changed how the valuation of import consignments is entered into the GCMS, means that this reduction in CIF may not accurately reflect true changes in imports values. In Figure 3.3 we consider this by presenting revenues and CIF alongside the net mass of imports, with each series normalised to the start of the year. This makes it clear that the decline in CIF is despite the recorded mass of imports not declining at all after March, implying a lower ETR if measured according to the mass of imports. This is suggestive of the effect of the discount policy, which we discuss in detail in Section 3.4.

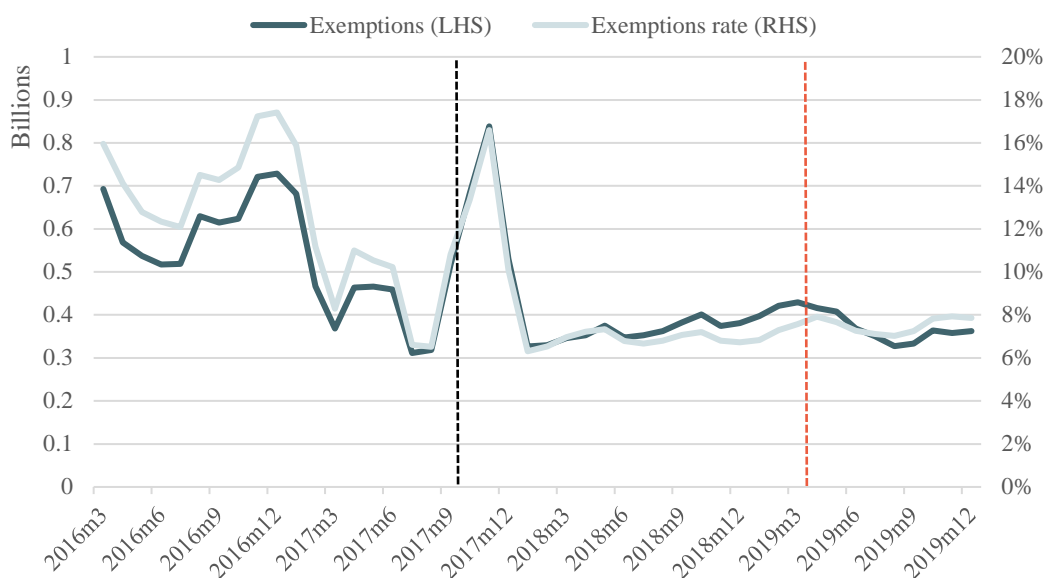
Figure 3.3. Evolution of indexed key indicators in 2019 (three-month rolling average, January = 100)



Note: The figure shows three-month averages of each series in order to smooth out month-to-month volatility.

Source: GCMS.

One factor that might drive changes in the ETR over time is the prevalence of tax exemptions. Tax exemptions can be granted on imports for many reasons: they may reflect the type of commodity (e.g. spare parts for manufacturing) or the importing party (e.g. diplomatic missions), for instance. The GCMS data record all of these under the same variable for payment amount declared exempt. The total quantum of exemptions is shown in Figure 3.4 alongside the ratio of this compared to the total declared value of imports. This shows that overall exemptions have declined somewhat over time, and have also stabilised in terms of month-to-month variation compared with 2016. While a temporary spike in exemptions does coincide with the fall in the ETR in late 2017 (largely driven by a few observations attracting very large sums of exemption), the fact that exemptions return to their previous level and remain stable at between 6% and 8% of the total CIF value of imports thereafter suggests that exemptions cannot account for the lower ETR that persisted through 2018.

Figure 3.4. Evolution of customs exemptions in Ghana (three-month rolling average, 2016–19)

Note: Figures are based on three-month averages of each series in order to smooth out month-to-month volatility. November 2017 is excluded entirely due to an incomplete dataset for that month; in addition, one large outlier observation exceeding 3 billion GHS CIF is excluded in November 2018.

Source: GCMS.

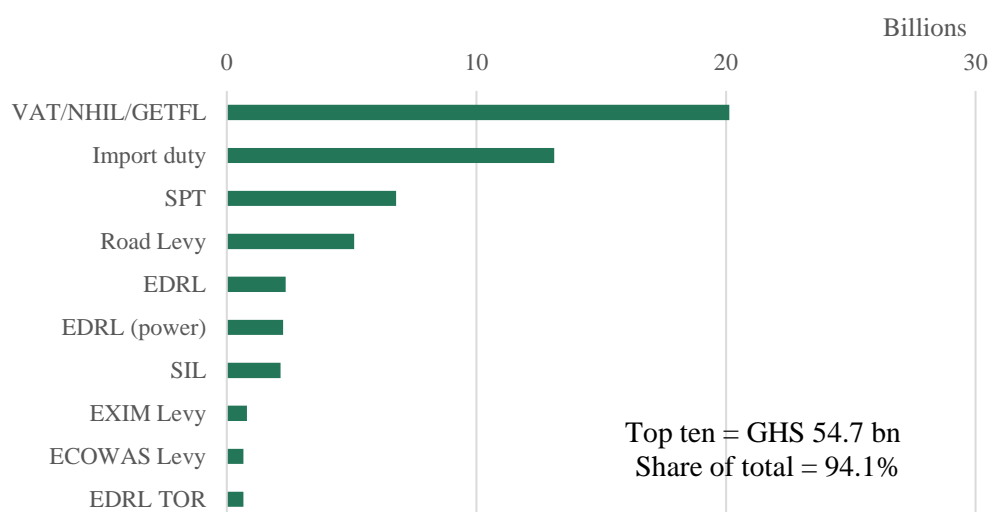
3.3 Tax types

As shown in Table A.2 (in the Appendix), total customs collections comprise a range of different components. To understand the evolution of aggregate revenue collections, it is instructive to investigate how these different sources evolved in the period studied. Figure 3.5 shows the share of the top ten contributors to overall customs revenues collected on consignments over four years. The top three contributors to total customs collections are import VAT/NHIL/GETFL, import duty, and Special Petroleum Tax (SPT), accounting for 35%, 23% and 12% of overall collections, respectively.²¹ Other substantial revenue handles include the Road Levy, Energy Debt Recovery Levy (EDRL), Special Import Levy (SIL),

²¹ We combine VAT, NHIL and GETFL because, prior to 2018, both NHIL and GETFL were effectively part of VAT; NHIL applied to the same base, and although GETFL did not exist, when it was introduced it was done so in replacement of 2.5 percentage point of VAT. Hereafter, VAT refers to all three of these revenue sources together.

EXIM Levy and ECOWAS Levy, although combined these are all smaller than VAT/NHIL/GETFL. These top sources of customs collections are likely to be key to understanding aggregate revenue trends previously shown in Section 3.1.

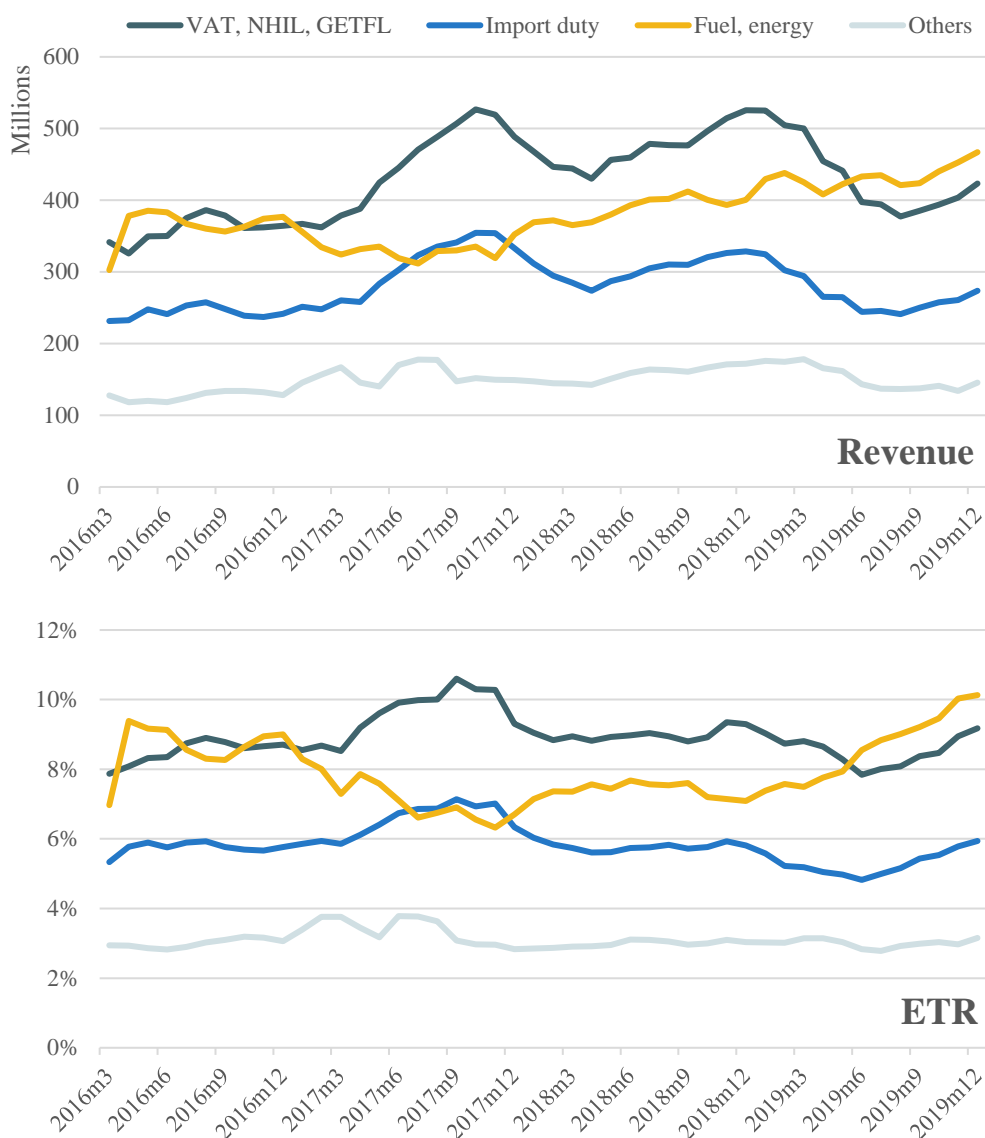
Figure 3.5. Top ten components in total collection (2016–19)



Note: Totals exclude November 2017 due to incomplete data for that month as well as one outlier observation with a CIF value in excess of GHS 3 billion.

Source: GCMS.

Figure 3.6 shows how customs revenue from different tax types evolved between 2016 and 2019. Here, revenue is broken up into four components that may face different drivers and trends. Breaking up aggregate revenue immediately sheds some light on the overall pattern in revenue collections at the border. The overall revenue decline in 2018 was preceded by quite rapid growth in import duty and VAT/NHIL/GETFL revenues, with fuel revenues decreasing somewhat. The subsequent fall is driven by decreases in collections of VAT/NHIL/GETFL and import duty, with the ETR for these taxes returning to 2016 levels again after a temporary increase. Increases in revenue from fuel and energy taxes/charges over the same period slightly offset this drop. The oppositional trends shown by VAT/NHIL/GETFL and import duty in terms of ETRs and therefore revenue collections make sense when one considers that fuel products do not typically attract VAT or import duty; thus, changes in the composition of imports may be important.

Figure 3.6. Customs revenue for four tax groups (three-month rolling average, 2016–19)

Note: The figures show total consignment revenue and ETR based on three-month averages of each underlying series in order to smooth out month-to-month volatility. ETR here is based on total CIF and revenue, not only for goods on which the tax applies. 'Fuel and energy' include EFL, SPT, EDRL, Road Levy, cross-subsidy levy, exploration levy, and debt recovery. 'Others' includes all other charges in the data not in the first three groups.

Source: GCMS

A somewhat similar story can be told for the revenue decline in 2019. From January 2019, import VAT/NHIL/GETFL collections declined, on average, until July 2019. Import duty revenues also declined by around 25% over the same period. As seen

previously, declines in registered CIF are a major factor here but we also observe some drop-off in ETRs. However, the performance of other key revenue sources under fuel/energy (e.g. EDRL and the SPT) held up well throughout 2019, with measured ETRs rising fast as declared CIF declined over the same period. This may be partly driven by the fact that some taxes applying to fuel products are specific (i.e. applied per litre/kg) and thus the discount policy reform did not change the tax base for these items through its effect on CIF.

Overall, the evolution of total collections on consignments is driven to a large extent by trends in import duty and import VAT/NHIL/GETFL collections. For instance, the three-month average of total collections increased by GHS 245 million between April and October 2017. This is largely due to an increase in import duty and VAT/NHIL/GETFL, which collectively increased by GHS 235 million. When total revenues fell by GHS 243 million between February and August 2019, this was largely accounted for by import duty and VAT/NHIL/GETFL falling by GHS 188 million. Revenues from taxes and charges on energy products, however, can behave rather differently.

3.4 Import composition

So far, we have documented the trends underlying aggregate changes in revenue from 2016 to 2019, emphasising the decline in ETRs in 2017–18, and the decline in registered CIF in 2019 in driving two periods of revenue decline over these four years. The latter appears closely linked to the discount policy, which we return to in the next subsection. The former, however, is so far unexplained. A number of factors could contribute to a fall in ETRs and associated tax collections. Policy changes could of course drive such patterns, but we are not aware of substantial changes to VAT and import duty rates that would explain the month-to-month shifts observed. There may be administrative and compliance drivers at play but the usefulness of our data for studying such margins is limited – although, as previously shown, import exemptions do not appear to be a key driver either in aggregate. A final factor that we can study in detail with the GCMS data is the role of the composition of imports for revenues at customs. In principle, it may be that changes in the type of goods arriving into Ghana drive different ETRs and revenues collected over time.

The GCMS data allow us to consider import composition in a number of different dimensions. Here, we focus on three different categorisations: trade partners, commodity types and customs regimes (as measured by CPCs). Imports of different groupings within these categorisations can be subject to very different tax rates, and thus changes in composition over time could be important for overall revenue performance. It is also important to note, however, that there is a strong degree of overlap between these categorisations: for example, cars are disproportionately imported from Germany; petroleum products often fall under CPC 49R01. Thus, it will be important to try to account for all dimensions at once. We consider these characteristics separately, before offering a combined analysis.

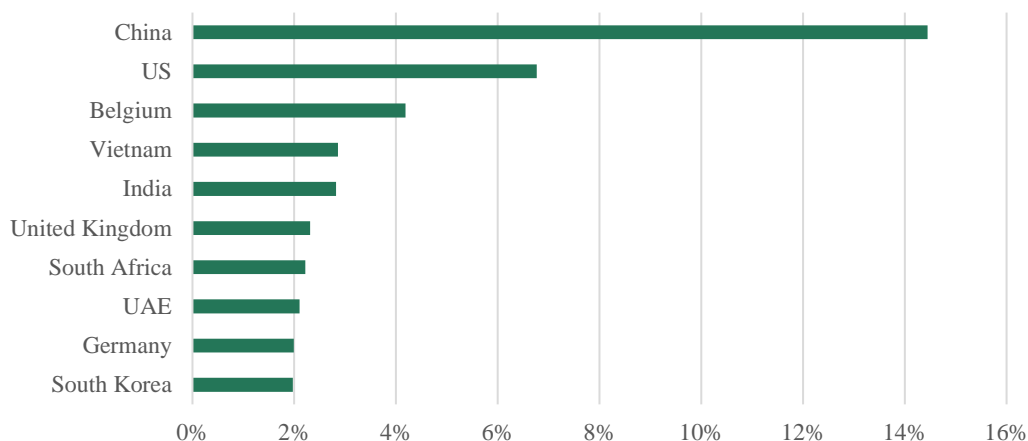
Trade partners and commodity types

Consistent with the distribution of import values across trade partners and commodities (see Figure 2.5 and Table 2.3), revenue collected at customs is unequally distributed across trade partners and types of commodities. Considering trade partners, imports from China and the US are the two largest sources of customs revenue in Ghana in recent years (Figure 3.7). More than a fifth of total collections on consignments is attributed to duties and fees paid on goods originating from China and the US. For the most part, the share of collections on goods imported from the most significant partner countries has remained stable over the past few years (see Figure A.1 in the Appendix). Differences in revenue collected on imports from different countries will be driven by a combination of the volume of imports from that country, on the one hand, and the ETR applied, on the other – in the latter case, the type of goods imported and trade agreements are likely to be important determinants.

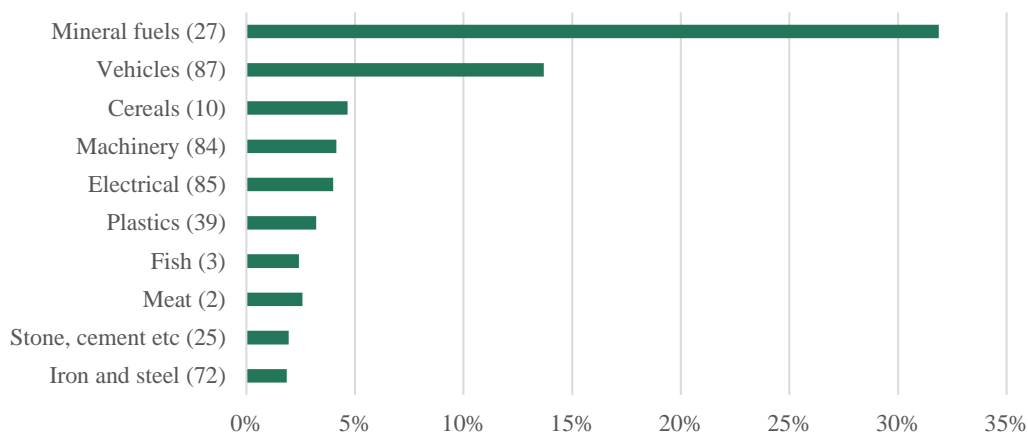
In a similar fashion, customs revenue collections are strongly concentrated in particular commodity groups. Collections on imported mineral fuels and oils account for close to a third of total collections in Ghana (Figure 3.7), making them the number one source of customs collections, with vehicles standing out as the other commodity group to make a significant contribution to total revenue. Figure A.1 in the Appendix documents that these same product groups have consistently contributed the largest proportion of customs revenue, although the overall share attributable to fuels has fluctuated to a notable degree. As with partner countries, revenue collected on different commodities will reflect the volume of the product type imported as well as the ETR applied.

Figure 3.7. Share of top ten countries and commodities in total revenue collections (2016–19)

Panel A: countries



Panel B: commodities (HS chapter code in parentheses)



Note: Many imports in the GCMS data are associated with a country code that is not an actual country – often seeming to indicate a large Ghanaian company. Such cases are included in the base for calculating country shares here, but the shares they account for are excluded from the graph.

Source: GCMS.

It may be that trends in the type of goods imported (in terms of commodity or trade partner) play a role in explaining the movement of overall revenues. Figure 3.8 sheds some light on this, showing how the contribution of imports from Ghana's top trade partners and imported commodities (in terms of revenue) changed between 2016 and 2019. The 2016 ETR is also shown to highlight how changes in the composition of imports may have implications for revenues. Consider, for instance, that fuels accounted for 19%–24% of import CIF over the years but 31% of revenue overall; imports from the UK, in contrast, attract relatively low tax rates, on average.

The patterns in Figure 3.8 do not tell a conclusive story about the role of import composition, however. On the whole, import composition has not changed hugely in Ghana in recent years when focusing on the biggest categories of either trade partners or commodity groups.

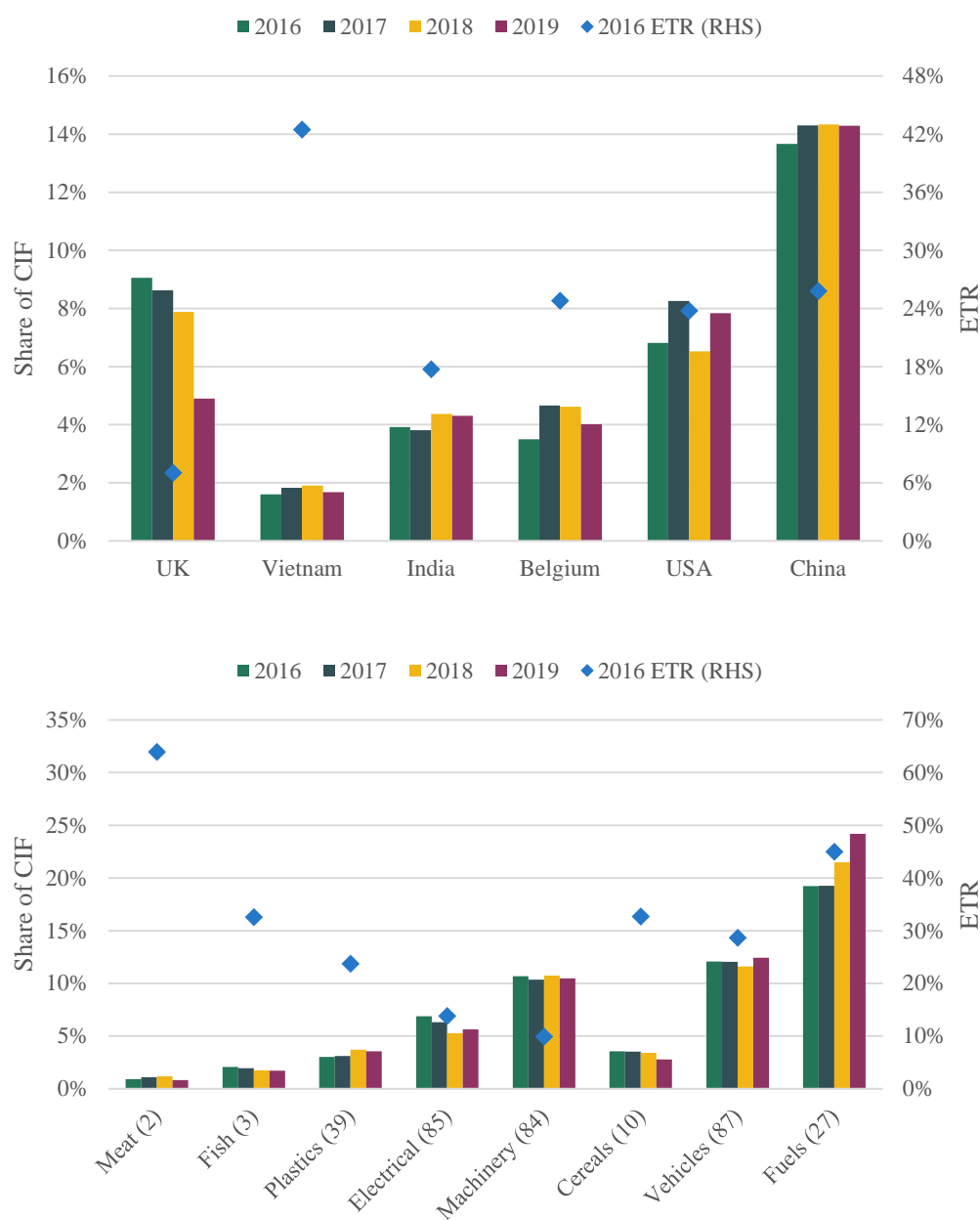
Considering trade partners, we see the following.

- Most of Ghana's top import partners represent a relatively steady share of total CIF over the four years shown, with Chinese imports particularly prominent.
- The most notable change is a fall in the share of imports from the UK in 2019, but the low tax rates charged on UK imports would suggest that this pattern should contribute to higher overall ETRs.

For commodity groups, we see the following.

- Import shares are also quite stable for the top commodity groups, with fuels and vehicles being the largest two categories in every year shown.
- There is, however, an increased share for fuel imports in 2018 and 2019. Again, on the basis of 2016 tax rates this would suggest import composition contributing to higher revenues in 2018 and 2019, all else equal.

Thus, this evidence does not immediately explain the revenue falls documented earlier. It may be, however, that aggregating imports at the annual level masks important in-year changes in composition that relate to some of the notable revenue trends we have seen, particularly in late 2017 and early 2018. In addition, the way imports are processed, as measured by their CPC, could be important. This is what we discuss next.

Figure 3.8. CIF shares of trade partners and commodities (2016–19)

Note: The GCMS data record many cases of ‘unusual’ import partners, including specific companies and ‘Ghana’. These are included in the denominator in all cases.

Source: GCMS data.

Customs Procedure Codes

As noted earlier, every consignment processed by the Customs Division is allocated to a customs regime. These are identified by a CPC, which may be defined by the applicable import regime and the procedure used to process the consignment.²² In this report, we focus on CPCs where the first two digits are between 40 and 49 – these are the ones on which customs revenues are collected on imports.²³

The GCMS extract used in this report contains 182 unique CPCs in this range. As Table 3.2 shows, however, a small number of these dominate in terms of the CIF value of imports: the top five account for 62%, with ‘Direct home consumption’ being the largest category. Revenue collections are even more concentrated, however, with the top five categories in terms of volumes accounting for 87% of revenues collected. CPCs also differ greatly in the prevalence of exemptions granted on assigned imports. Goods for direct home consumption are almost never granted exemptions, for instance.

Figure 3.9 shows how the volume of imports has evolved in three groups of CPCs: ‘direct home consumption’ here includes all CPCs with ‘R’ as the middle letter, and includes all standard revenue regimes for goods intended for consumption in Ghana; ‘petroleum product lifting’ includes petroleum product CPCs; all others refer to any remaining cases. A few key trends stand out in relation to the overall revenue trends shown already. Direct home consumption – the biggest overall category across the data period, particularly with respect to taxes – grew significantly through 2016 and 2017 but declined during late 2017 and early 2018, and again in 2019. The former maps closely to the decline in ETRs shown previously and is matched by a rise in imports processed under outside of the main revenue regimes. Over these four years, the value of imports through petroleum CPCs continued to increase steadily.

²² This process involves a determination of the use of the particular consignment, or who the import is for (or a combination of these).

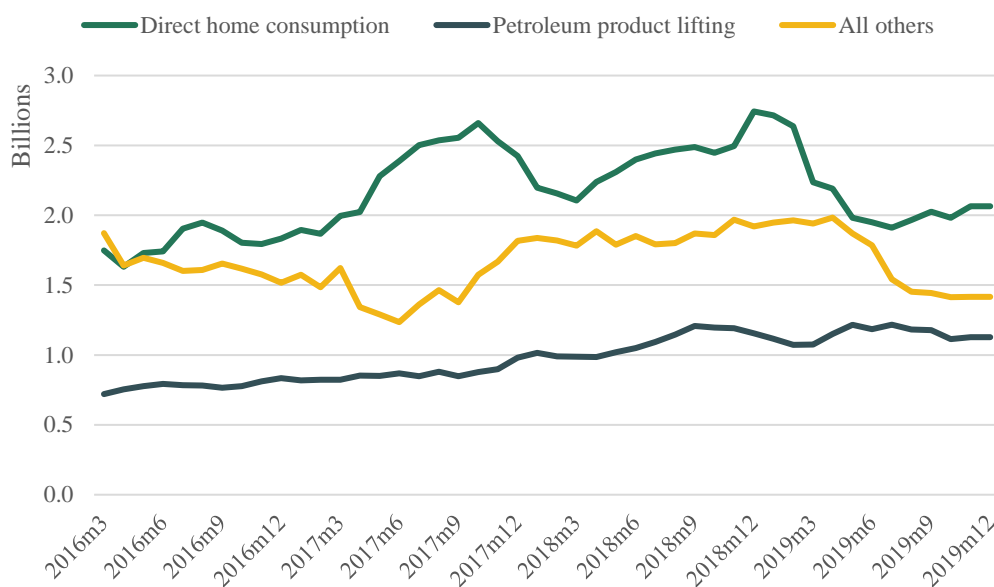
²³ See the website of Ghana’s Integrated Customs Management System for a full lists of CPCs: https://external.unipassghana.com/co/code/popup/cpcRegistration.do?decorator=popup&MENU_ID=IIM01S02V02.

Table 3.2. Import values, taxes paid and exemptions by CPC (2016–19)

CPC	Description	CIF value		Total taxes		Total exemptions	
		bn	% of total	bn	% of total	bn	% of total
40D01	Direct HC	66.1	29.1%	23.0	39.6%	0.0	0.0%
49R01	Lifting of non-exempted products	43.6	19.2%	17.6	30.4%	4.2	19.3%
40D11	HC for second-hand vehicles	11.2	5.0%	3.2	5.5%	0.0	0.0%
47D01	HC	10.9	4.8%	4.0	6.8%	0.0	0.0%
40F11	Foreign currency	10.1	4.5%	0.0	0.0%	0.5	2.5%
40G00	GNPC exemption	8.4	3.7%	0.2	0.3%	2.3	10.6%
40D13	HC of private vehicles	7.6	3.4%	2.7	4.7%	0.0	0.0%
40V02	VAT relief for manufacturers	7.5	3.3%	0.7	1.2%	1.7	7.9%
40P16	Mines – items not contained in mining list	5.4	2.4%	0.2	0.3%	1.0	4.4%
40E68	Other materials including packaging	5.2	2.3%	1.4	2.5%	0.5	2.4%
Total in table		176.1	77.7%	53.0	91.3%	10.2	47.2%

Note: Some CPC descriptions are edited for brevity: HC stands for home consumption; GNPC stands for Ghana National Petroleum Corporation. Figures exclude single outlier observations in the GCMS data. Total exemptions refer to the tax amount exempted.

Source: GCMS.

Figure 3.9. CIF value of imports by CPC (three-month rolling average, 2016–19)

Note: Figures exclude single outlier observations in the GCMS data; 'All others' represents all CPCs excluding those related to direct home consumption (which includes all CPCs in the range 40–49 with 'D' as the middle letter) and petroleum product lifting (with 'R' as the middle letter). See Table A.3 in the Appendix for a full list of CPCs.

Source: GCMS.

This suggests that the composition of imports over CPCs may have an important role to play in determining overall revenues collected on imports. To shed light on whether changes in tax rates *within* customs regimes could also be important, Figure 3.10 shows both tax payments and CIF for a few key CPCs. Broadly, this evidence suggests that within-CPC taxation changes is not a key factor for the biggest CPCs, with CIF and total taxation moving together closely. The exception to this is among 'lifting of non-exempted products', where growth in the value of imports has outstripped tax collections. This suggests that the ETR for such goods has fallen over time.

Table 3.3 confirms this. For these goods, the ETR fell by more than 8 percentage points between 2016 and 2019. There are a number of other categories that have seen changes that are material in terms of revenue collections. For instance, the value of imports classed as 'Permit under Ministry of Finance' has grown rapidly

since 2016, and at the same time the ETR has collapsed to nearly zero. ‘Home consumption with VAT exemption’ is another category that has grown quickly.

Figure 3.10. Indexed import CIF and tax collection growth in key CPCs (January 2017 = 100)



Note: Figures exclude single outlier observations in the GCMS data.

Source: GCMS.

Table 3.3. Import CIF and revenue from selected CPCs in 2016 and 2019 (GHS, billion)

CPC	Description	2016			2019		
		CIF	Tax revenue	ETR	CIF	Tax revenue	ETR
40D01	Direct HC	13.88	4.83	34.8%	16.00	5.71	35.7%
49R01	Lifting of non-exempted products	8.93	4.22	47.2%	13.25	5.18	39.1%
40D07	Permit granted by MoF	0.51	0.07	13.4%	1.62	0.01	0.4%
40I01	Exemptions under GIPC	0.37	0.01	3.6%	0.85	0.02	2.4%
40G00	GNPC exemption	2.49	0.08	3.2%	1.73	0.03	1.9%
40P16	Mines - items not contained in mining list	0.61	0.01	1.3%	1.76	0.03	1.7%
40V01	HC with VAT exemption	0.02	0.00	6.7%	0.25	0.02	6.2%

Note: Figures exclude single outlier observations in the GCMS data. Figures rounded to two decimal places; ETRs may not align due to rounding.

Source: GCMS

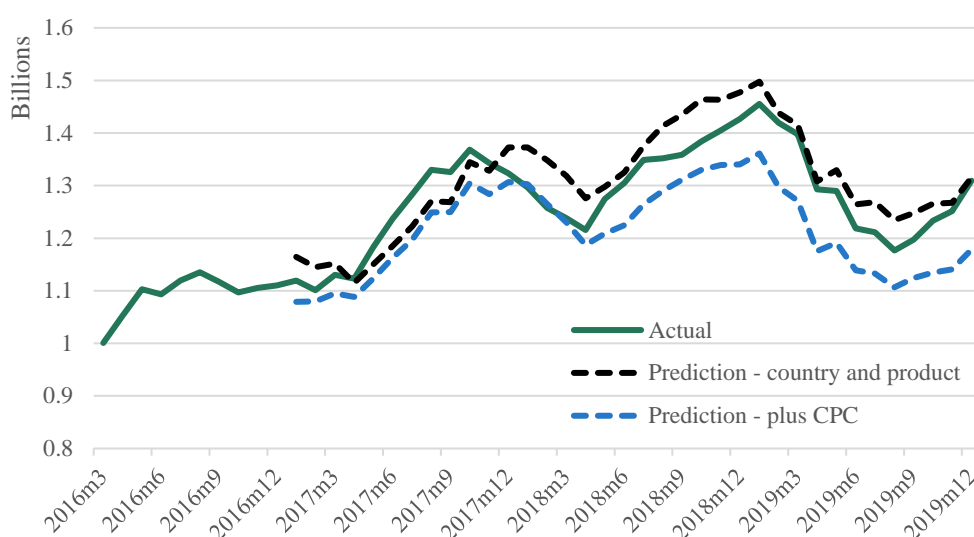
An integrated analysis

It is clear that import composition is an important factor in explaining overall customs revenue collections. However, as discussed, there is a strong degree of overlap between the different categorisations offered so far, and grouping all countries for a given commodity or all commodities for a given country may hide important changes in overall composition. More generally, while looking at specific cases and categorisations can illuminate areas for further investigation, it cannot tell us what the overall role of imports composition is in determining revenue trends. Thus, we now use the full detail of the GCMS data to consider the role of import composition in explaining revenue trends overall.

To do this, we generate revenue predictions based on the detailed characteristics of imports registered in GCMS – specifically, combinations of HS codes, trade partners and CPCs – and compare these to revenue outturns (Figure 3.11). If actual revenue moves closely with the predictions, this suggests import composition is driving revenue trends; if the prediction deviates from the outturn, then this suggests changes in collections on similar products over time.

In Figure 3.11, the green line shows the actual (three-month average) revenue collection registered in GCMS by declaration date, as shown earlier. The two dashed series show revenue predictions based on tax rates applied to 2016 imports using two slightly different approaches, which are generated as follows.

Figure 3.11. Predicted revenue according to import composition and 2016 ETRs, compared with outturn



Note: Totals exclude November 2017 due to incomplete data for that month as well as one outlier observation with a CIF value in excess of GHS 3 billion. Prediction is based on calculating the ETR per product group defined by combination of HS code, CPC and country of origin in 2016, and applying this ETR to CIF observed in future periods. Three-month average of outturn and prediction shown to smooth volatility.

Source: GCMS.

For the black dashed series, the total CIF value and total tax paid in 2016 is summed up for all consignments in a given combination of HS code and country of origin. The ratio of these totals provides a 2016 ETR, which is then extrapolated and applied to the CIF value of imports of the same type in all future months. This

yields a revenue prediction, which is summed over all imports in each month to generate the predicted series. The blue dashed series uses the same method but additionally allows for variation in ETRs by the CPC of the import, on top of differences by HS code and partner countries.

Three main conclusions emerge from this exercise. First, we see that at least since late 2017, when revenue performance starts to weaken, actual revenues have been slightly lower than expected on the basis of the type of good and the country of origin. This suggests that since 2016 there have been slightly lower tax rates applied to goods of the same characteristics on the basis of these two dimensions.

Second, after accounting for the CPC of imports, the predicted revenue is quite substantially lower than the prediction that only considers the HS code and trade partners. This suggests that low-tax CPCs (based on 2016 data) have been increasingly used over time, holding fixed the type of good and country of origin. Despite this, the actual revenue outturn outperforms this prediction and is closer to the prediction without CPCs. This suggests that after controlling for CPC, HS code and country of origin, there have actually been higher tax rates over time.

Thirdly, and most importantly, however, both predictions make it clear that changes in actual collections are strongly related to the composition of imports – the series are all strongly correlated, moving in the same direction even if there are some deviations over time. In particular, the decline in ETRs and revenues in late 2017 can largely be explained by considering the type of imports entering the ports, rather than by changes in tax rates or administration.²⁴

While this exercise also ‘predicts’ the revenue decline observed in 2019, the fact that the reform itself changed the CIF value of imports underlying these revenue figures means that we cannot say that import composition caused the revenue fall in 2019. In the following subsection, we consider 2019 in detail but one thing that is interesting here is the slight widening of the gap between the prediction and outturn towards the end of 2019 – this is at a time when the measured ETR begins rising rapidly, as shown previously. It is difficult to say what is behind this with the data

²⁴ We assume that goods are correctly classified in the GCMS system. With the data available, we cannot say anything about the possibility of officials misclassifying goods in order to grant different tax treatments.

available, but it may suggest that there was some partial reversal of the discount policy later on in 2019.

3.5 The discount policy (2019)

As shown previously, from April 2019, total revenues collected at customs began to drop precipitously, accompanied by a similar decline in the declared CIF value of imports. This coincides with the introduction of a new policy change – the ‘discount policy’. In this subsection, we consider the impact of this policy on revenues in detail. It would also be worthwhile to consider the broader effects of the policy – on the costs of different types of goods and the implications for different industries or population groups, for instance – but this is beyond the scope of this report.

In April 2019, the Government of Ghana introduced the discount policy, reducing the assessed values of imports for customs clearance by 50%, excluding vehicles that were to receive a 30% discount.²⁵ The policy entailed a change to the system of customs valuation in Ghana, which is required for assessing the ad valorem duties to be paid on an import. Under WTO rules, where the transaction value is not acceptable as the customs valuation, five other methods are permitted to be applied by authorities in a sequential manner.²⁶ The discount policy reduced the ‘benchmark values’ for goods used by the GRA under the ‘fall-back method’ of customs valuation.

The goal of the discount policy was to reduce the incidence of smuggling at the country’s ports, increase the competitiveness of Ghanaian ports and ultimately grow customs collections.²⁷ While this policy has been in place for over two years now, little empirical work exists on the fiscal or revenue impact of the policy. The analysis here sheds light on this by exploiting the richness of the GCMS data.

²⁵ At the same time, physical inspection of containers was to be reduced in an effort to combat corruption and to streamline customs processes.

²⁶ See this technical note for more information: https://www.wto.org/english/tratop_e/cusval_e/cusval_info_e.htm.

²⁷ See this press briefing: <https://presidency.gov.gh/index.php/briefing-room/news-style-2/1138-government-reduces-benchmark-port-values-by-50>.

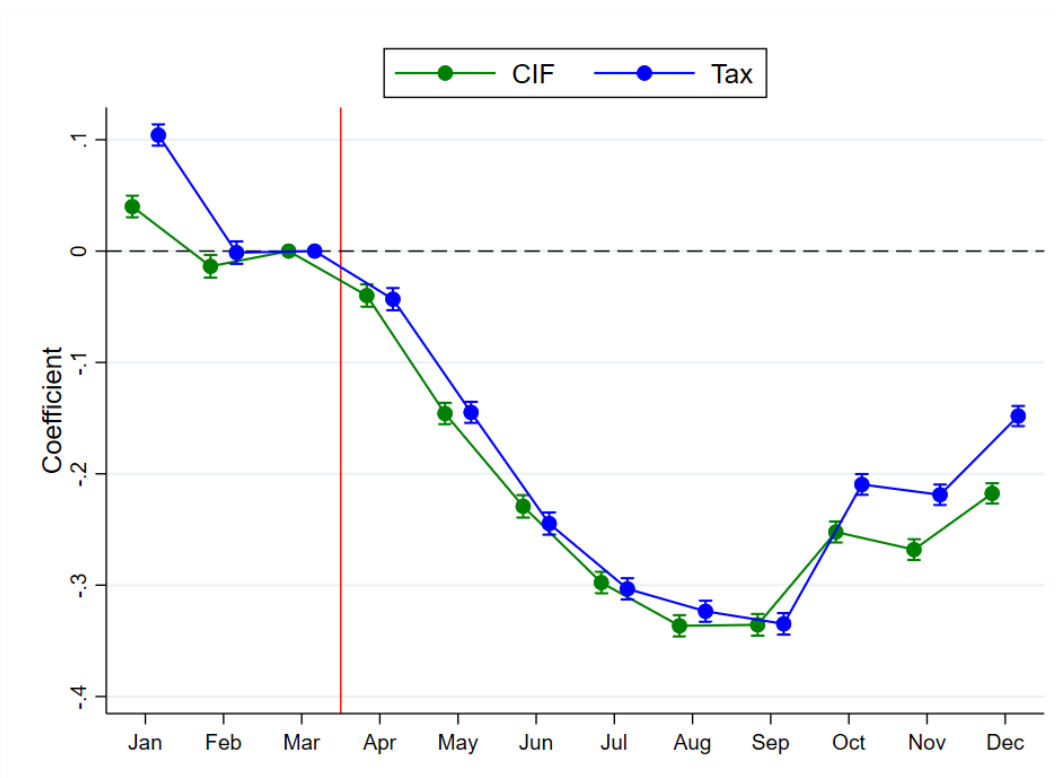
Consignment level evidence

Before exploring the aggregate revenue consequences of the discount policy, we consider the impact of the policy on how consignments were processed at ports at the individual consignment level. The level of detail recorded in the GCMS data allows us to do this while accounting for any changes in the composition of imports received over time. Our main outcomes of interest are the CIF value of import consignments and total taxes paid on declaration – both of which should be affected by the reform. To account for any changes in import composition, we first use data from 2016 to 2018 to run regressions of (the natural logarithm of) these outcomes on a yearly trend, and a full set of fixed effects for calendar month, CPC, country of origin and HS6 commodity code. We take estimated residuals from this regression for 2019 as our main outcome variables.

Using these unexplained residuals for 2019, we then regress on monthly dummies to show how the average CIF and tax collected on imports changed throughout 2019, relative to March 2019. In doing so, we also control for the mass of each import, using the unexplained residual generated in the same way, which allows us to account for any possible changes in the size of consignments.²⁸ The average monthly effects provide a sense of the effect of the policy on how imports were registered in the GCMS system. It should be noted, however, that such results cannot perfectly be interpreted as the causal effect of the reform, due to the absence of a counterfactual set of goods. Nonetheless, the evidence herein does show indicatively how the discount policy was implemented at ports and the implications for tax collections. Figure 3.12 shows the results from this exercise for our two main outcomes – CIF and tax collected. For both outcomes, the natural logarithm of the dependent variable is used, such that coefficient estimates shown in the graph are log point changes.

²⁸ For instance, the concurrent reduction in physical inspections may have reduced the fixed cost of clearing an import, leading importers to choose to import smaller consignments on a more regular basis.

Figure 3.12. Monthly consignment-level deviation in average CIF value, tax paid and net mass, compared with January 2019



Note: Sample contains all import consignments in 2019 registered in the GCMS system by declaration date. The reference month is March; all monthly coefficients relate to 2019. Coefficients come from linear regression of the residuals of the natural logarithm of the outcome variable on residual log mass and a set of monthly dummies. Residuals are generated using 2016–18 data, regressing the outcome on a yearly trend and a set of fixed effects for HS6 code, country of origin, CPC and calendar month. The coefficients for 2019 monthly dummies are shown with 95% confidence intervals using robust standard errors.

Source: Authors' calculations based on GCMS data.

The evidence presented here provides a clear picture that the policy change was substantive. Starting from April 2019, the average declared CIF of consignments is clearly lower than would be expected on the basis of observable characteristics (including mass) compared with the first quarter of the year. The effect grows over the second and third quarters, such that by August and September, the average CIF is close to 40% lower than would be expected.²⁹ Average tax collection per

consignment follows a strikingly similar pattern, tracking CIF nearly one-for-one – the discount policy did indeed lead to lower taxes being applied on imports. In the final quarter of 2019, there is some partial reversal of these trends, although both average declared CIF and tax paid remain far below pre-reform levels.

Interestingly, by the end of 2019, declared CIF is further below expectations than average taxes, which is in line with the evidence shown earlier of an increasing ETR in late 2019 on the basis of declared CIF.

Aggregate revenue effect

The descriptive results presented above (and in Figure 3.12) show significant declines in customs collections in the immediate months following the introduction of the discount policy; this is particularly glaring when one compares collections for the month of June (three months after the introduction of the policy) with January 2019 collections. This descriptive evidence however is not conclusive on the magnitude of the causal revenue impact of the reform. This is because understanding the causal impact requires a counterfactual scenario: for instance, it might be the case that customs collection would have fallen anyway even without the reform. The fact that this reform applied to almost all imports in some way, however, means that there is not a suitable control group for such an analysis.

We consider an alternative approach, which allows us to study the full revenue effect of the reform, relying on a simple model of the determinants of customs collections to predict customs collections in the post-reform period based on the relationships observed pre-reform. The essence of this approach is to show whether predicted customs collections deviate from the actual outturn during the post-reform period. Because the benchmark values reform directly affects the CIF value of imports, we must rely on other factors whose recording in GCMS should be less directly affected by the policy in explaining customs revenue performance based on pre-reform data.

To investigate the aggregate revenue effect this way, we use two different approaches. In both cases, we estimate a simple regression model, which relates the revenues collected on a type of import to its total registered mass, plus other key characteristics (month, year, HS code, CPC and trade partner). We adopt a level–level specification, which, although noisy, captures average relationships in the data including the very large values that are important for an aggregate prediction model. We collapse the data at the monthly level within combinations of HS code,

trade partner and CPC, before generating predictions using the regression set out in the following equation:

$$y_{itpc} = \beta mass_{itpc} + \alpha_i + \mu_y + \rho_m + \delta_p + \gamma_c + \varepsilon_{itpc}. \quad (2.1)$$

Here, y_{itpc} denotes collections on imported good type i at time t , classified under CPC p and originating from country c , $mass_{itpc}$ refers to the registered mass and α_i , μ_y , ρ_m , δ_p and γ_c are HS code (HS6 level), year, month, CPC and country fixed effects, respectively, and ε_{itpc} is the error term.

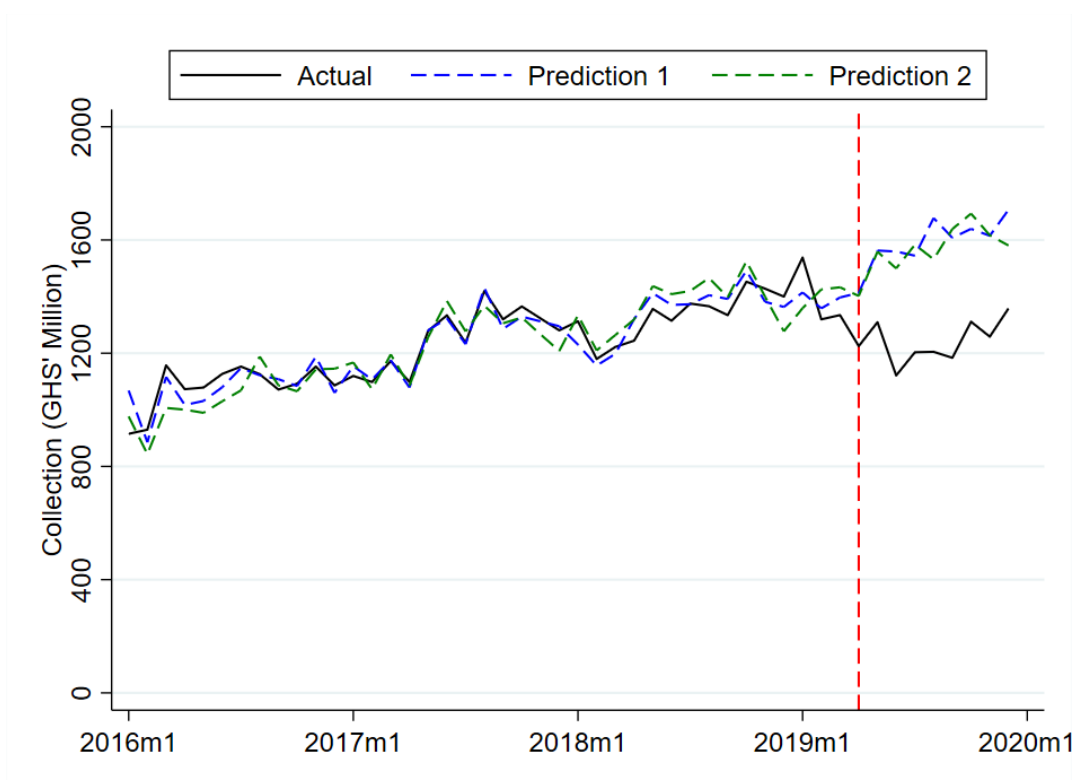
Equation (2.1) is estimated using data from the pre-reform period, specifically from the entirety of 2016 through to March 2019. The results from this exercise are then used to predict revenues for the post-reform period. We generate two sets of predictions with this method. Prediction 1 is generated by separately estimating equation (2.1) within each two-digit HS chapter code, and generating predictions for the post-reform period with these estimates. Such an approach allows, for example, for the relationship between mass and tax collections to vary across product types (as well as all of the fixed effects used). Prediction 2 is generated more parsimoniously, using the same model for all product types. We ascertain the effect of the reform on customs revenues by comparing the post-reform predicted customs collections with the actual collection for the period. Any difference in this is then attributed to the policy.

A key assumption of this modelling approach is that the reform had no effect on behaviour. This is because revenue will be predicted partly according to the mass of imports registered, and then compared with actual revenues recorded. However, any positive effect the reform had on the volume of imports will not be picked up by this method, and in fact any such effects would lead to a greater estimated revenue loss from this approach, with estimated pre-reform tax liabilities on any realised increase in imports interpreted as ‘lost revenue’. Thus, results should be interpreted with caution.

As shown in Figure 3.13, at the aggregate level, both of our models predict overall revenues well pre-reform. Predicted revenues in the post-reform period are consistently higher than that of actual customs collections, which is strongly indicative of the policy having had a detrimental impact on overall customs collections. Table 3.4 presents implied revenue losses from the reform under the

assumption that the same imports would have been received in the absence of the reform. Both of our models suggest a similar revenue cost from the policy according to these results. An (informal) upper bound revenue loss estimate is therefore approximately GHS 3 billion between April and December 2019 due to the introduction of the discount policy reform.

Figure 3.13. Monthly trends in customs collection, predicted versus actual



Note: The red dashed vertical line marks the period when the benchmark values reform was introduced. See discussion in text for details of the two predictions generated.

Source: Authors' calculations based on GCMS data.

Table 3.4. Estimated revenue effect of the discount policy reform in 2019

	Jan–Mar	Change	Apr–Dec	Change
Actual	4,192	N/A	11,176	N/A
Prediction 1	4,170	22	14,326	–3,150
Prediction 2	4,217	–25	14,105	–2,929

Note: The values reported here are in millions of GHS. Changes are calculated as the difference between the predicted revenue yield for the given period and the respective actual revenue yield.

Source: Authors' calculations based on GCMS data.

This number should be treated as an upper bound not only because of the strong implicit assumption of unchanged behaviour explored above, but also because all VAT collections here are treated as revenue, when in practice some would be reclaimed by importing businesses as a tax credit or refund. As has been the case throughout this report, our outcome of interest here is customs collections, and changes in these collections do not map one-to-one to final tax revenue because of the possibility of offsetting effects on domestic tax collections. Finally, we also caution that this is an informal upper bound, rather than an upper bound based on statistical theory.

4. Conclusion

Since 2017, customs revenues in Ghana have declined substantially from 5.3% of GDP to 3.9% of GDP in 2019, and even lower again in 2020. From a historical standpoint, such a figure is as low as any in the 21st century in Ghana, and given increases in domestic tax collections over time, the share of customs collections in total tax revenue has declined substantially. Compared with other countries on the basis of import duties alone, Ghana's 2019 outturn was lower than most other comparable countries.

This report has outlined some of the key drivers of these trends. In particular, two distinct periods of revenue decline since 2017 are identified. In 2017–18, a decline in the ETR applied to imports drove this pattern, and this largely appears attributable to changes in the type of imports being processed at customs in terms of their use, commodity type and country of origin. In contrast, a decline in revenue in 2019 appears to be driven by the discount policy, which decreased the assessed value of imports into the country; in fact, in this case, the measured ETR increased somewhat, partially counteracting the revenue fall. In both periods, it is primarily VAT and import duty collections that drove the falls in revenue, with fuel duty collections actually holding up well since 2017.

These findings do raise a number of questions (as listed below) that are beyond the scope of this report but invite further research.

- What drove the changing composition of imports in late 2017? Was there a real economic shift at play, or could there be a role for administrative and compliance processes?
- Given the revenue cost of the discount policy, who has benefitted from its implementation? Were lower taxes passed on to consumers, and did domestic producers benefit or lose out? And, did it raise import volumes as was anticipated?
- There are important challenges for customs revenue going forward that warrant consideration. The path of world trade in 2021 and beyond depends crucially on global economic recovery, creating uncertainty for revenue forecasts, and the

implementation of new trade agreements could have substantial effects on trade, revenues and the wider economy.

These issues warrant further consideration and research as the government seeks to balance revenue-raising goals with the need for an efficient, equitable and sustainable tax system.

References

- Besley, T. and Persson, T. (2013), 'Chapter 2: Taxation and development', in *Handbook of Public Economics*, Volume 5, Amsterdam: Elsevier, 51–110.
- Besley, T. and Persson, T. (2014), 'Why do developing countries tax so little?', *Journal of Economic Perspectives*, 28 (4), 99–120.
- Iddrisu, A. M., Warwick, R., Abrokwah, E., Conron, H., Kamara, A. and Nuer, D. (2021), 'A survey of the Ghanaian tax system', Institute for Fiscal Studies (IFS) Report No. R189, <https://www.taxdev.org/research-publications/survey-ghanaian-tax-system>.
- Lee, Y. and Gordon, R. H. (2005), 'Tax structure and economic growth', *Journal of Public Economics*, 89, 1027–43.

Appendix

Table A.1. List of taxes and levies collected by the GRA Customs Division

Tax code	Description	Tax rate
01	Import Duty	0–35% of CIF
03	Import Special Tax	
04	Import Excise Duty	10–175% of CIF
05	Processing Fee	1% of CIF
06	Ecowas Levy	0.5% of CIF
09	Mining Levy	
11	Rent Charges	STATE WAREHOUSE: GHS 3/TON PER WEEK GOVT WAREHOUSE: GHS 1.5/TON PER WEEK LOOSE CARGO = GHS 0.20/PKG 1*20' CONT. = GHS2.00 1*40' CONT. = GHS3.00
12	Customs Penalty	Max 300% (subject to CG)
13	Overtime Charges	
14	Fines	
15	Manifest Amendment	
16	Vehicle Certification	
17	Auction Sales	

63 Customs revenue in Ghana: recent trends and their causes

18	Seized & Forfeited Sales	
20	Penalty Miscellaneous	
21	Bonded Whouse Renewal Lic.	USD 600
22	Forfeited Money	
23	Temporary Importation Fee	GHS 30.00
24	Registration Fee	
25	Manufacturer Licence	GHS 100
26	Manufacturer Renewal Licence	GHS 100
27	Official Publication	
28	Certification Fee	
29	Rent, Warehouse	
30	Interest Charges	$\{(1/DUTY+VAT)/48\} * \text{No. of months}$
31	Vehicle Examination	1
37	ENERGY FUND	
38	INTEREST ON PETROLEUM PAYMENTS	
44	CUSTOMS INSPECTION FEE	
49	Vehicle Overaged Penalty	{2.5%, 5%, 10%,15%, 20%, 30%, 50%}
50	Bonded Warehouse Licensing	USD 2000
51	TRANSIT ADMIN FEE	TRANSIT AND ADMINISTRATION FEE THROUGH GHANA: GH CEDI EQUIVALENT OF USD 200.00 PER CONSIGNMENT. ESCORT FEE (CARGO/VEHICLES): GH

64 Customs revenue in Ghana: recent trends and their causes

		CEDI EQUIVALENT OF USD65.00 PER ESCORT
62	PENALTY ON PETROLEUM PAYMENTS.	
65	TVI (C59) FEE	GHS 30.00
70	TVI EXTEND OVERSTAY PENALTY	GHS 5.00/Day
71	TVI CLOSE OVERSTAY PENALTY	GHS 5.00/Day
73	IMPORT LEVY	5% of CIF
76	ENVIRONMENTAL EXCISE TAX	10% of CIF
78	SPECIAL IMPORT LEVY	2% of CIF
81	WAREHOUSE REG LICENCE FEE	
82	WAREHOUSE RENEWAL LIC FEE	
87	GHANA EXPORT-IMPORT BANK EXIM	0.75% of CIF
93	CCVR PROCESSING (INSPECTION) FEE	1% of CIF
98	AFRICAN UNION IMPORT LEVY	0.2% of CIF
02	Import VAT	12.5% of (CIF+IMPORT DUTY+IMPORT NHIL+GET FUND LEVY)
47	Import NHIL	2.5% of CIF

65 Customs revenue in Ghana: recent trends and their causes

88	GETFUND LEVY	2.5% of CIF
35	EXPLORATION LEVY	
59	EXCISE DUTY (M)	
52	Road Levy	
58	CROSS SUBSIDY LEVY	
34	EXCISE DUTY FROM OMC	
86	ENERGY DEBT RECOVERY LEVY	
95	EDRL(FOREIGN EXCH UNDER RECV)	
96	EDRL(POWER GEN & INFRA ACCT)	
97	EDRL(TOR DEBT RECOVERY)	
79	SPECIAL PETROLEUM TAX	

Note: All categories and associated charges or tax rates are displayed exactly as in the dataset provided by GRA for this project. The information presented here relates to 2019.

Source: Information provided by GRA staff and their documentation.

Table A.2 Breakdown of GRA customs collections in May 2020 from GCMS

Declaration payment		Other payment	
Tax description	Paid (GHS)	Tax description	Paid (GHS)
Import Duty	248,770,798.22	Import Duty	4,135,463.79
Import VAT	295,247,884.82	Import VAT	21,193.12
Import Special Tax	126.68	Import Special Tax	4,713.93
Import Excise Duty	11,030,056.2	Import Excise Duty	1,834,000.48
Processing Fee	4,550,432.58	Processing Fee	27,205.99
Ecowas Levy	14,437,356.88	Ecowas Levy	1,121.75
Export Dev. Levy	1,830.41	Export Dev. Levy	26.41
Export Tax	0	Customs Penalty	169,789.27
Mining Levy	519.96	Manifest Amendment	89,695
Cassette Levy	37,897.37	Auction Sales	67,046
Rent Charges	117,926.2	MISCELLANEOUS PENALTY/CHARGES	6,146,849.32
Customs Penalty	1,439,630.2	Temporary Importation Fee	5,590
Vehicle Certification	9,751.03	Manufacturer Renewal Licence	2,500
Auction Sales	4,598,650.4	Official Publication	9,795
Seized & Forfeited Sales	806,072.19	Certification Fee	5,490
MISCELLANEOUS PENALTY/CHARGES	44,099.22	Rent, Warehouse	12,590.6

67 Customs revenue in Ghana: recent trends and their causes

Registration Fee	455.98	ENERGY FUND	500
Manufacturer Renewal Licence	120	CUSTOMS INSPECTION FEE	884.55
Certification Fee	74.3	Import NHIL	4,112.06
Rent, Warehouse	4,190,718.58	NET Charge NHIL	380.61
Interest Charges	3,967,129.26	Road Levy	24,000
Vehicle Examination	5,117,722.92	IRS TAX DEPOSIT	27,135.41
Network Charge	11,372,974.06	TVI (C59) FEE	340
NET Charge VAT	1,481,668.04	TVI EXTEND OVERSTAY PENALTY	2,871
EXCISE DUTY FROM OMC	0	TVI CLOSE OVERSTAY PENALTY	9,225
EXPLORATION LEVY	0	IMPORT LEVY	288
ENERGY FUND	579,402	SPECIAL IMPORT LEVY	3,363.77
INTEREST ON PETROLEUM PAYMENTS	192,685.7	SPECIAL PETROLEUM TAX	23,000
DIS FEE (BV)	-3,475.3	WAREHOUSE RENEWAL LIC FEE	70,581.16
CUSTOMS INSPECTION FEE	4,831.06	GHANA EXPORT-IMPORT BANK EXIM	21,261.42
GHANA SHIPPERS COUNCIL SNF FEE	170,038.5	GETFUND LEVY	1,100.92
Import NHIL	56,387,575.04	NETWORK CHARGE GETFUND	9.7

NET Charge NHIL	281,515.58	EDRL(FOREIGN EXCH UNDER RECV)	2,500
Vehicle Overaged Penalty	10,776,452.16	EDRL(POWER GEN & INFRA ACCT)	18,000
TRANSIT ADMIN FEE	82,563.28	EDRL(TOR DEBT RECOVERY)	4,000
Road Levy	27,744,336	AFRICAN UNION IMPORT LEVY	302.28
DEBT RECOVERY	0		
GHANA SHIPPERS COUNCIL SNF-EXP	40		
IRS TAX DEPOSIT	13,609,260.26		
SOC IMPACT MITIG LEVY	0		
CROSS SUBSIDY LEVY	0		
EXCISE DUTY (M)	59,583.26		
TRANSIT INFRASTRUCTURE FEE	1,219,193.26		
SIC E-TRANSIT BOND PREMIUM	3,274,838.01		
GHS DISINFECTION FEE	5,499,705.3		
TVI (C59) FEE	1,050		
Road Fund	20		
TVI EXTEND OVERSTAY PENALTY	5,685		

TVI CLOSE OVERSTAY PENALTY	5,040		
MOTI E-IDF FEE	9,197.12		
IMPORT LEVY	2,804,540.94		
ENVIRONMENTAL EXCISE TAX	1,545,821.84		
SPECIAL IMPORT LEVY 1%	0.12		
SPECIAL IMPORT LEVY	44,079,430.39		
SPECIAL PETROLEUM TAX	30,584,821.08		
TAX STAMP - CIGAR & TOBACCO	0		
TAX STAMP - SODA,BEER & WATER	195.68		
TAX STAMP - SPIRIT AND WINES	64.43		
ENERGY DEBT RECOVERY LEVY	0		
GHANA EXPORT- IMPORT BANK EXIM	21,503,556.89		
GETFUND LEVY	57,287,970.48		
NETWORK CHARGE GETFUND	284,409.36		
FREIGHT FORWARDER LEVY	0		

70 Customs revenue in Ghana: recent trends and their causes

FREIGHT FORWARDER LEVY	0		
CCVR PROCESSING FEE	25,378,674.85		
EDRL(FOREIGN EXCH UNDER RECV)	3,206,001.05		
EDRL(POWER GEN & INFRA ACCT)	22,774,994.72		
EDRL(TOR DEBT RECOVERY)	4,887,538.84		
AFRICAN UNION IMPORT LEVY	5,421,079.37		
DECLARATION TOTAL	946,882,531.77	OTHER TOTAL	12,746,926.54

Note: All categories of revenue are displayed exactly as in the dataset provided by GRA for this project. Monthly customs revenues include collections from the GCMS and Pre-Arrival Assessment Reporting System (PAARS). However, revenue from PAARS is not included in the figures reported in this table.

Source: GRA.

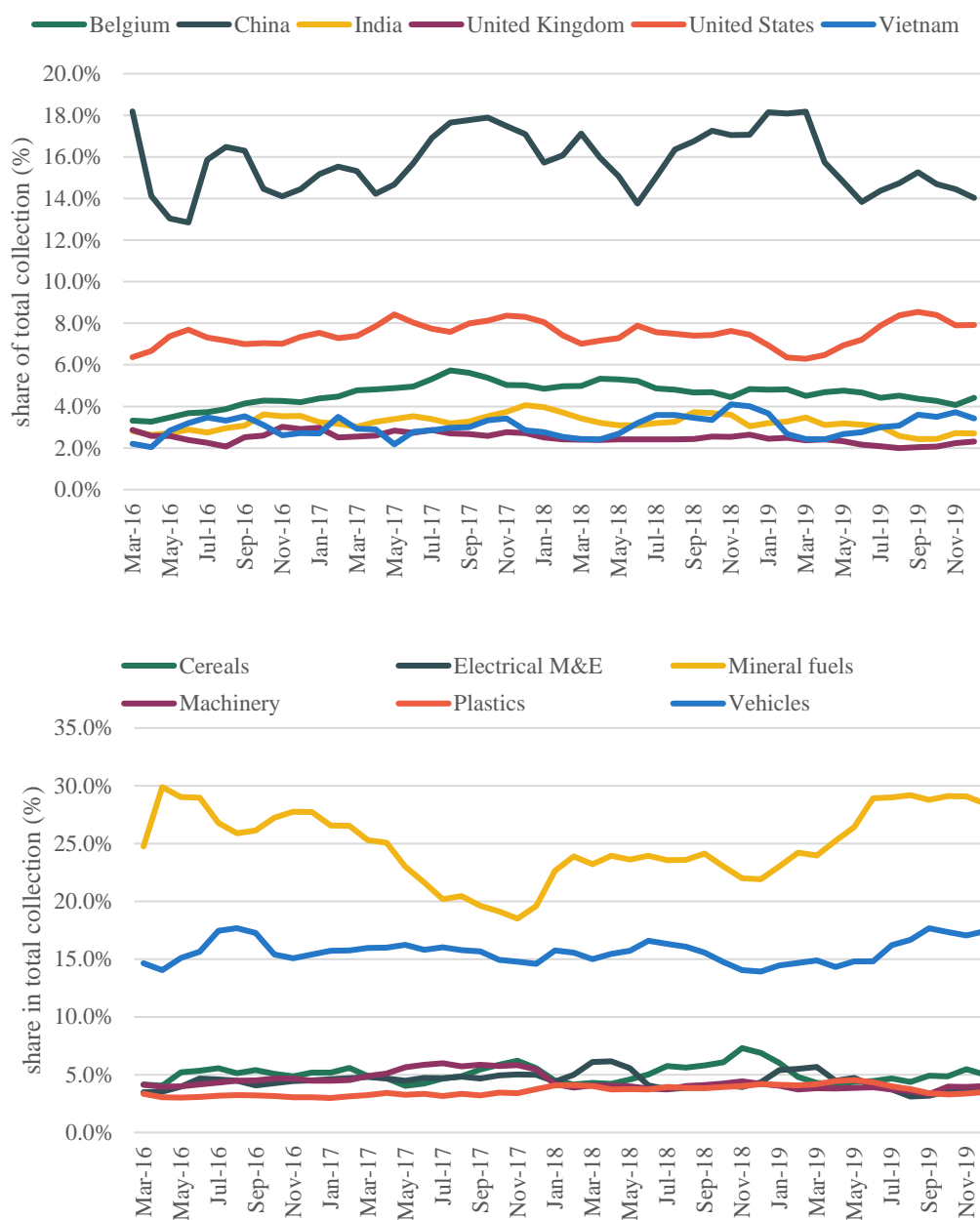
Table A.3. Ghana's GDP series, 2010–20

Year	GDP (GHS million)	Non-oil GDP (GHS million)
2010	60,776	60,549
2011	78,958	74,142
2012	99,416	92,197
2013	124,478	117,829
2014	158,684	149,128
2015	183,526	178,834
2016	219,595	218,568
2017	262,798	253,775
2018	308,587	291,616
2019	356,544	335,210
2020	383,486	369,693

Notes: GDP values are expressed in current prices; 'GDP' is the headline measure of Gross Domestic Product, while 'Non-oil GDP' excludes the contribution of the oil and gas sectors.

Source: Bank of Ghana; Ghana Statistical Service.

Figure A.1. Trends in shares of total collections from commodity types and trade partners (three-month rolling average, 2016–19)



Source: GCMS data.