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Brazil's VAT Reform: Ensuring Revenue Neutrality

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ABSTRACT: Brazil's landmark VAT reform, approved in December 2023, will profoundly alter the way consumption taxes are raised across three levels of government. The dual VAT will replace five overlapping taxes, address major inefficiencies of the current system, and simplify and harmonize a widely scattered tax landscape. While the objective of revenue neutrality is anchored in the reform law, deep structural changes will generate uncertainty about the expected revenue collection. This paper estimates consumption tax revenues under the new VAT based on an adjusted IMF's RA-GAP framework taking into account Brazil's specificities and documents sectoral shifts in tax burdens. We simulate a wide set of scenarios, modifying key assumptions including on the compliance gap and informality, while being guided by legislated decisions on rates and exemptions. Our findings indicate that minimizing the compliance gap will be the most effective way towards ensuring revenue neutrality. To address revenue risks and unleash the reform's benefits, full integration of operations and effective management of the input tax credit mechanism are critical.

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* International Monetary Fund ** Secretaria Especial da Receita Federal do Brasil

WORKING PAPERS

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Introduction

Brazil's landmark VAT reform, approved in December 2023, will profoundly alter the way indirect taxes are raised across three levels of government. The backbone of the reform was enshrined in the constitutional amendment of December 2023, followed by the approval of Complementary Law 214. Additional legislation and regulation are expected to be finalized throughout 2025, with implementation to begin in 2026. The reform merges five taxes on goods and services (PIS/COFINS, IPI, ICMS, ISS),[2] raised across three levels of government, into a dual value added tax and an excise levy. The new destination-based consumption tax will be levied on a harmonized tax base across the whole nation, governed by unified legislation, and administered by an integrated management. The reform aims at timely and unrestrictive crediting of taxes paid on business inputs. To dampen the impact on lower-income households, the new VAT will be accompanied by a cashback system, returning a share of the paid VAT on all goods and services, except selected items subject to the excise tax, to eligible consumers.[3] To smooth the revenue impact on states and municipalities from the new destination-based taxation, a redistribution mechanism based on current revenue levels will be in place for 48 years, starting in 2029.

While revenue neutrality is anchored in the reform law, the deep structural changes that the reform entails generate uncertainty about the expected revenue collection.[4] Brazil's taxation of consumption of goods and services is one of the highest and most complex worldwide. The current system features a wide range of tax rates across products and regions, with fiscal competition among states and municipalities on tax bases and rates. Cascading effects due to incomplete crediting of input taxes and cumulative taxation further contribute to wide-spread and deep-rooted distortions. Disentangling these distortions is expected to yield important welfare gains[5] and, at the same time, lead to fundamental reallocations of tax burdens. Reallocation would occur along three dimensions: First, achieving complete input crediting is expected to shift tax collection from businesses to final consumers. Revenues from the taxation of intermediate goods under the current system are high, estimated at around 4 ½ percent of GDP,[6] and would instead be raised from final consumption goods after the reform. Second, harmonized bases and rates would shift tax collection from manufacturing to services, as combined rates currently applied to mainly manufactured products are significantly higher than the envisaged reference rate. Services, however, would also benefit from full crediting (in contrast to the current ISS), including during the production chain, and some concessions are maintained. And third, by moving from origin- to destination-based taxation, the reform would affect the way states collect revenues (currently via the tax ICMS) and conduct interstate transactions. States at the end of the production chain would potentially benefit albeit transition mechanisms are being put in place to compensate for possible revenue losses in the foreseeable future. The shifts will occur gradually, thanks to a smooth phasing in of taxes spread over several years, but they will entail important price and quantity adjustments.

The contribution of this paper is threefold. First, we document baseline revenue collection at given policy settings, holding consumption and output patterns constant and applying an expected reference tax rate of 28

[2] PIS/COFINS is a federal turnover tax; IPI is a federal tax on industrial products; ICMS is a state tax on goods; ISS is a municipal tax on services.

[3] https://www.gov.br/fazenda/pt-br/acesso-a-informacao/acoes-e-programas/reforma-tributaria

[4] The paper uses a reference tax rate of 28 percent. It was rounded up from 27.94 percent based on SERT (2024a) on the estimates of impact of the changes made in the congress discussion of LC 214/2025. The exact mechanism to estimate the new reference rate is described on LC 214/2025 and is not in the scope of this paper.

[5] Cavalcanti et al 2024, Domingues and Freire Cardoso 2020, Badel and Kolerus 2025

[6] Supply and use tables, 2018, IBGE.

percent, as published by Brazil's Ministry of Finance (SERT 2024a), in an augmented IMF RA-GAP model that allows for a static analysis. Second, we analyze accompanying sectoral shifts in revenue collection. And third we discuss and quantify key risks to the baseline revenue target by changing assumptions on compliance, informality, and adherence to the SIMPLES regime before laying out mitigation strategies.

Consumption tax revenues by sector are estimated using an adjusted potential revenue model taking into account Brazil's specificities. We augment the IMF Revenue Administration's Gap Assessment Program (RA-GAP) model (IMF 2017)[7] to allow for Brazil's special tax regime for SMEs (SIMPLES), a parameter capturing informality by sector, and, most importantly, to operate with an exogenously determined compliance gap. We then estimate potential VAT revenue by sector at given policy settings, including a standard rate of 28 percent. Under the baseline, the reform's revenue neutrality requirement can be reached under the assumptions of a compliance gap of 12.5 percent of potential revenue, and in the absence of changes to the levels of informality or migration out of the SIMPLES regime. Manufacturing will benefit from overall lower rates while revenues from services will increase, which in turn will grant more input credits to other sectors – despite the continuation of many services sector exemptions, and other special treatments.

To gauge uncertainties around the future revenue path, we simulate scenarios modifying assumptions on compliance, informality, and adherence to the SIMPLES regime. Potential deviations from baseline revenues are estimated to range from over-performance of 0.8 percent of GDP to under-performance of 1.9 percent of GDP. The compliance gap is the key driver for ensuring revenue neutrality. Even though the reform will greatly lower compliance costs by reducing complexity, implementing a generalized split payment mechanism, and integrating revenue administrations while better leveraging the already high level of digitalization, the precise reduction in the compliance gap is uncertain. A moderate reduction in the compliance gap would yield 0.6 percent of GDP lower revenues than the baseline. In addition, while the baseline assumes no migration of SMEs out of the low-tax SIMPLES regime, the reform could trigger such migration for a specific population of SMEs thanks to full input tax crediting. While this is a welcome development, it would lower revenue collection by around 0.3 percent of GDP given the need for granting higher input tax credits (ITCs). A possible increase in formality, i.e. in registered businesses, could present an upside risk to revenue collection. However, since newly formalized firms would contribute to sectors which are taxed at relatively lower rates, the increase would have a small effect of 0.2 percent of GDP only.

To ensure the revenue neutrality and fully unleash the reform's benefits, a risk-based anti-fraud strategy, full integration of governance, and harmonization of operations could be envisaged. This includes harmonizing operations across subnational and federal administrations to leverage important synergies and achieve both full and timely input tax crediting and high compliance. The introduction of a broad-based split payment mechanism is revolutionary and will support both goals but needs to be weighed against potential negative effects on business cash-flow and compliance costs. Voluntary compliance must be promoted by a real reduction of compliance costs which will only be possible with a fully integrated VAT management approach across all levels of government. In addition, as the cornerstone of this reform is the unrestricted creditability of taxes paid on business inputs, a robust mechanism must be in place for full and timely refunds to registered businesses, with timeframes aligned with international good practice.

The paper is structured as follows. Section II describes the current consumption tax system and reform proposal. Section III outlines the model and data sources and presents baseline results by sector. Scenario

[7] RA-GAP was launched in 2011 by the IMF's Fiscal Affairs Department to support countries in estimating the tax gap. Since then, RA-GAP has completed around 60 VAT gap estimation studies.

analysis is conducted in Section IV, while Section V discusses implementation challenges. Section VI concludes.

Reforming the Consumption Tax System

A Challenging Starting Point

Brazil's consumption tax rates are exceptionally high and vary significantly across products (Figure 1). Combining taxes charged by federal, state and municipal entities, consumption tax modal rates average 34.4 percent (SERT 2023). Statutory tax rates on selected industrial goods, which are subject to cumulative taxation by the state's tax ICMS and the federal tax PIS/COFINS (and IPI) can reach above 40 percent.[8] At the same time, important exemptions on some goods, notably food and agricultural products, as well as special treatment of many services leads to very low taxation of a significant share of the consumption basket. Vast differences also exist in tax types and tax bases. Overall, indirect taxation is among the highest worldwide, accounting for 12.5 percent of GDP (double OECD and LATAM average) and 40.4 percent of total revenues, including social contributions, in 2023.[9] Given the regressive nature of (most) indirect taxation, such a tax burden can have important distributional consequences if not appropriately addressed (Cebreiro and Kolerus 2025).

Tax collection is spread across three levels of government with heterogenous collection among subnational entities. Around 60 percent of consumption taxes are collected by Brazil's 26 states (and the federal district) and its 5568 municipalities. In addition, states as well as municipalities have been exercising substantial discretion in policy design, leading to more than 300 differentiated rates for consumption of goods and services, applied to multiple tax bases.[10] Fiscal competition over tax bases and rates further widened the range, supporting exemptions and reduced rates for locally dominant sectors while increasing others to maintain revenue intake. In addition, revenues are very unequally distributed across states given different levels of economic development and sectoral specialization as well as heterogenous capacity in revenue administration.

The current system allows for incomplete crediting of input taxes and has seen a significant built-up of legacy tax credits. Taxation of intermediate consumption, estimated around 4 ½ percent of GDP in Brazil, penalizes sectors with high input content and companies at the end of the supply chain. It is particularly salient in construction, real estate, and parts of manufacturing which are not related to processing of basic goods (included in the "cesta basica"), as shown in Figure 1. Moreover, a large number of consumption tax exemptions under the current system (e.g. on agricultural products) imply that VAT-registered businesses cannot claim input credits (due to the lack of a positive rate on output) even if crediting were possible from a tax design point of view. In addition, where input tax credit (ITC) is possible (e.g. under the states' ICMS or federal

[8] A manufactured good can be taxed at the manufacturing stage (IPI) and then again when sold (ICMS).

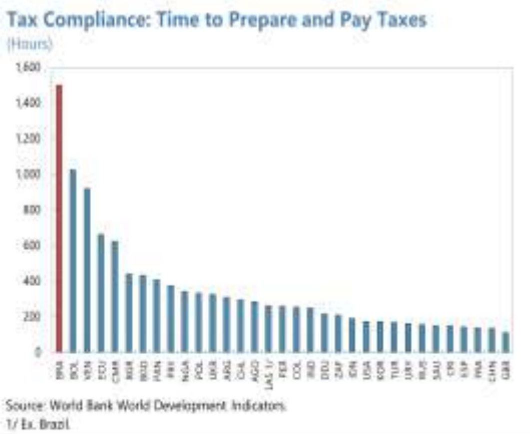
[9] Source: Tesouro Transparente do Brasil, encompassing all indirect taxes as per GFSM 2014.

[10] Some states used to classify digital goods (e.g., software) as tangible goods (subject to ICMS), while others as services (subject to ISS). Some regions exempted imported machinery and equipment while others charge up to 16 percent on all imports.

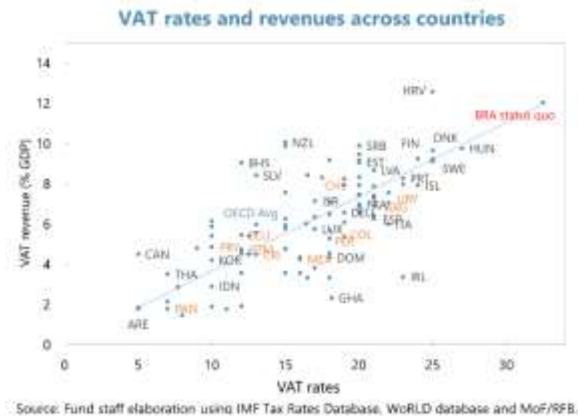
PIS/COFINS tax), tax disputes, legal uncertainty, and litigation weaknesses led to unsettled input credits and the built-up of legacy tax credits of potentially 3-5 percent of GDP.[11]

Figure 1: Brazil's Current System of Consumption Taxes

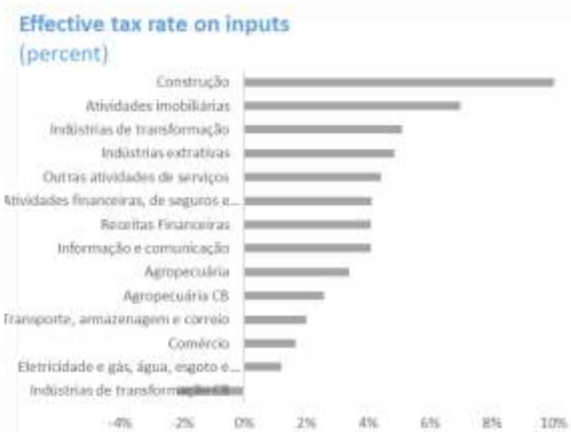
The current system's complexity implies high transaction and compliance costs.



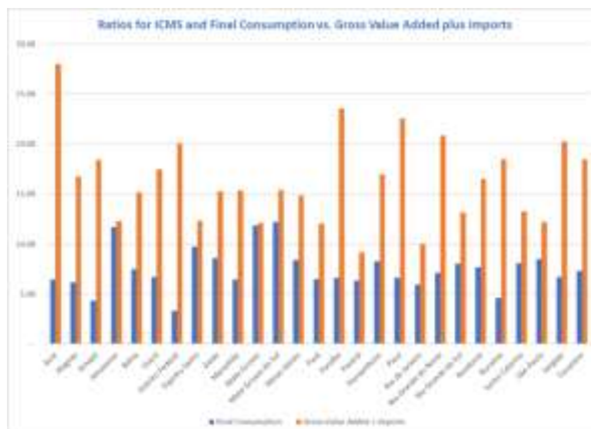
Brazil has one of the highest consumption tax rates worldwide...



...with a significant share levied on intermediate goods varying across sectors...



... and a wide range of different treatments across states.



Sources: IBGE (Regional SUT 2018), CONFAZ, staff calculations

High statutory rates, multiplicity of tax bases and rates, as well as incomplete tax crediting give rise to a highly complex system where compliance has become extraordinarily costly. Time to prepare and file tax returns is, by far, the highest in Brazil relative to comparator countries, and more than five times higher than

[11] A precise estimate has not been published given the scattered nature of legacy credit among subnational revenue administrations. According to Santi and Coelho (2023), a study by the Grupo de Estudos Tributários Aplicados (GETAP) reported that the 41 largest businesses in Brazil have accumulated outstanding ICMS and PIS/COFINS credits totaling 27.3 billion reais (~0.3 percent of GDP).

the LA5 average (Figure 1). The complexity and unclear rules (most of them related to consumption taxes)[12] also contribute to heightened legal action and litigation[13] and the average time for a case to be decided is 18 years (Santo and Buffolo 2021).

Reform Pillars

The reform introduces a dual VAT with a harmonized tax base across all three levels of government. The new estimated VAT reference rate, at 28 percent,[14] is about 6 percentage points lower than the estimated combined modal rate under the current system. The dual VAT, a full-fledged VAT with a two-tier structure, will consist of:

- The *Contribuição sobre Bens e Serviços* (CBS), the federal component raising about one third of the revenues, fully introduced in 2027 after a test period in 2026.
- The *Imposto sobre Bens e Serviços* (IBS), the subnational component raising about two thirds, phased in gradually, starting in 2029.

The new excise *Imposto Seletivo* (IS), to be introduced from 2027 onwards broadly replacing the IPI, strictly limited to products harmful to health and environment, including alcohol, sugar-based drinks, vehicles, and smoking products.[15] Most importantly, the taxes will be applied uniformly across the country and eliminate wide-spread rate dispersion, an important improvement for doing business and with significant output gains.[16]

The reform's revenue neutrality target is enshrined in the constitution, offering a goalpost for the policy gap. As constitutionally mandated, the reform needs to achieve the same tax collection as under the current system, with a revenue target of around 12.5 percent of GDP, broadly corresponding to the average consumption tax collection during 2012-2021.[17] A continuous re-adjustment of reference rates will ensure that the revenue target is met. Federal and subnational governments will have the autonomy to adopt rates different than the reference rate albeit within limitations on rate reductions during the transition period. Adjustments to the reference rate would also be necessary in case of a further widening of the policy gap. As specified in Complementary Law (LC) 214/2025, the reform comprises exemptions and reduced rates, which were partially maintained from the current system. Most basic goods items (included in the "cesta básica") are zero rated and reduced rates are applied at 40 percent (e.g. additional food products, education) and 70 percent of the reference rate (e.g. professional services). In addition, special regimes continue to exist, notably the free trade zone of Manaus and the SME low-tax scheme SIMPLES. In addition, specific treatments are granted to the financial sector, real estate activities, and fuels (Annex 1).

[12] For example, in March 2017, the Federal Supreme Court (STF) ruled that the inclusion of the state tax ICMS in the PIS/COFINS calculation basis is unconstitutional. However, a STF decision on how the taxpayer should calculate the basis was not taken until May 2021. Consequently, many companies took legal action to demand a refund of their past credits.

[13] Several reasons contribute to the structural weakness of Brazil's litigation system, which accumulated tax liabilities of around 75 percent of GDP in 2019, to a large extend unrecoverable (Santo and Buffolo 2021).

[14] Applicable rate at time of finalizing this paper.

[15] Law 214/2025 Art 409 (p. 145)

[16] Cavalcanti et al 2024 estimate that eliminating VAT dispersion leads to a 6 percent increase in GDP.

[17] Revenue neutrality is enshrined in the constitutional amendment EC 132/2023. Complementary Law 214/2025 defines the computation of the target, which is indeed more complex than the average historical collection: While the average revenue collection between 2012 and 2021 is taken for PIS/COFINS's (and applied to the CBS), a moving average will be computed for the IBS once they are being introduced. We therefore use the average collection of all current consumption taxes for the years 2012-2021 as proxy target. In an internal technical note, SERT estimated the revenue target at 12.3 percent of GDP.

The new dual VAT will be governed by a unified legislation, while a supervisory body for the IBS will be established to represent subnational governments.[18] The reform proposes a nation-wide approach for managing the VAT across all levels of governments anchored on a single and unified legislation, harmonization of tax procedures, digitalization, and cooperation and exchange of information. Committees and coordination platforms have been created to facilitate such cooperation. The tax administration for the subnational component would be governed by the newly created *Comitê Gestor*, a supervisory body representing states and municipalities, whose functions include the distribution of tax revenue among states and municipalities, issuing guidance on interpretating the rules of the IBS, and regulating tax audits and litigation.

Complete input tax crediting is at the core of the reform and will be facilitated via a generalized split payment mechanism. Unrestrictive credits paid on business inputs will put an end to the cascading taxes of the current system. Without an additional tax wedge in the production process, important distortions along supply chains and across sectors will be removed and a more efficient allocation of production factors can be achieved. This, in turn, is expected to unleash important productivity gains and boost GDP (Domingues and Freire Cardoso 2020, Badel and Kolerus 2025). Plans to implement tax crediting via a generalized split payment mechanism (GSP) would allow for a seamless flow of ITCs. The GSP platform will automatically match *Output VAT* and *Input VAT* from all transactions, serving as a real time VAT accounting system. Each time a purchaser pays for goods and services using digital payment mechanisms (e.g., instant payment platforms, debit and credit cards, bank-slip payment systems, real-time transfers), the financial intermediary's digital payment system will clear the VAT position of the supplier with the respective tax administrations' accounting systems. As a result, it will entitle suppliers with the corresponding ITC paid from previous stages, along with the portion of the payment corresponding to the VAT-base price of the transaction and remit the portion corresponding to the VAT generated to the respective federal and subnational treasuries.

A cashback system for low-income households will help address equity concerns. Given the inherent regressivity of the VAT,[19] in addition to preferential treatments for several goods and services, the reform introduces a partial cashback system focused on the most vulnerable families. Eligibility is determined by registration in Brazil's Cadastro Unico,[20] a centralized registry for lower-income households that is used for cash transfers programs including Bolsa Familia. Households with income below half of the minimum wage per capita will qualify.[21] The system will provide a 100 percent CBS and 20 percent IBS cashback (an overall 46.6 percent) on the acquisition of cooking gas (canisters weighing up to 13 kg), natural piped gas supplies, domestic electricity, telecommunications, water, and sewage bills; and a general 20 percent IBS and CBS cashback on other purchases.[22] The cashback will take the form of a refund (or welfare transfer) to low-income families based on the tax reflected in e-invoices.[23] It must be compatible with the available family income which,

[18] PLP 108.

[19] Ruiz and Trannoy (2008); Leahy, Lyons and Tol (2011); Lustig, Pessino and Scott (2014); Swistak and de la Feria (2024).

[20] Cadastro Único para Programas Sociais do Governo Federal (CadÚnico) - art. 6º-F da Lei nº 8.742, de 7 de dezembro de 1993.

[21] Complementary Law No. 214/2025, sanctioned by President Luis Inácio Lula da Silva on 16 January 2025.

[22] Complementary Law No. 214/2025 allows for all levels of government (federal, states, districts and municipalities) to establish (by law) higher refunds percentages (Art 118, II, § 1º), as well as simplified mechanisms for the refund's calculation (Art 119) in exceptional cases (based on operational capacity).

[23] The mechanism for the refund as well as the total amount is described in Capítulo I, Título III from Law 214/2025. The mechanisms that will be used to avoid frauds and errors are still to be determined at time of finalizing this paper, including rules to make consumption compatible to income, based on: 1) consumption of households derived from the POF survey, 2) VAT paid by households that is reflected in e-invoices, and 3) total disposable household income (as declared in CadUnico plus other conditional income transfers).

in addition to other mechanisms, will help avoid frauds and errors. The issuing agency of the cashback will be the Brazilian Federal Revenue Authority (RFB) in the case of CBS and the Comitê Gestor for IBS.

Revenue Collection Under the Baseline

The Revenue Model

The IMF's RA-GAP model provides a good basis for estimating sectoral revenue collection. Taking a top-down approach, the original RA-GAP model allows for a comprehensive assessment of shortfalls in VAT revenues by estimating the compliance gap as the difference between the potential revenues that could have been collected under a given policy framework and the actual revenues collected, given the economic activity that occurred during a year (Hutton 2017). To do this, it estimates potential and actual revenues for individual sectors, and then aggregates them. Potential revenue for each sector is estimated using a process similar to that applied by each registered business when assessing its VAT liability: VAT must be paid on imports (*Import VAT*) and domestic sales (charged on sales invoices, *Output VAT*), while VAT paid on business inputs (paid on purchase invoices, *Input VAT*) is creditable. As such, potential revenue is calculated as: *Import VAT + Output VAT - Input VAT*.

To estimate the VAT reform's expected revenues, we adjust the RA-GAP model to Brazil specific features and work with an exogenous compliance gap. We modify the IMF RA-GAP model along four dimensions:

- We introduce a parameter to represent the share of firms migrating out of Brazil's special tax regime for SMEs (SIMPLES). To accommodate this parameter, we redefine the model's "eta" parameter to capture the proportion of ITC *not* allowed to be claimed instead of the proportion of ITC allowed to be claimed.[24]
- To capture informality by sector, we reinterpret the proportion of output produced by registered businesses (e.g., with a tax identification number, TIN) as a proxy for formality, given the absence of a VAT threshold. We therefore separate informality from the compliance gap and treat both as distinct concepts. As such, tax non-compliance may arise from either VAT-registered businesses or those operating in the informal economy with taxable obligations. As discussed in IMF (2015) and by Kanbur and Keen (2014), informality is not synonymous with tax non-compliance.
- We further add a lump-sum cashback variable to reflect the policy decision of reimbursing VAT to vulnerable families.
- Most importantly, we allow the model to operate with an exogenously determined compliance gap, similar to SERT (2023).

With these alterations, we are no longer estimating *potential* revenues but *expected* revenues. This shift is crucial to assess the revenue neutrality objective of the reform.

We apply the policy framework as legislated under the laws that govern the VAT reform (Annex 1). The expected VAT revenue for each sector "s" can be expressed as:

[24] In practice, this implies that "eta" range from 1 (no crediting) to 0 (full crediting).

$$\mathrm{EV}_s = (1-g_s) \times \Big(\sum_c (M_{s,c} - RX_{s,c}) \times (1+\tau'_c) \times \tau_c + \sum_c (OM_{s,c} - OCFE_{s,c} - DX_{s,c}) \times (1+\tau'_c) \times \tau_c \times r_s - \sum_c \big(N_{s,c} - OO_{s,c} + GFCF_{s,c} + OCFI_{s,c}\big) \times \tau_c \times (1 - \eta_{s,c} \times (1-\theta_s)) \times r_s \times (1-e_s)\Big) - \mathrm{CB}_s$$

where:

$M_{s,c}$ = imports by sector s of commodity c,

$RX_{s,c}$ = re-exports, i.e., exports that originated from imports, by sector s of commodity c,

$OM_{s,c}$ = market output by sector s of commodity c,

$OCFE_{s,c}$ = other capital formation excluded, i.e., negative changes in inventories by sector s of commodity c,

$DX_{s,c}$ = direct exports, i.e., exports that were produced domestically, by sector s of commodity c,

$N_{s,c}$ = intermediate consumption by sector s of commodity c, including the excise tax charged on production of commodity c,

$OO_{s,c}$ = output for own use, i.e., supplies made by the sector but used for their own purposes, by sector s of commodity c,[25]

$GFCF_{s,c}$ = gross fixed capital formation by sector s of commodity c, including the excise tax charged on production of commodity c,

$OCFI_{s,c}$ = other capital formation included, i.e., positive changes in inventories by sector s of commodity c,

g_s = compliance gap for sector s,

τ_c = VAT rate that applies to commodity c,

τ'_c = excise rate that applies to commodity c,

$\eta_{s,c}$ = proportion of ITCs for commodity c not allowed to be claimed by sector s,[26]

e_s = proportion of output of sector s which is exempt output,

r_s = proportion of output of sector s produced by VAT registered businesses (proxy for formality),[27]

θ_s = proportion of SIMPLES firms migrating for VAT purposes in sector s.

CB_s = lumpsum cashback by sector s

[25] As this output is not subject to taxation, an equivalent amount is reduced from intermediate consumption because VAT registered businesses would not have paid VAT on acquiring these supplies.

[26] For supplies produced under the SIMPLES regime or in the case of distributors or resellers of fuel. Presumptive tax credits for purchases made to certain non-VAT registered businesses (e.g., small families in agriculture) weren't estimated separately as the mechanism is expected to be neutral. The presumptive tax rate will be set to match the amount of VAT charged in their inputs.

[27] Total value added excluding market production by families in national account statistics.

Table 1: Model Parameters

Parameter	Baseline Rate	Notes
g_s	12.5% (average)	Compliance gap is exogenously determined. This parameter is adjusted under Section: Scenario analysis.
τ_c	0% - 28%	Reference rate and reduced rates as per policy settings as of October 2024, see Annex 1. For the simplified VAT for SIMPLES firms, the rate was estimated using the ratio between payments made by the taxpayers and their respective total revenues, as declared in SIMPLES returns (PGDAS).
τ'_c	*ad-rem + ad-valorem estimates*	Excise rates for tobacco and beverages are estimated using the difference between the modal tax burden and the tax burden of the excisable goods. IPI burden is used for vehicles.
$\eta_{s,c}$	0-1	Restrictions as stated in LCP 214. Parameter also captures the impact on ITC from exemptions on health and education and the excise tax.
e_s	0-1	Computed based on exemption by commodity: $e_s = \frac{\sum_c OO_{s,c} \cdot \omega_c}{\sum_c OO_{s,c}}$
r_s	88.75% (average)	Estimated based on National Accounts statistics. This parameter is adjusted under Section: Scenario analysis.
θ_s	0	No migration of firms is assumed under the baseline. This parameter is adjusted under Section: Scenario analysis.

Data Sources and Preparations

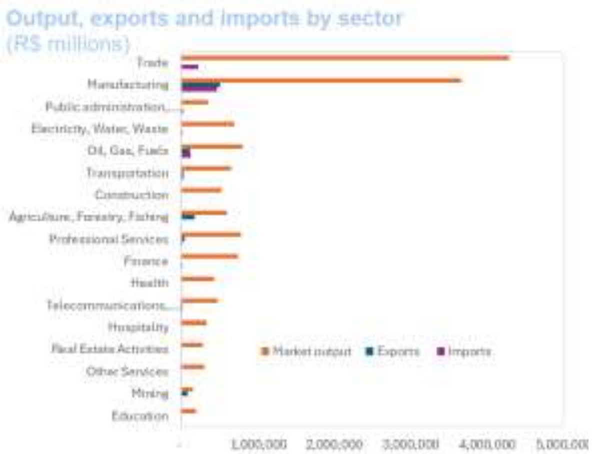
Data sources. The 2018 Supply and Use Tables (SUT) published by the Brazilian National Statistics Office (IBGE), comprising 68 sectors and 128 commodities, constitute the main source of information for macro variables (Figure 2). The SUT are complemented by National Accounts Tables and Gross Fixed Capital Tables as well as firm-level, administrative data from the RFB to derive the share of VAT paid on transactions with SIMPLES firms, informality, and certain sectoral allocations. Data for estimating cashback transfers are taken from IBGE's Consumer Expenditure Survey POF 2017/2018.

Adjustments are made for selected variables to align SUT aggregates with RA-GAP concepts. For instance, the value of imports is adjusted to reflect the customs value of the goods (CIF) plus any import duties payable. Similarly, domestic consumption by non-residents is subtracted from exports as their consumption is a taxable supply. Market output is derived by subtracting estimates of output for own use and non-market output from total outputs. Output for own use, in turn, is estimated using non-market production data from national accounts statistics while non-market output considers non-market production of public services only. Output for own use and non-market output are set to be exempted from the VAT. Finally, the value of investment by households (e.g., residential investments) is subtracted from gross fixed capital formation and reallocated as final consumption. Household investment data is taken from national accounts statistics.

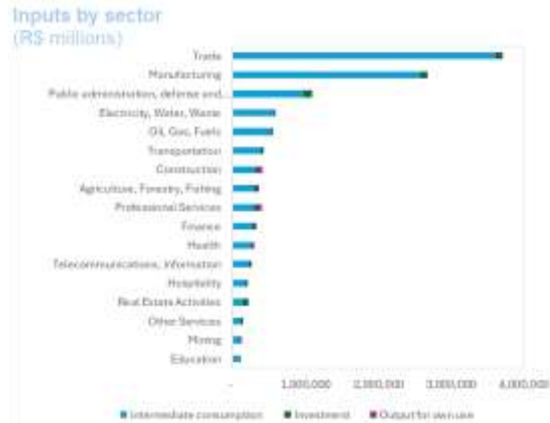
Further data preparation includes expansions, rebasing and redistribution of existing series. We expand selected SUT aggregates to proxy individual values for taxes and subsidies and rebase variables in the SUT to align them with VAT-base prices, i.e., manufacturer's cost plus all taxes (excluding VAT) minus all subsidies. Finally, to ensure that all variables are in the same commodity and sector space, we replicate sectoral allocations building on firm-level, administrative data from tax returns, customs declarations, and e-invoices facilitated by the RFB.[28]

Figure 2: Selected Macro Variables

Trade and manufacturing are the largest sectors by output…



…and by inputs.



Source: SUT, RFB, staff calculations

Baseline Results

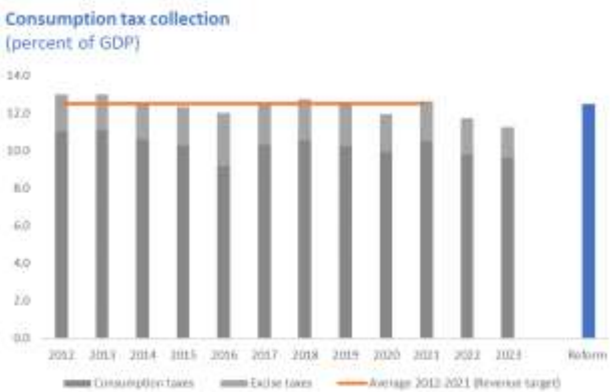
The reform's revenue neutrality requirement can be reached with a compliance gap of 12.5 percent, status quo informality levels and zero migration out of the SIMPLES regime – subject to the policy framework defined by the VAT reform as described above. The expected gross revenue collection of 12.8 percent of GDP aligns with the constitutional mandate, proxied by the average collection between 2012-2021 (Figure 3), as well as the exogenous adjustments made in the model, including free trade zones and cashback (of an estimated 0.13 percent of GDP). As the transition to the new system will occur in stages, the expected revenue levels will likely be seen in 2033 only, the first year of full application of the new VAT.[29] The high reference rate of 28 percent and the relatively low average compliance gap of 12.5 percent of potential revenues are the main pillars supporting expected revenues, as the unrestricted crediting of taxes paid on business inputs (end of tax cascading) cannot be fully mitigated by the adoption of a broader VAT base. Manufacturing, trade, and oil, gas, and fuels sectors shoulder 2/3rd of the expected collections, broadly reflecting their contribution to the economy's value added. These sectors, in particular manufacturing, are the only sectors with a meaningful import content – which will be taxed uniformly across regions after the reform – and, in particular trade, a relatively large input share, hence benefitting most from the new, unrestricted ITC mechanism.

[28] We did not extrapolate the data to most recent years because we focus on 2018.

[29] By 2025, the entire legal framework (including complementary laws, regulations, and other ancillary legislation) is expected to be completed, along with the development of all IT-related systems. In 2027, federal taxes (PIS/PASEP, COFINS, IPI) will be repealed and replaced with the CBS, and new excise taxes will come into effect. From 2029 to 2032, subnational taxes (ICMS, ISS) will be gradually phased out and replaced with the IBS, leading to their formal extinction in 2033, when the new VAT will be fully implemented.

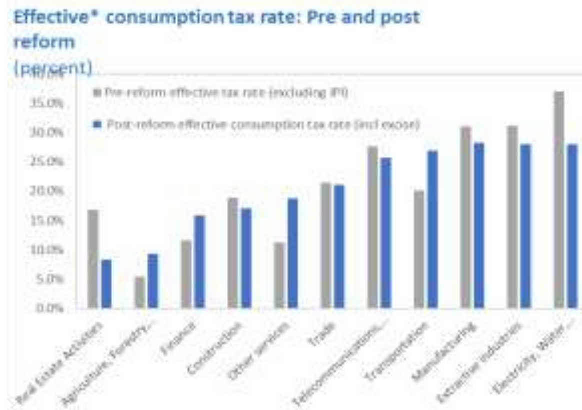
Figure 3: Baseline Results

Reform target of estimated 12.5 percent of GDP would be achieved.



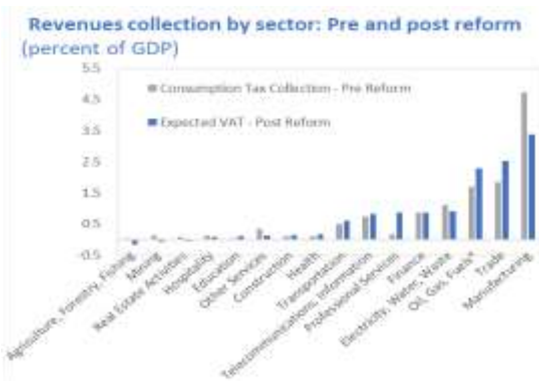
Source: RFB, including to be reformed consumption taxes and excluding CIDE

Effective rates are lower for previously highly-taxed sectors while rates for services increase.



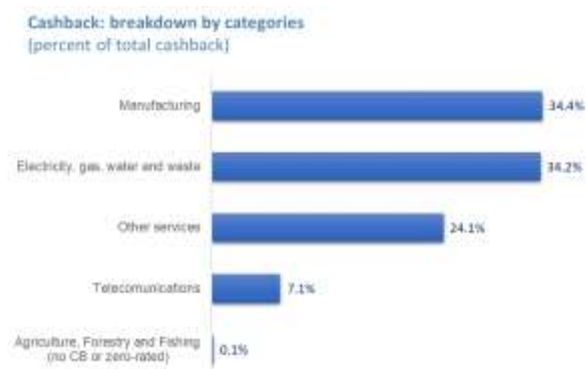
*Notes: * Effective rates excluding compliance gap. Real estate estimates might suffer from estimation bias due to imputed rents.*

Higher revenues from services, particularly trade, reflect broader collection.



*Oil, Gas, Fuels sector was constructed for pre-reform revenues using revenues from combustibles typically assigned to trade and manufacturing sectors.

Cashback transfers will mainly be granted for purchases of manufacturing goods and utilities.



Sources: SUT, RFB, staff calculations

Manufacturing is estimated to face overall lower rates while revenue collection from services will increase – despite the continuation of many services sector exemptions, and other special treatments (Figure 3). With a reform reference rate of 28 percent, several sectors, which are currently subject to cumulative taxation (mainly IPI, PIS/COFIS, and ICMS), are estimated to benefit from lower statutory rates. These sectors include electricity, water, and sewage; extractive industries; and manufacturing. Most services, on the other hand, will see their tax rates increase – albeit many of them remain protected by special treatments, such as overall lower rates and exemptions (Annex 1). Even though transportation, finance, and other services are most affected in terms of higher statutory rates, revenue collection will increase mainly from professional services, oil, gas, and fuels and trade, reflecting a broadening of the tax base, different degrees of input reliance and thus credit refunds, and compliance gaps. This does not necessarily imply a change in demand for these sectors' goods and services due to higher statutory rates. In fact, most professional services are provided to other businesses, and revenues collected from these sectors will be returned as ITCs to other sectors for those transactions, thus resulting in a possibly lower burden levied on these mid-chain services. Revenues from the trade sector will also increase due to administrative changes in the collection mechanism between the states and the federal level, implying a higher direct levy on the trade sector (as opposed to a levy on manufacturing) despite slightly lower effective rates. Sectors with special treatments (financial services, real estate) broadly maintain their revenue levels. For other sectors, changes are limited (education, hospitality) given continuation in reduced rates. Sectors such as agriculture and mining see a slight decline in the post-reform tax burden as they benefit from higher credits on their inputs while their products are, on average, lower taxed.

Most cashback transfers for low-income families are expected to come from the consumption of manufactured products, electricity, gas, water and waste. Under the baseline scenario, cashback transfers are estimated to sum up to 0.13 percent of GDP. To proxy refunds by sector, we use the consumption share of first two income deciles in total national expenditure (POF).[30,31] We assume that consumption patterns of households in these deciles remain unchanged after the reform. Among the goods with the highest cashback coefficient, electricity, gas, water, and waste will account for 34.2 percent of the total cashback, while telecommunications represent 7.1 percent, reflecting their relative share in the consumption basket of low-income families. 34.4 percent of the cashback will be refunding taxes on the consumption of manufactured products, due to their relative importance in the total consumption of these families despite benefiting from a lower cashback coefficient. Cashback on goods produced by the primary sector will be limited, as most products consumed by these families will fall under the Cesta Básica and, thus, be zero-rated.

Scenario Analysis

Higher-than-Expected Compliance Gap

The baseline compliance gap would constitute a large improvement vis-a-vis the status quo. Estimates for Brazil's compliance gap under the current system, only available for PIS/COFINS, average at 22.3 percent between 2015-2020 (RFB 2022). While there is no systematic estimation of ICMS compliance gap levels, selected studies report ICMS compliance gaps ranging from 19 to 48 percent of their potential collections.[32] The PIS/COFINS compliance gap is lower than the Americas' (and Emerging Markets') average of 32 percent and broadly in line with European emerging economies.[33] This seems remarkable given the complexity of the Brazilian system and can be partially attributed to a high level of digitalization on the Federal level. Decomposing the PIS/COFINS gap, sectors that perform worst in terms of compliance are other services and manufacturing. Transportation and education services come second, followed by health and professional services (Figure 4).

A significant reduction in the compliance gap is widely expected, as the reform provides incentives for voluntary compliance, introduces new tools for preventing VAT evasion and fraud, and boosts transparency.[34]

[30] Leveraging the WorldBank's SimVat tool and following Complementary Law 2014, 2025

[31] The calculation does not consider cashback for consumption of goods subject to IS.

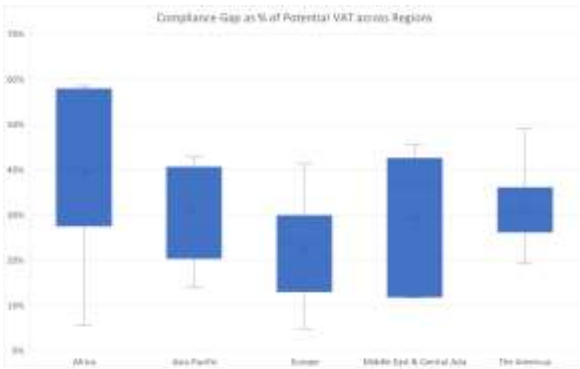
[32] FFEB (2012): Acre 34.7, Amapá 47.8, Rio de Janeiro 18.9, Piauí 32.4, Federal District 40.7 percent.

[33] Comparison based on results from 60+ estimations worldwide by the IMF using the RA-GAP model. Only a few AEs have requested TA missions on compliance gap estimations, resulting in a sample that is not representative.

[34] Full ITC is likely the primary factor followed by the reduction in compliance costs from simplification. GSP has the potential to rival ITC in terms of impact, but a comparable experience and quantification of GSP in an emerging market context is not available.

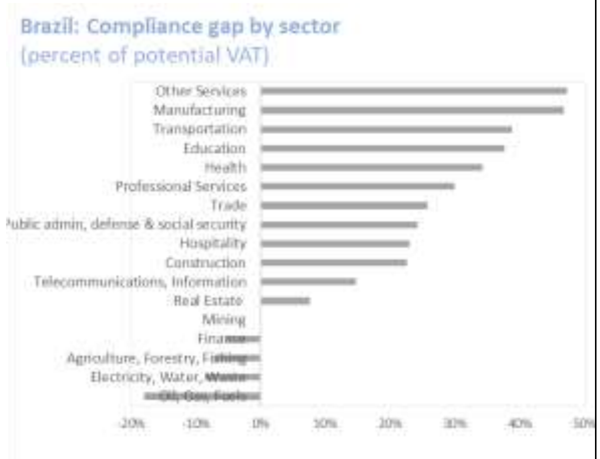
Figure 4: Status Quo Compliance Gaps

Brazil fares relatively well in international comparison, comparable to the (mainly emerging market) European average.



Source: Calculations based on the data from approximately 60 IMF's RAGAP estimations.

Services display highest compliance gaps.



Source: RFB 2022

- **Incentives from ITCs.** The shift of revenue collection towards services, with typically higher compliance gaps, is expected to worsen compliance. However, full input crediting will give a strong incentive for businesses to request invoices, the so-called VAT self-enforcement feature. Currently, with low tax rates and incomplete crediting, refunds are scarce. A higher VAT and credible (timely and complete) input tax crediting would strongly support an increase in compliance.

- **Generalized split payment mechanism.** The system can prevent abuses such as non-remittance of VAT (e.g., suppliers disappearing with the VAT collected from buyers) and the artificial deduction or refund of ITC not paid (e.g., using false invoices). These issues typically involve "fly-by-night" operators and fraudsters engaging in "carousel" and "missing trader" fraud schemes (OECD 2024). Various countries around the world, including Poland, Czechia, Korea, Peru and Argentina, have introduced successfully split payment mechanism for sensitive goods and services or specific sectors that are more vulnerable to evasion and fraud. However, none have implemented in a generalized manner as Brazil intends to do. The nearly universal use of electronic payments in the economy (even among micro and small businesses) supports the transition to the GSP mechanism.

- **Additional digitalization reforms**. Brazil has a long history of innovation in tax administration[35] supporting the relatively good performance in compliance compared with peers – despite the complexity of the system. E-invoicing (which is being introduced progressively in OECD countries) was initially introduced in Brazil at the subnational level in 2005, subsequently expanded to other levels of government, and integrated into a comprehensive digital accounting platform (SPED) in 2007.[36,37] Other countries have

[35] It was the first country to introduce electronic filing in Latin America in 1991.

[36] From the 5,569 municipalities, only the largest ones are part of SPED (1,037 as of May 2024).

[37] SPED represents a significant innovation, as it receives, validates, stores, and authenticates financial, tax, logistical, transportation, and labor information from firms.

followed suit, though with mixed results (see Box 1). To further enhance compliance, improvements are ongoing in three dimensions: (i) integration of subnational invoices into CBS-IBS databases, including business-to-customer invoices; (ii) implementation of services sector e-invoicing and integration into CBS-IBS databases (transportation, energy, communication); and (iii) expansion of e-invoicing of services to smaller municipalities; 1800 municipalities are already using e-invoicing for services, covering 80 percent of revenues. As such, the basis for electronic invoices will be harmonized, particularly affecting the coverage of trade services.

- **Transparency and simplification**. The main gains in terms of transparency will come from simplification, harmonization and coordination. VAT visibility will be boosted by the adoption of a price-exclusive tax and the requirement of posting the amount of tax on invoices, which could facilitate the pass- through of lower

Box 1: International Experience in Improving Compliance

Split-payments: Poland. After the introduction of the SPM in 2018, Poland reduced its VAT compliance gap from 25 percent in 2015 (one of the highest in the EU) to 11.1 percent in 2020, although more recent EU figures report a compliance gap of 8.4 percent (Selera 2023). This achievement makes Poland one of the countries that has most significantly reduced its VAT compliance gap. Poland now has the most comprehensive SPM worldwide. The SPM was implemented alongside other IT tools, including mandatory reporting of invoicing data through the OECD-supported Standard Audit File for Tax, a data analytics tool to monitor suspicious financial transactions (in connection with anti-money laundering directives), a real-time fuel transportation monitoring system, and a mandatory e-invoicing system for real-time transaction monitoring.

The experience on Electronic Invoicing (EI) is mixed.
For **Argentina**, where EI was introduced in 2007, Templado and Artana (2017), analyzing data from 2007 to 2016, found evidence of an overall increase in VAT revenues, with annual increases for certain years varying from 0 to 10.7 percent. For **Ecuador**, where EI was introduced in 2013, Ramírez, Oliva, and Andino (2018), based on data from 2014 to 2016, found a positive and significant impact on underlying taxable bases (sales, purchases); however, this did not translate into an increase in VAT revenues. For **Uruguay**, where EI was introduced in 2012, Bergolo, Ceni, and Sauval (2018) found evidence of a 3.7 percent increase in VAT paid by firms in the six months following the introduction of EI, based on data from 2012 to 2016. Similar to the case of Ecuador, Bellon et al. (2019) found evidence in **Peru**—where EI was introduced in 2010—of a positive impact on underlying taxable bases (sales, purchases, value added) during the analysis period from 2010 to 2017. However, there were weaker responses in VAT payments, "possibly due to shortcomings in the credit refund mechanism."

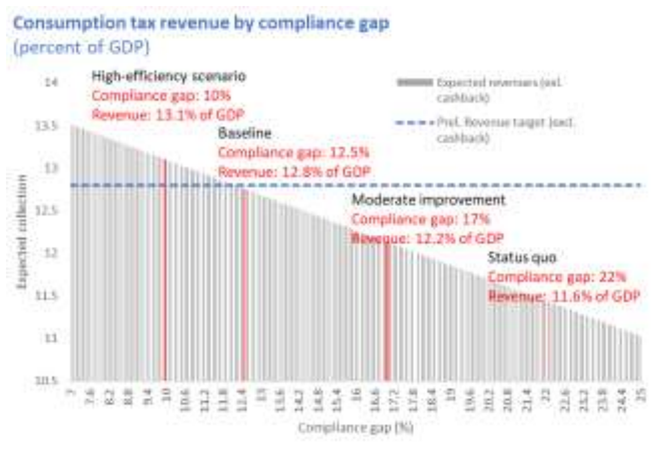
Digitalization: **India**. Better integration of information across levels of government, also facilitated by technology improvements, allowed for better tracking of the informal economy. While technology also facilitated compliance, additional time was needed to adjust refunds processes.[1] India adopted a hybrid model combining central and decentral elements: a central Directorate General of Analytics and Risk Management (DGARM) was set up (alongside the Directorate General of Systems and Data Management and other stakeholders) to analyze data and share output with field entities, which was complemented by disaggregated analytics operations with operational teams using data and tools to detect non-compliant taxpayers. In July 2017, a nationwide VAT (Good and Services Tax, GST) replaced a complex system of value-added, sales, and excise taxes levied by 29 states and the federal government. The new VAT has four main non-zero rates up to 28 percent. In the first year of implementation the number of registered GST taxpayers increased by almost 50 percent and tax revenues by approximately 8.4 percent compared to the previous year.[2]

[1] A recent survey by Deloitte identified areas of further improvement: the rationalization of GST rates, easing restrictions on ITC, refining dispute resolution mechanisms, and the adoption of faceless assessments to modernize and simplify compliance procedures further.
[2] Year-wise and State-wise GST collection (2017-2024)

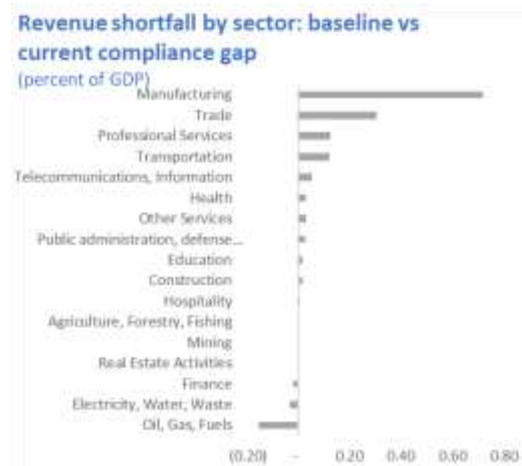
post-reform effective rates to consumers[38] and increase public trust. In addition, starting in 2025 digital receipts[39] will be mandatory for personal income tax deductions of expenses on health services provided by individuals, which will also help to encourage compliance. Higher transparency will also restrict subnational governments from granting discretionary tax incentives (or subsidies), with a potential positive effect on revenue collection (example of India, see Box 1).

Nevertheless, reducing the gap by 10 percentage points is ambitious and requires outperforming peers in terms of revenue efficiency. Poland is among the few countries that have achieved such a strong reduction in their compliance gap: actions taken by the Polish administration have seen the compliance gap fall by 17 percentage points since 2015 starting from comparable levels of 25 percent (Gostomski and Poniatowski (2021) and Box 1). Moreover, non-linearities in the reduction in the gap making it harder to "achieve the last mile" – not modelled here – could further dent efforts to bring the gap towards 12.5 percent. Given significant uncertainty around this reduction (and the fixed reference rate used), we perform scenario analyses to better gauge revenue risks from a lower-than expected reduction in the compliance gap.

Figure 5: Compliance Gap and Revenue Collection



Source: RFB, staff calculations



Source: RFB, staff calculations

With the status quo compliance gap – assuming no improvement – revenues would be 1¼ percent of GDP lower than targeted (Figure 5). Assuming a compliance gap of 22 percent, gross revenues (excluding cashback) are estimated to reach 11½ percent of GDP. This underperformance would be mainly driven by manufacturing and trade, broadly commensurate to their share in value generation.[40] Assuming a moderate improvement in compliance of 5 percentage points, corresponding to a compliance gap of 17 percent, revenue

[38] Schenk (2010) and Congdon et al. (2011). Evidence on pass-through to consumer prices is mixed. Benedek et al. (2015) show that VAT reforms in other countries led, at times, to temporarily higher prices for final consumers, depending on elasticities. Some studies on manufacturers in India found that 3 months after the VAT implementation (in July 2017) the substantial reduction of tax rates was not passed through to consumers in form of lower prices (Comptroller and Auditor General of India, 2010). By analyzing Consumer Price Index (CPI) basket data, Madathil and Ashitha (2019) find that every item in the CPI basket increased in the period July 2016-2018, although the introduction of the new VAT had no significant impact on the CPI.

[39] Receita Saúde. https://www.gov.br/receitafederal/pt-br/centrais-de-conteudo/publicacoes/manuais/orientacao-tributaria/receita-saude-publicado-12-12-24.pdf

[40] The response of the oil, gas, and fuel sector is rather unrelated to compliance but linked to underestimation of production value in national accounts.

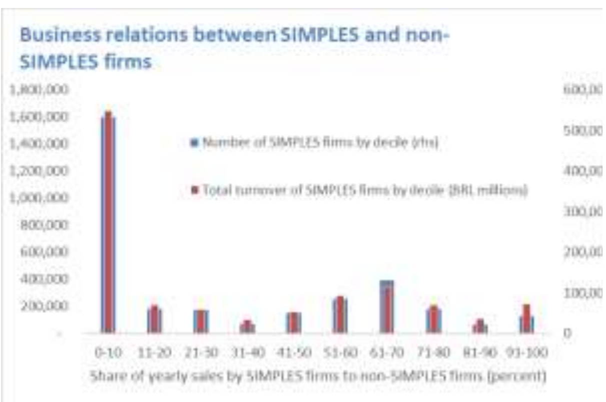
collection would yield about ½ percent of GDP less than the baseline. A reduction in the compliance gap to 10 percent would improve revenues by 0.3 percent of GDP relative to the baseline.

Migration out of SIMPLES for VAT Purposes

Introducing an unrestricted ITC mechanism could provide incentives for SIMPLES firms to migrate for VAT purposes. Given significant uncertainty around possible behavioral decisions of SIMPLES firms, the baseline assumes no change in the SIMPLES population of small and medium enterprises. However, deviating from international practice, the reform allows businesses under the SIMPLES regime to migrate *only for VAT purposes*, while remaining under SIMPLES for other taxes (e.g. on income and profits). This could provide incentives for SIMPLES firms to migrate to become eligible for ITC while continuing to benefit from reduced rates for other taxes. The reduction in compliance costs due to the simplification efforts of the reform could further accelerate the migration from SIMPLES, in particular if pre-filled VAT tax returns are introduced based on e-invoices (as currently developed by the RFB). On the other hand, there could be a risk for firms to split up or artificially downsize, leave the general tax regime, and register as SIMPLES firm if their sales consist primarily of services to those final consumers who potentially experience tax increases. Given the very high threshold for SIMPLES eligibility and established track record of larger firms at Brazilian tax administrations, this risk appears more limited in the context of Brazil.

Figure 6: SIMPLES Characteristics and Incentives

SIMPLES firms predominantly sell to final consumers, but around 1/3 of them have significant exposure - with more than ½ of their sales - to non-SIMPLES firms.



Notes: non-SIMPLES firm refers to registered VAT taxpayers; Source: RFB

ITC could make it beneficial to deal with migrated firms.

Notes: Estimated ITC for purchase from SIMPLES firms of 3 percent.

The incentive to migrate into the general VAT regime will depend on two factors, sales to non-SIMPLES businesses and final consumers and the relative importance of VAT-taxed inputs in SIMPLES firms' production. If SIMPLES entrepreneurs opt for participating in the general VAT system, their sales of goods and services would be subject to standard rates – largely exceeding the estimated 3 percent average rate that is currently levied under the SIMPLES tax regime. At the same time, they would become eligible for ITCs, with full crediting applied when purchasing from registered VAT taxpayers (either non-SIMPLES or migrated SIMPLES).[41] The lower the sales to final consumers and the higher the use of VAT-taxed inputs the more firms

[41] Currently, there is no input tax credit under SIMPLES; and only those migrating will have access to ITC.

are set to gain from migration. The big improvement from the tax reform is the option granted to SIMPLES firms to allow full ITC in their acquisitions, thus removing the cumulativeness of the current regime (Figure 6). This option works as a ceiling as in the worst-case scenario; the migrated SIMPLES firms will pay the same as a competitor in the general regime for VAT purposes, which is not always true under current SIMPLES rules. As a consequence of both removing cumulativeness and having a ceiling to taxation, SIMPLES entrepreneurs could increase their market share after migration, by choosing the best option for their business.

We estimate the impact of SIMPLES migration on VAT revenue collection under four different scenarios, defined by the intensity of sales involving SIMPLES firms, non-SIMPLES firms, and final consumers. We analyze the revenue impact conditional on (i) the exposure of SIMPLES firms' sales to non-SIMPLES businesses (for out-migration) and (ii) the exposure of non-SIMPLES firms' sales to final consumers (including SIMPLES firms) (for in-migration of eligible firms).

(i) **Out-migration**. We identify the pool of candidates for migration into the general VAT regime by the share of SIMPLES firms' sales to registered, non-SIMPLES firms. If these sales are higher than a certain threshold, the SIMPLES firm would migrate and opt into the new reformed VAT system, otherwise, it keeps paying all taxes under the SIMPLES regime. We simulate migration of firms with yearly sales to non-SIMPLES firms above 75 | 50 | 25 percent of their total sales, corresponding to 9 | 32 | 42 percent of all SIMPLES firms. The migration scenarios were built using total revenues declared by more than 3.2 million SIMPLES taxpayers. The destination of the sales was determined using the data of the Brazilian electronic invoice system (NFe) when available. To estimate sales from SIMPLES taxpayers that are mainly service providers (based on declared economic activity), the taxpayers' data from 20 municipalities from all Brazilian regions, including 10 state capitals, were used as a proxy. Finally, the difference between revenues from NFe and total declared revenue for each individual taxpayer was considered as sales to final consumers, given that data from the electronic invoice system for final consumers (NFCe and others) is not yet available. Figure 6 shows the distribution of SIMPLES taxpayers, according to the distribution of sales using the applied methodology. We translate the identified migration in each scenario into the RA-GAP model by adjusting the net share of ITCs that are *not* allowed to be claimed under the SIMPLES regime. While half of all SIMPLES firms sell more than 90 percent of their goods and services to final consumers or other SIMPLES firms, around 1/3 of them have significant exposure to non-SIMPLES firms.

(ii) **In-migration**. We identify candidates for possible migration *into* SIMPLES (assuming no opt-in to the general VAT regime) by studying a group of non-SIMPLES firms that would be eligible for SIMPLES under current criteria[42] and ranking them by the share of their sales to final consumers. Those firms that sell a higher share of goods and, in particular, services to final consumers could face higher taxes post-reform but lack the pressure from business partners to remain in the general VAT regime (for the partners to remain ITC eligible). Among the eligible, non-SIMPLES firm population, half of them sell less than 10 percent to final consumers, making it highly unlikely for them to migrate. In fact, over 80 percent of non-SIMPLES firms sell less than half of their products and services to final consumers. We therefore focus on the firm population whose sales to final consumers amount to half or more of total firm sales. Interestingly, this population also

[42] Applying the eligibility threshold by states and municipalities of R$3.6 million turnover, corresponding to around 302 000 firms.

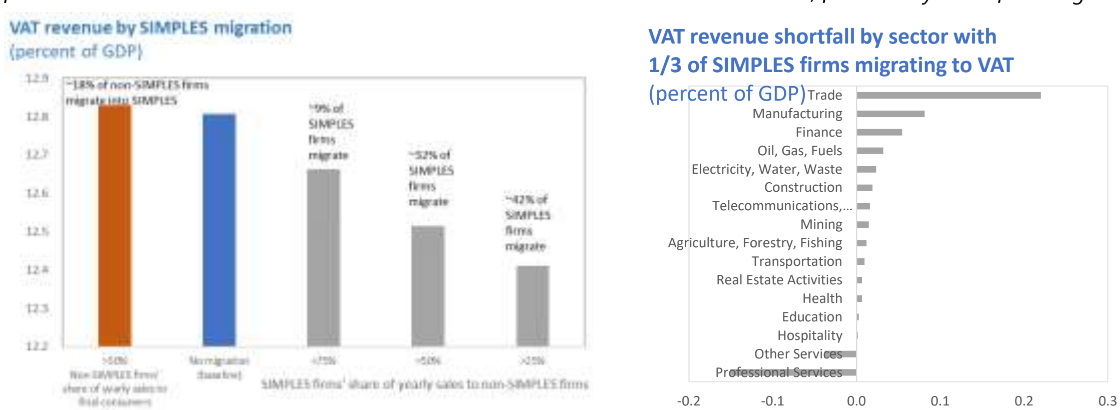
features significantly higher zero-rated products making it overall less beneficial to migrate into SIMPLES.[43]

While migration from SIMPLES to the general VAT would signify a positive development, it constitutes a negative revenue risk in the short term. Abstracting from general equilibrium effects, we estimate a revenue loss of around 1/3 percent of GDP relative to the baseline if 1/3 of SIMPLES firms migrate for VAT purposes, corresponding to a 50 percent or more revenue exposure to non-SIMPLES firms, and a revenue loss of 0.4 percent of GDP if 40 percent migrate (Figure 7). Lower net revenue collection can be explained by higher net input tax refunds: non-SIMPLES firms doing business with SIMPLES firms are eligible to claim ~3 percent tax credit after the reform. After migration of the SIMPLES firm, their business partners would receive the full tax credit for the same transaction. This gives both non-SIMPLES firms a strong incentive to engage with non-SIMPLES counterparts and migrating firms a chance to expand market share as explained above. However, it would also constitute a significantly higher ITC to be refunded by the tax administration. A higher migration of around 42 percent of SIMPLES firms would lower revenues by 0.4 percent of GDP. The revenue shortfall would mainly come from the trade sector, given the high share of B2B operations in this sector, followed by manufacturing and finance. Finance, for instance, has very few SIMPLES firms but would benefit from higher ITCs. In the case of migration into the SIMPLES regime, the revenue impact would be positive, as fewer ITCs would need to be refunded, but very small (0.02 percent of GDP), as mainly those firms would migrate which sell to final consumers.

Figure 7: SIMPLES Migration and Revenue Collection

Migration assumptions are based on sales to non-SIMPLES firms.

Migration for VAT purposes would hit revenues from the trade sector most, followed by manufacturing.



Source: RFB, staff calculations. Net of cashback.

The Role of Informality

Informality in Brazil is elevated, in particular in the services sector. Brazil experienced a remarkable process of formalization between 2002 to 2014. However, with the 2015-16 recession the trend reversed, and informality remains elevated while experiencing large, temporary swings during the pandemic. In 2024, around 38 percent of total employment was in the informal sector.[44] Informal output is estimated around 12 percent of

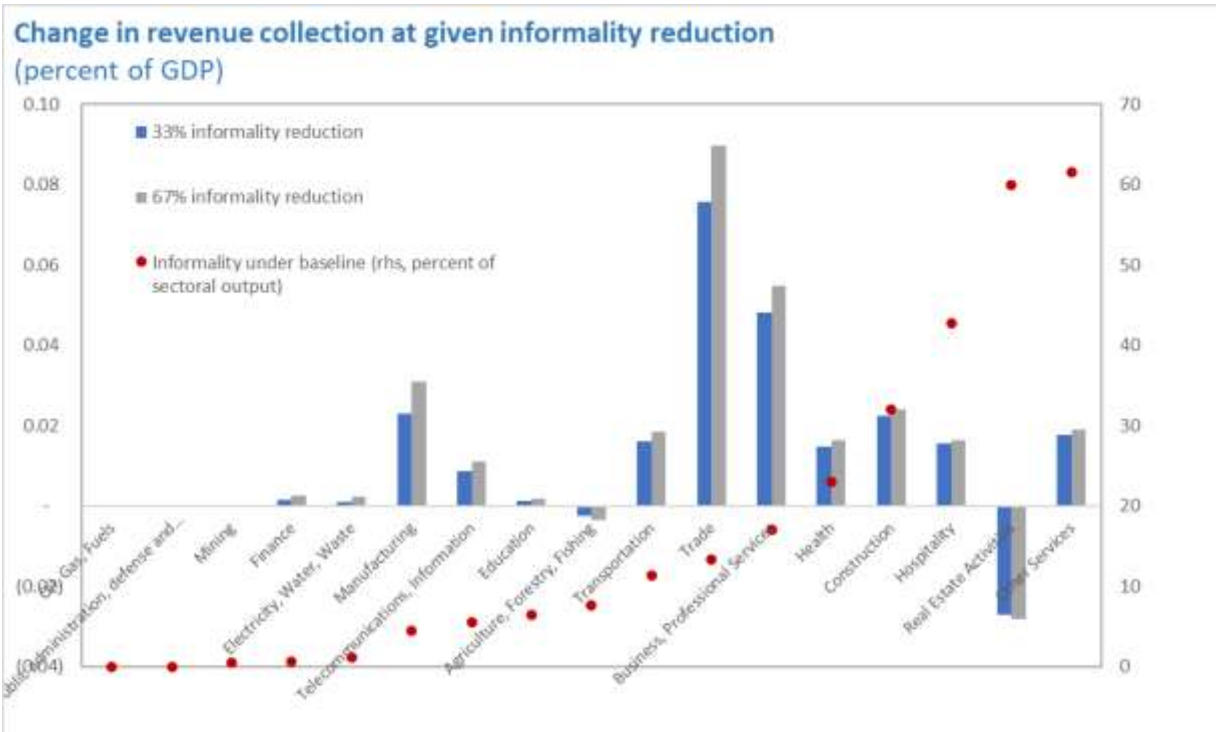
[43] Non-SIMPLES firms with sales to final consumers (or SIMPLES firms) of 90 percent or more of their total sales feature a 10 times higher prevalence of zero-rated products in their turnover than firms with the lowest shares of sales to final consumers.

[44] IBGE/PNAD, PNADC

total output using national accounts data.[45] Informality across Latin America is typically driven by agriculture and services. While this also holds for Brazil in terms of informal *employment*, the sectoral share of informal *output* is somewhat different relative to peers, given Brazil's highly productive, large-scale formal agriculture. As a consequence, services are the main driver of output informality in Brazil (Figure 8). Other services and real estate activities display around 60 percent of output produced by non-registered businesses. Hospitality and construction follow with 40 and 30 percent respectively. Fuels, public administration, mining, finance, and utilities have zero or close to zero informal output.

Figure 8: Informality and Revenue Collection

The change in revenues by sector is driven by intermediate consumption, output shares as well as the prevailing level in informality.



Source: IBGE, RFB, staff calculations

Informality plays an important role for revenue collection, reaching beyond questions around compliance. Informality can affect the tax system's balance between indirect and direct taxation, as well as the sectoral composition in revenue collection. It also has an impact on the progressivity of the VAT system as poor households are more likely to purchase from informal businesses, thus avoiding the tax payment. On the other hand, the tax system can play an important role in addressing informality and is often crafted to take into account economic realities to avoid disruptions. For instance, the VAT reform law acknowledges the substantial reliance of several sectors on informal businesses and allows for presumptive credits from purchases made to

[45] Using SUT data. We follow a definition of informality based on market output. We proxy informality by the proportion of market output produced by households and derived from the SUTs, with the exception of agriculture, where mixed income by families is considered as part of the formal economy. This definition differs from estimates which compute informal output as share of *official GDP* at 33 percent (Elgin et al, 2021). We acknowledge that some aspects of informality could be captured by the compliance gap.

non-registered businesses. These credits can be claimed for purchases related to rural producers (with annual revenue below R$3.6 million); suppliers of freight transportation services; suppliers of waste and other materials destined for recycling; suppliers of second-hand goods intended for reselling; and cooperatives (non-profits with social objectives). These rules allow for doing business with informal firms while being eligible for full ITC.

The reform could give a strong impetus towards reducing informality in Brazil's economy. The reform will strengthen incentives for formalization in three dimensions.

- First, from a macroeconomic perspective, eliminating taxation of intermediate goods, notably on (formal) manufacturing and services, is estimated to boost these sectors' efficiency, lower prices, and raise their wages - thereby setting incentives to formalize (Badel and Kolerus 2025).
- Second, the possibility for SIMPLES firms to opt into the general VAT regime and receive ITCs could incentivize more small enterprises to register under SIMPLES and formalize.
- Third, from a tax policy perspective, lower compliance costs due to simplification and facilitation would further create incentives to shift from the informal to the formal sector, similar to the reasons for migration, as discussed above.

Given these factors, we simulate the expected revenue impact of a reduction in informality. The above-mentioned presumptive credits, however, would represent a moderate offsetting factor. For simplicity we assume that formalizing firms opt into the general VAT regime (even if they stay under SIMPLES) as the incentive to formalize are highest under this scenario. As the expected magnitude of formalization is subject to significant uncertainty, we simulate revenue scenarios under two assumptions: a one-third and a two-third average[46] reduction in informality relative to the status quo. The two scenarios imply large reductions, historically – informality declined by a record of 20 percent during the decade up to 2014 – as well as relative to the impact from previous reforms. Rocha et al. 2018 find, for instance, that the 2009 *Programa do Microempreendedor Individual (MEI)* lowered informality by 11 percent by reducing tax rates, once registration costs have been eliminated. Summarizing literature estimates, Ulyssea 2020 concludes that the largest formalization effects come from interventions that reduce the ongoing costs of formality or increase its benefits. Overall, the factors mentioned above and the depth of the VAT reform compared with previous reforms would lend to a significant reduction in informality.

Lower informality is associated with higher revenues, albeit the impact is relatively small. As expected, our findings indicate that formalization represents an upward risk to revenue collection. Reducing average informality by one third relative to the status quo increases tax collection by 0.2 percent of GDP. Reducing informality by two thirds would imply higher revenues by ½ percent of GDP. The largest revenue gains would come from trade (given its overall share in the economy) and professional services (given its higher levels of informality). Sectors where ITCs outweigh output taxes would even see a decline in their tax burden as lower informality increases refunds (agriculture, real estate), Figure 8. In addition, presumptive credits help explain the negative impact on tax revenues in agriculture.[47] Finally, in a robustness analysis, we compute VAT revenues by compliance gap allowing for a higher level of informality than implied under the baseline (Annex 2), mainly because the SUT's family output could underestimate informal activity in Brazil. While informal output would likely be captured by the compliance gap, a reduction in the latter could be more challenging. Moreover, sectors would be affected differently given their exposure to informal activity. Assuming that informality is

[46] We lower informality by sector with the exception of sectors already at zero informality.

[47] Rocha et al 2018's cost-benefit analysis indicates that the MEI program led to net losses in tax revenues, given the significant cut in rates and social contributions.

around 1/3 higher than under the baseline, we would observe a drop in revenues of around 0.2 percent of GDP for the moderate compliance gap scenario.

Summarizing the Scenarios: Outcomes for Revenue Collection

Taking the above scenarios into account, potential revenue outcomes relative to the revenue-neutral baseline range from an overperformance of 0.8 to an underperformance of 1.9 percent of GDP.

- **Pessimistic scenario: a revenue gap of 1.9 percent of GDP.** No reduction in the compliance gap is assumed, as the integration of IT systems and revenue administrations faces higher hurdles than expected, the VAT antifraud strategy remains incomplete, and unfinished and fragmented governance creates further uncertainty. In addition, the reform fails to lower informality, while SIMPLES migration for VAT purposes flourishes given unrestricted ITC.

- **Moderate scenario: a revenue gap of 0.7 percent of GDP**. We combine the moderate assumptions discussed throughout the scenarios: a compliance gap of 17 percent, migration of 1/3 of SIMPLES firms for VAT purposes, and a 1/3 reduction in informality.

- **Optimistic scenario: a revenue overperformance of 0.8 percent of GDP.** A reduction in the compliance gap to 10 percent, close to Poland's, can be achieved as lower-capacity administrations level up, supported by clear management structures and harmonized directives, and digitalization is charging ahead. Output informality can be reduced by two thirds, fueled by wide-spread electronic invoicing and digitalized administrations. In this scenario, a sizable SIMPLES migration would be expected, but path dependency and overall lower SIMPLES rates keep SIMPLES firms in their turf.

Finally, additional risks to revenue collection and the government budget, not explicitly modeled as scenarios, include the recognition of accumulated credits and the potential financing need of the various compensation funds.

- **Recognition of accumulated credits may affect future VAT collection.** The reform will recognize ICMS credits accumulated throughout 2032, and PIS/COFINS and IPI credits accumulated until their extinctions. After clearance (*homologação*) by state tax administrations, registered businesses will be entitled to exhaust their ICMS balances against the IBS during the next 20 years and, eventually, to receive a refund.[48] Similarly, they will be entitled to offset PIS/COFINS and IPI balances against other federal tax liabilities, including the CBS. The size of this important contingent liability is unknow.

- **Resources for the four compensation and development funds[49],** estimated at around 0.4 percent of GDP, are currently expected to be broadly funded by the federal government. Shortcomings in some of the funds might potentially have to be offset by (additional) revenue collection from VAT (or other taxes).

[48] The recognition of accumulated credits can be a source of litigation.

[49] The largest is the regional development fund (starting with a capital stock of R$8 bn in 2029 and reaching R$ 60bn from 2043 on, over which the state have autonomy in using the resources), followed by the compensation fund (R$ 160bn total from 2025-2032) managed by the federal government. Others include the Amazonas State fund, and the development fund for the Occidental Amazon and Amapa State.

While the above scenarios depict various conditions that would affect revenue collection, an actual revenue shortfall would trigger measures to safeguard revenue neutrality during the transition. In 2031, the tax rates for IBS and CBS --to be applied from 2033 on-- will be estimated considering the collections from 2026 to 2030 and the constitutional revenue neutrality clause. Should the estimated rate be higher than 26.5 percent, the federal government, with support from the Comitê Gestor, must propose (by end-March 2031) a bill with measures to reach the goal of a reference rate of 26.5 percent while complying with revenue neutrality. In 2032, with the final estimation of the reference rate for 2033 on, the constitutionally mandated revenue neutrality condition will require the rate to reach the target revenue (irrespective of the approval of the proposed bill sent by the government the year before). To avoid revenue shortfalls or even higher tax rates during the transition as well as post 2033, managing the improvement in the compliance gap will prove essential.

VAT Compliance and Antifraud Strategy

A solid and integrated VAT compliance and antifraud strategy would be needed to safeguard revenue targets. This entails a risk-based approach to VAT administration ideally developed and implemented through a robust VAT governance framework in the context of Brazil's federalism that allows for full integration of VAT operations. In the medium term, broader reforms to modernize the SIMPLES regime and tackle informality could lead to additional revenue gains and allow for VAT rate deductions. Revenues will also benefit from the consolidation of VAT administration practices over the years and the maturation of new digitalization tools like the GSP.

A Risk-Based Approach for VAT Administration

Effective VAT administration requires that the fundamentals of good tax administration be in place. VAT administration cannot function independently of the overall tax administration. Consequently, if the fundamentals of good tax administration are lacking, VAT administration is unlikely to succeed. It is internationally recognized that robust core tax functions—such as registration, invoicing management, taxpayer services, returns and payment processing, customs clearance, audit, collection of arrears, and dispute resolution—are essential to effectively support the administration of tax systems, whether through self-assessment or withholding.[50] The same applies to VAT.

The implementation of VAT in the coming years will require Brazilian tax administrations[51] to periodically and systematically perform several key activities. These include:

- conducting proactive pre- and post-registration checks of VAT-registered businesses,[52]
- supporting self-assessment with appropriate guidance, assistance, and comprehensive information,
- ensuring the integrity of VAT invoices that support ITC,
- identifying those who fail to file VAT returns on time for follow-up,

[50] See TADAT—the IMF's Tax Administration Diagnostic Assessment Tool—for further discussion on how robust core tax functions support the fight against tax evasion and fraud and strengthen the overall performance of tax administrations.

[51] It includes Treasury' Attorney Offices (PGFN and equivalents) and Tax Tribunals existent at federal and sub-national levels, responsible for collection enforcement and dispute resolution, respectively.

[52] A key advantage in the context of Brazil is that a single TIN number (CNPJ for businesses and CPF for individuals) is used across the three levels of government. This is significant, as it allows for the tracing of economic transactions of VAT-registered businesses, thereby facilitating the exchange of information among tax administrations.

- imposing robust controls on VAT exemptions,
- identifying VAT payable that has not been paid on time,
- promptly processing legitimate VAT refunds,
- undertaking reviews, audits and investigations to registered businesses with inaccurate VAT reporting practices, and
- safeguarding the rights of VAT-registered businesses to a graduated administrative and judicial review process.

A risk-based VAT compliance and anti-fraud strategy will be essential for achieving VAT revenue targets. Not all VAT-registered businesses pose the same level of risk; therefore, 'one-size-fits-all' compliance strategies are rarely appropriate. Advanced tax administrations adopt modern Compliance Risk Management (CRM) practices to determine what is important and how different risk populations should be managed, whether through services, assurance, deterrence, or enforcement strategies. Box 2 presents a list of selected VAT risks identified by IMF capacity development activities. CRM would provide an end-to-end view of VAT-registered businesses, allowing for a full understanding of their compliance behaviors, challenges, and needs. This approach would support the development of holistic compliance strategies aimed at addressing the root causes of non-compliant behaviors in a cost-effective manner, playing a crucial role in optimizing resource allocation to achieve revenue targets. Graduated responses—ranging from facilitating compliance for willing participants to

Box 2: VAT Evasion and Fraud Modalities

Despite its self-enforcement feature (i.e., registered businesses have an incentive to request an invoice in order to claim the ITC), VAT is vulnerable to evasion and fraud worldwide. What constitutes evasion or fraud varies from country to country, but in a nutshell, they are omissions or mischaracterization of transactions to evade some, or all, VAT owed, sometimes involving deliberate dishonest arrangements. Malpractices include:

- Underreporting of sales due to "off the books" transactions (by not issuing invoices), exaggeration of sales in lower-taxed categories (reduced rates, exemptions), accounting malpractices (alteration of records and accounts, use of automated sales suppression devices or zappers), or use of barter-like transactions.
- VAT refund abuse including missing trader-type schemes, or when domestic sales are disguised as exports to related parties operating under free trade zones for claiming refunds,
- Challenges in collecting VAT from taxable transactions of the informal economy.
- VAT on digital goods and services, direct imports by consumers (B2C imports), and peer-to-peer economy.
- Non-remittance of VAT collected (when suppliers disappear with the VAT collected from buyers) or withheld, sometime involving an organized fraud scheme.
- Import-related abuses like undervaluation, misclassification of commodities and smuggling.
- Mischaracterization of the nature and size of the business to qualify for a VAT simplified regime.
- Free trade zones abuses when qualified goods enter the domestic market without paying VAT or when are diverted to ineligible end users.
- Credits claimed for taxable supplies used for producing exempt supplies (i.e., apportionment abuses) or connected to private consumption (disguised as business inputs).
- Use of false invoices (invoice mills) or fictitious exports (identity fraud) for claiming a credit or refund.

Source: Keen and Smith (2007), Tait (1988), Pecho et al (2024), Chapter XVII – VAT Fraud on IMF's VAT Book (forthcoming) enforcing credible measures against non-compliant entities—are a natural outcome of this process.[53] Annex 3 presents elements for developing a risk-based VAT compliance and anti-fraud strategy.

Enablers and Additional Policy Reforms

Enhanced VAT governance framework

Integrating VAT operations and compliance approaches nationwide requires carefully navigating the significant autonomy of Brazil's federalism. Sub-national governments have agreed to establish a Management Board (Comitê Gestor) to oversee operations for the portion of the VAT that solely belongs to them. Still, there will be need to harmonize VAT operations and compliance approaches with the federal tax administration, the RFB. Although certain committees and coordination platforms have been created to harmonize legal interpretation and dispute resolution, these efforts will rely solely on coordination and cooperation, which may be insufficient in practice for avoiding overlapping actions and conflicting positions that could jeopardize the intention of addressing VAT evasion and fraud through a unified nationwide compliance strategy.

The reform will rely on federal and sub-national tax administrations to deliver audits and enforce collection actions regarding VAT. However, there is a potential overlap of actions from different levels of government concerning the same registered business, as the reform maintains the autonomy of all tax administrations to perform their functions. From a taxpayer's perspective, it is questionable to allow auditors or debt collectors to consider only the portion of VAT that pertains to their respective level of government, given that the VAT taxable event is only one. At the subnational level, the PLP 108 (currently under discussion by the Congress) empowers the Management Board to harmonize and coordinate these two functions to avoid overlap (not without adding a new layer of supervision to the tax administration system). Nevertheless, the risk of overlap with the federal tax administration persists. Opportunities for improvement might include, for instance, a clearer delegation of functions among all levels of government for VAT administration or an upfront distribution of the VAT taxpayer base.

Cooperation and exchange of information between tax administrations at all levels of government will be more important than in the past. Currently, cooperation and information sharing between federal and sub-national tax administrations is limited, though projects like SPED demonstrate that technology can be a key enabler for such cooperation. Nonetheless, technology alone has its limitations if not supported by a comprehensive CRM approach (like the one described earlier) to anchor these cooperation and information sharing efforts. Moreover, given the autonomy of tax administrations, all levels of government must agree on a new data governance framework—comprising standards, guidelines, protocols, processes, and rules—to enable reliable and timely data exchange facilitated by robust interoperability mechanisms of IT platforms. Additionally, an uneven distribution of institutional capacities (e.g., weak IT capabilities, understaffing)—especially at the municipal level, where tax administrations are absent in nearly half of all municipalities—may

[53] Most businesses want to do the right thing, so tax administrations need to make compliance easier for them. Some businesses wish to comply but are unable to do so. In such cases, tax administrations need to facilitate compliance by providing support and assistance. Others may not intend to comply, but if alerted or encouraged, they might be willing to do so. For these businesses, tax administrations should impose controls, apply deterrence mechanisms, or timely detect inconsistencies through monitoring programs. Finally, a few businesses genuinely do not want to comply. In these instances, the only strategy for the tax administrations is to enforce the full force of the law. See "Compliance Risk Management" module of VITARA—the IMF/CIAT/IOTA/OECD's Virtual Training to Advance Revenue Administration.

jeopardize the effectiveness of cooperation and information sharing. In this context, successful past initiatives like the NFS-e Portal,[54] an integrated IT system that issues electronic invoices at the municipal level and provides a suite of tax administration functionalities, could be replicated or expanded for VAT purposes to generate electronic-by-default data, thereby facilitating information sharing among all levels of government.

From a purely revenue administration perspective, the VAT needs to be administered as a single tax, regardless of its decentralized nature. Otherwise, compliance and administration costs will be unnecessarily high, jeopardizing voluntary compliance. In this context, a cost-benefit analysis of VAT administration under the dual governance framework (RFB/Management Board) would need to be conducted to weigh the feasibility of adopting alternative governance approaches based on international experiences. For instance, it may be beneficial to establish a nationwide cooperative platform that incorporates all levels of government to avoid excessive layers of VAT administration. A notable example is India's Goods and Service Tax (GST) Council, a constitutional body that makes recommendations to both the Union and State Governments on GST-related issues. The GST Council, a joint forum of the Centre and the 29 States, is chaired by the Union Finance Minister and includes the Union State Minister of Revenue or Finance, as well as Ministers responsible for Finance or Taxation, or any other Minister nominated by each State. The GST Council advises the Union and the States on GST matters, including laws, rules, and rates. Additionally, the GST Council oversees the GST Network, a public company that provides a common and shared IT infrastructure and services to Central and State Governments, taxpayers, and other stakeholders for the effective implementation of GST.

Going forward the authorities could also evaluate the possibility of sharing the VAT taxpayer population. Simplification goals can be achieved if VAT administration adopts the "one taxpayer – one tax administration" principle, as seen in Canada and India. In Canada, both federal and provincial governments have the authority to levy VAT; however, five provinces have their VAT administered by the federal government, while one province (Quebec) administers the federal VAT in addition to its own VAT. In India, the State and the Federation divide the taxpayer population based on a turnover threshold: the Federation manages 50 percent of taxpayers above the threshold and 10 percent of those below it, while the States administer the other 50 percent of those above the threshold and 90 percent of those below it. For Brazil, this paper supports sharing the VAT taxpayer population between different levels of government, leveraging the capabilities and expertise of different tax administrations (whether federal, state or municipal) based on factors such as turnover, or the relative risk level of companies. This approach would help avoid overlapping actions by different tax administrations and reduce unnecessary compliance costs for registered businesses.

Refining the ITC mechanism

While the GSP mechanism will ensure the remittance of VAT at improved compliance,[55] it could create cash flow problems for registered businesses, potentially reducing the cash flow gains from adopting a fully-fledged VAT.[56] VAT systems in the world operate on an accrual basis, meaning registered businesses can claim the ITC in the taxable period when the purchase invoice is issued, regardless of whether they have paid it or not.[57] Instead, the reform has established that businesses will be entitled to claim the ITC only if it has

[54] https://www.gov.br/nfse/pt-br

[55] The GSP mechanism is expected to reduce opportunities for fraudsters, tax evasion and late payments.

[56] Expected cash flow gains come from the elimination of advance payments (Substituição Tributária), and the full crediting of ITC.

[57] Some countries allow cash accounting schemes for small businesses, enabling them to report their sales and purchases at the time payment is made rather than when the invoice is issued. These schemes are typically suitable for B2C businesses but not for B2B businesses where the regular ITC mechanism operates.

been paid, moving the Brazilian VAT closer to a cash-based tax.[58] This approach may hinder productivity and growth if cash flow effects are significant, thus requiring a continuous evaluation of the GSP to minimize these effects. For instance, if a purchaser pays an invoice in installments and the supplier does not pay the corresponding Output VAT, the purchaser is entitled to claim only the portion of the ITC that corresponds to the amounts paid, rather than the entire amount as would be the case under an accrual-based VAT. Note also that the offline version (when the financial intermediary's digital payment system cannot clear the VAT positions of the purchaser and the supplier by the time of the transaction) and simplified version (when the supplier opts for a presumptive ITC) of the GSP involve delays—three business days or an incomplete crediting system, respectively—, which can exacerbate cash-flow effects. In this case, should the cash-flow be significant, additional measures should be evaluated, such as the reduction of the three-business-day reimbursement.

The GSP mechanism would need to be complemented with a robust management of VAT refunds. Despite the important incentive to pay purchase invoices in order to be entitled to claim the ITC, the VAT system will be still vulnerable to fraudulent practices. Tax administrations would need to verify the legitimacy of VAT refund claims confirming the authenticity of the underlying credits, ensuring the integrity of purchase invoices, and securing remittance of the VAT for which a refund is claimed. A robust revenue accounting system capable of recording all VAT credits (e.g., payments, offsetting, refunds, and write-offs) and VAT liabilities (e.g., VAT due from self-assessment or other forms of assessment, penalties, and interest) is key to support these activities.[59] In addition, a TADAT-style VAT refund verification framework will be needed, enabling tax administrations to provide preferential (fast-track) treatment to lower-risk claimants (e.g., regular exporters with a sound compliance history), conduct document-based reviews for medium-risk claimants, and perform pre-refund audits for higher-risk claimants. Finally, although the reform foresees immediate refunds of valid excess ITC, the proposed timeframes of 45, 75, or 195 days, while being reduced from the ones being currently applied in Brazil, are long timeframes. These timeframes arise from the fact that tax administrations will have 30, 60, and 180 days, respectively, to assess refund claims (depending on the risk posed by the claimants and the amounts involved), while the Treasuries will have an additional 15 days to make the payments. Moving closer to international good practice of 30 calendar days (a TADAT benchmark) would facilitate ITC implementation.

A broader view on SIMPLES and informality

Policies that lower reliance on SIMPLES and promote formality would strengthen the tax system as a whole, improve revenue collection, and help smaller businesses to grow. As elaborated above, reducing compliance costs and simplifying the system will support formalization and migration to the general VAT regime. In addition, consideration could be given to addressing root causes of the reliance on SIMPLES as well as the continuation of high informality levels.

The VAT reform opens opportunities to review the current SIMPLES regime. Since the VAT reform is phasing out a significant part of the complex consumption system that SIMPLES was meant to replace, this is a good moment to review the rationale of the SIMPLES regime and consider a reduction in or adjustment to the existing eligibility threshold together with a review of the general tax regime. SIMPLES was introduced[60] to encourage formalization and improve the performance of micro, small and medium-sized firms by allowing

[58] Strictly speaking, it is a mixed regime because businesses will assess their VAT liability on an accrual basis.

[59] This is currently under development.

[60] SIMPLES was created federally in 1996 and expanded to cover subnational taxes in 2007. The tax rate varies by sector from 4% to 28.5% and is applied to a company's turnover.

multiple federal, state and municipal taxes (consumption taxes, income tax, and SSC) to be paid via a single collection form. The current threshold is very high, with annual turnover of up to BRL 4.8 million per firm (about USD 950,000) under which about 80 percent of all formal firms in Brazil fall (Coelho, 2021).[61] Successful implementation of the tax reform, with full ITC and pre-filled returns, may pose an opportunity for tax administrations to provide valuable services to these companies. For many SIMPLES firms, the tax burden is significantly lower than under the general corporate income tax regime[62] creating incentives for avoidance and evasion, for instance via company splitting for tax purposes, fiscal dwarfism, underreporting of income, or tax planning (Coelho, 2021). However, this does not hold for all firms, as a sizable group of those that would be eligible for SIMPLES as per threshold don't opt-in to the regime, suggesting an unlevel playing field. The current rule distorts economic activity and curbs corporate growth (Matsumoto, 2021). In addition, the SIMPLES regime may be regressive since a non-trivial share of beneficiaries are high-income self-employed professionals masking as firms, in contrast to the original intent of benefiting smaller businesses, in principle owned by lower-income entrepreneurs and employing lower-income workers (World Bank, 2017).

Conclusion

After decades in the making Brazil's VAT reform was approved, made possible by an impressive political and social consensus which cleared the way for a profound change in the way indirect taxes are levied. The broad consensus was needed to pass the constitutional amendment of 2023, initiating the VAT reform process. The introduction of a dual VAT replacing five taxes on three levels of government will address major inefficiencies of the current system, simplify and harmonize a widely scattered tax landscape. These changes are poised to inflict deep structural shifts, imposing potential risks on revenue generation. To better understand the reform's revenue implications, we estimate future VAT collection and perform scenario analysis on key parameters influencing revenues.

Our analysis indicates that the reform's revenue neutrality target can be reached under the assumption of a strong reduction in the compliance gap, and in the absence of informality improvements or migration of SIMPLES businesses. We estimate expected revenues by sector under the new reform adjusting the IMF's RA-GAP model to Brazil's specificities and utilizing national accounts data as well as tax administration micro data. Our results confirm that tax revenues on manufacturing would somewhat decline compensated by an increase in revenues from services – despite the continuation of many concessions. The relatively high reference rate of 28 percent as well as very ambitious compliance gap drive the results.

However, significant uncertainty prevails about the reduction in compliance. We simulate three key scenarios modifying assumptions on compliance, informality, and adherence to the SIMPLES regime. Potential risks to baseline revenues are estimated between -0.8 and 1.9 percent of GDP, with the compliance gap being the key driver for ensuring revenue neutrality. A more moderate reduction of the compliance gap relative to the baseline would generate a revenue gap of 0.6 percent of GDP. The other two factors have significantly smaller effects: Migration out of SIMPLES for VAT purposes would lower revenue collection by around 0.3 percent of GDP given higher ITCs, and a decrease in informality would have a relatively small effect of 0.2 percent of GDP only.

[61] Over 5 million of corporate taxpayers were registered under SIMPLES in 2021, nearly 80 percent of all formal firms in Brazil (Coelho, 2021). In some states, the regime comprises almost 90 percent of all companies (Azuara Herrera and others, 2019).

[62] Average effective tax rates are about 6 percentage points lower.

Key policy implications to achieve the reform's revenue neutrality target center on strengthening the VAT compliance and anti-fraud strategy. Policies include: (i) a risk-based VAT compliance and anti-fraud strategy, which focuses on the most revenue-critical VAT risks thereby reducing unnecessary burdens on compliant businesses; (ii) a truly integrated VAT management to minimize compliance costs and achieve harmonization, which includes an enhanced cooperation between RFB and Comite Gestor and a smart distribution of tax administration functions; and (iii) a strong ITC system that achieves timely and complete refunds.[63]

In the medium term, revisiting the revenue target as a share of GDP could ensure that the reform's growth dividend is also shared with the consumer. The revenue neutrality rule is an important goalpost during the transition phase and early steady state. It requires that every increase in concessions be directly translated into an increase in the reference rate. The reference rate is highly visible and easily comprehensible by the public, making it a powerful signaling device. Once the reform is in place, the target should allow consumers to benefit from the reform's eventual growth dividend. Usually, a sustainable expansion in growth would be accompanied by a commensurate expansion in private consumption. If this is the case, the revenue target, defined as share of GDP, would be a stable levy on the consumer carrying forward the share of indirect taxes collected over the past years. However, future growth, notably the growth dividend from the reform, could be driven by investment - or exports. In fact, removing tax cascading would free up resources, improve the allocation of production factors, and boost investment. If investment grows faster than output, the share of private consumption to GDP could decline. To achieve the revenue target as a share of GDP, higher tax rates would then need to be levied on the (lower) consumption-to-GDP ratio, thereby increasing Brazil's already sizable indirect tax burden on private consumers. To avoid this, the target could be redefined over the medium term to lower the indirect tax burden – subject to compliance with Brazil's fiscal framework and responsibility law – for instance by recalibrating direct and indirect tax collection.

Future research could look into general equilibrium effects on tax collection, in particular the interplay with the expected expansion in output, behavioral changes in consumption, and price setting. Revenue estimations and simulations in this paper are performed in a partial equilibrium setting. Building on the IMF-RA gap model, we perform a static analysis without accounting for growth effects or behavioral changes in consumption, which could in fact be sizeable. Future research could consider such changes for the computation of revenues, shedding further light into the implications of this landmark reform.

[63] These conclusions are in line with the 2024 Brazil Article IV Consultation Staff Report.

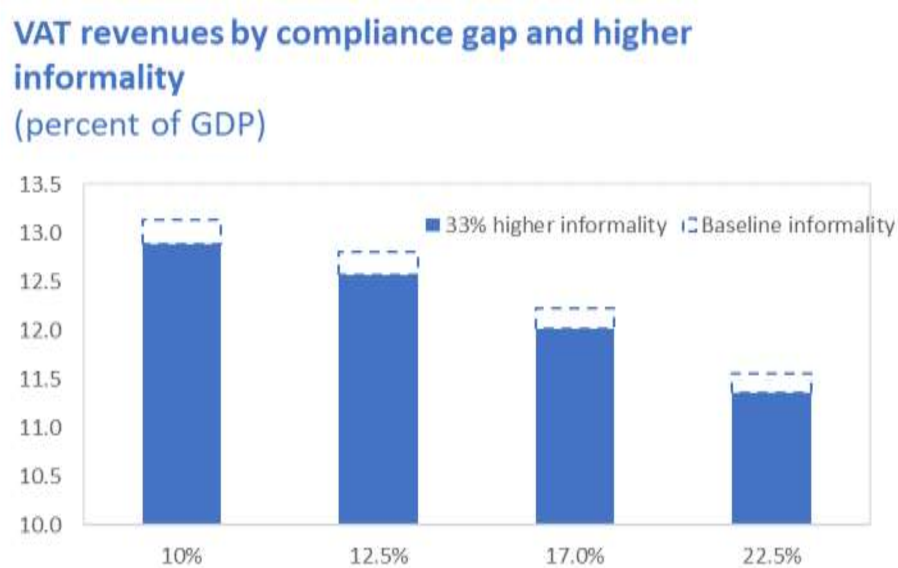
Annex 1: Reform Policy Settings

Category	Applicable treatment / rate	Specific Items/Sectors
General (reference) rate	28 percent	
Differential rates	Zero rate	Essential food basket (cesta básica): Meat, fish, sugar, rice, salt, flour, plain bread, cheese, milk, children food, oil, mate
		Eggs, fruits and vegetables, certain medicines, products for basic women's health care, vehicles for disabled persons, taxis, higher education (PROUNI, only for CBS), certain medical equipment
	40 percent of reference rate	Additional food products, education, health, sport, culture; agricultural inputs, cleaning and health care products, regional air passenger transport (*)
	70 percent of reference rate	Professional services (intellectual professions, scientific, literary, or artistic nature)
Exemptions		Public Administration Local passenger transportation services Books/newspaper/magazines and radio/open television services (*) Employers' organizations, trade unions and other membership services Health and education provided by non-profit organizations
Special regimes		Free trade zones (e.g. Manaus) and SIMPLES (estimated average rate of 3.16 percent)
Special and specific treatments		Financial sector: reduced rate for financial services, standard rate for other services Real estate activities: family housing projects are exempt, some transactions are taxed at 60 percent of reference rate with additional tax base reduction, rentals are taxed at 40 percent of reference rate with additional tax base reduction (*) Fuels: levied on production only, credits not allowed in the trade sector Tourism sector (hotels, travel agencies, parks): fixed rate on current tax burden, no credits for purchasers (*) Food services: fixed rate on current tax burden, no input credits and no credits for purchasers (*) Regional/interstate passenger transport: rate fixed on current tax burden, no crediting for purchasers (*)
Cashback	100 percent CBS and 20 percent IBS	Acquisition of cooking gas (canisters weighing up to 13 kg), natural piped gas supplies, domestic electricity, telecommunications, water, and sewage bills
	20 percent IBS and CBS	All other purchases

(*) Items further adjusted with the approval of LC 214/2025. These adjustments are relatively small and are not considered in this paper. They would not change the results qualitatively.

Annex 2: Robustness Analysis with a Larger Informal Sector

Given uncertainy around the measurement of informality – and to which extend some aspects of informality might be captured by the compliance gap – we simulate revenue outcomes with different compliance gaps assuming a higher level of informality than derived from the SUTs. Under the scenario with a moderate improvement in the compliance gap, a higher level of informality of 33 percent would lead to additional revenue shortcoming of around 0.2 percent of GDP.



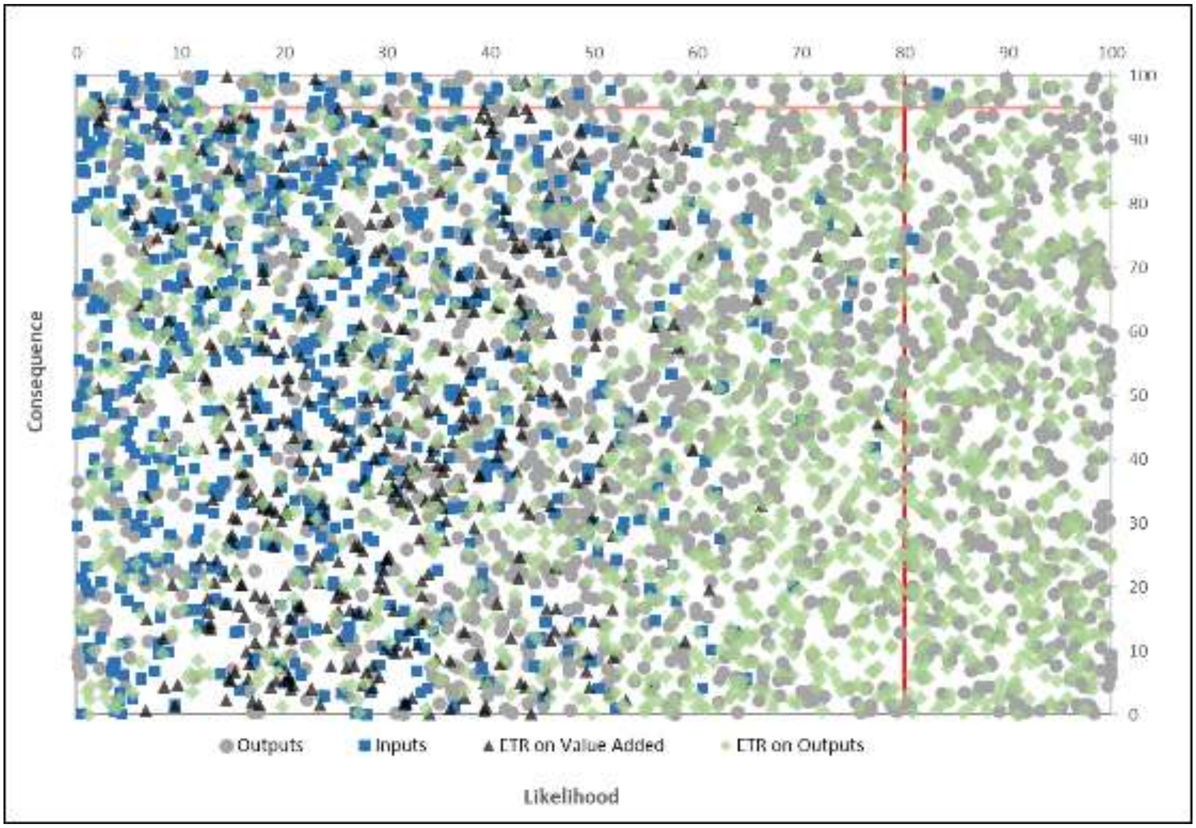
Annex 3: Developing a Risk-Based VAT Compliance and Anti-Fraud Strategy

The cornerstone of a risk-based VAT compliance strategy is the systematic identification of VAT risks. This combines both top-down (strategic) and bottom-up (operational) views on risks encountered in the day-to-day operation and beyond, leveraging on different forms of intelligence-based and data-driven analyses. Once firms are assessed and prioritized based on the most critical risks, using a reasonable estimation of their relative size—bringing together risk indicators for the likelihood of non-compliant behaviors and their revenue impact, they are grouped in different risk categories (lower, medium, key, and higher risk). This classification allows for the application of various risk mitigation strategies, typically resulting in a balanced combination of supportive, preventative, and corrective compliance approaches. Risk-based compliance approaches enable tax administrations to focus on the most revenue-critical VAT risks and concentrate efforts on businesses that are most likely to exhibit non-compliant behaviors, thereby alleviating the burden on those with a good compliance history. Structural changes like formulation of legislative reforms, IT capacity, skills development, and initiatives for simplifying administrative requirements (low-cost and user-friendly business processes redesign) are also needed. Ultimately, continuous monitoring and evaluation of compliance approaches enable tax administrations to refine their strategies and practices accordingly.

Applying various risk indicators on potential VATable large businesses provides a ranked view of their relative risk level, indicating how resources could be allocated for implementing different compliance strategies. The IMF compliance planning toolkit, developed by Aslett et al. (2024), is used to produce a Risk Differentiation Framework (RDF) for the Brazil's VAT. A synthetic (anonymized) database of 4,458 Brazilian large firms—resembling potential VATable large businesses—was created by combining publicly available databases from the RFB, such as 'Dados Setoriais Consolidado' and 'Renúncia Fiscal por Regime Especial de Tributação', with databases used by SERT for VAT analyses. The RDF ranks (from 1 to 100 points) businesses according to different combinations of likelihood and consequence of non-compliance. For likelihood of non-compliance we tested four ratios—where a lower ratio indicates a higher likelihood: Output VAT to Supplies, Input VAT to Purchases, VAT Payable to Value Added, and VAT Payable to Outputs. These ratios are weighted at 30, 20, 30 and 20 percent, respectively. For consequence of non-compliance, we tested four values of financial importance—where a higher value indicates a higher consequence (higher revenue loses): Total Supply, Total Purchase, VAT Payable, and Value Added. These values are weighted at 30, 20, 20 and 30 percent, respectively.[64]

[64] Additional risk filters and red flags—applicable to VAT and other taxes such as Corporate Income Tax—could be incorporated to further rank and prioritize firms. These may include deviations from historical patterns and/or industry or economic group medians; compliance history indicators (including filing and payment history, assessments from previous audits, past penalties, and interpretation and litigation history); the level of disclosure, cooperation, and engagement with the tax administrations (e.g., noncompliance with information reporting obligations); specific concerns (such as related party dealings, utilization of secrecy and low-tax jurisdictions, foreign-owned shareholders, complex organizational structures, and the quality of corporate governance); among others.

Figure 9: A Risk Differentiation Framework for Brazil's VAT



Quadrant 2: Key Taxpayers	
Number of Taxpayers	**181**
Highest Risk Sector in Q2	Slaughter and meat products, including dairy and fishery products
Most Represented Sector in Q2	Trade
Total Supplies	1,614,726,356,448
Total VAT Payable	180,009,202,663
ıts	1,091,502,730,003
Refunds	-11,801,042,927
% Share of Supplies	**64.7%**
% Share of VAT Payable	**82.4%**
% Share of Value Added	**75.0%**

Quadrant 1: High Risk Taxpayers	
Number of Taxpayers	**42**
Highest Risk Sector in Q1	Manufacture of other transport equipment, except motor vehicles
Most Represented Sector in Q1	Electric energy, natural gas and other utilities
Total Supplies	324,216,653,534
Total VAT Payable	10,166,792,942
Inputs	236,935,372,905
Refunds	-1,208,919,049
% Share of Supplies	**13.0%**
% Share of VAT Payable	**4.7%**
% Share of Value Added	**12.5%**

Quadrant 4: Lower Risk Taxpayers	
Number of Taxpayers	**3385**
Highest Risk Sector in Q4	Electric energy, natural gas and other utilities
Most Represented Sector in Q4	Construction
Total Supplies	452,084,261,261
Total VAT Payable	26,860,637,273
ıts	390,108,096,561
Refunds	-6,536,415,224
% Share of Supplies	**18.1%**
% Share of VAT Payable	**12.3%**
% Share of Value Added	**8.9%**

Quadrant 3: Medium Risk Taxpayers	
Number of Taxpayers	**850**
Highest Risk Sector in Q3	Other food products
Most Represented Sector in Q3	Construction
Total Supplies	104,864,022,516
Total VAT Payable	1,544,233,693
Inputs	79,656,771,834
Refunds	-824,058,123
% Share of Supplies	**4.2%**
% Share of VAT Payable	**0.7%**
% Share of Value Added	**3.6%**

The results of the RDF shed light on how Brazilian tax administrations could allocate resources to effectively manage VAT compliance, considering their varying capabilities. Figure 9a shows a scatterplot depicting the relative risk level of each business (reflecting the underlying Pareto-like distribution of risk levels), with the red 'cross-hairs' delineating risk quadrants. Meanwhile, Figure 9b provides summary information of the businesses by risk quadrant, which is very useful for identifying risks and shared characteristics to inform compliance strategies. Accordingly, 42 businesses (0.9 percent of the analyzed population) are classified as high risk (very likely to default, with a significant impact on revenues if they do), 181 (4.1 percent) are classified as key (unlikely to default, but with a substantial potential revenue impact if they do), 850 (19.1 percent) are deemed medium risk (likely to default, but with a lower revenue impact), and 3,385 (75.9 percent) are considered low risk (unlikely to default, with minimal revenue impact). Significant resources should be allocated to the small number of high-risk businesses in quadrant 1. In contrast, far fewer resources should be directed toward the relatively large number of low-risk businesses in quadrant 4. A typical staff deployment starts with allocations of 30%, 30%, 30%, and 10% for higher-risk, key, medium-risk, and lower-risk businesses, respectively. These allocations are then adjusted appropriately based on the evaluation of risk mitigation actions.

The effective implementation of the VAT compliance and anti-fraud strategy will require coordinated and harmonized risk treatments (with varying intensity and frequency) across the resulting risk populations. The RDF provides guidance on the approach to follow for each risk quadrant: high risk businesses demand a continuous review, key businesses (good taxpayers) need to be continuously monitored, medium risk businesses are generally subject to a periodic review, and, finally, low risk businesses need periodic monitoring only.[65] These differentiated approaches influence the types of actions to apply:

- high-risk businesses should be targeted with comprehensive 'one-to-one' enforcement actions—for instance, these actions could be overseen by an elite auditing team with nationwide authority, capable of conducting risk assessments, audits, and investigations, prosecuting VAT fraud, or implementing collection enforcement mechanisms;
- key businesses should also be targeted with 'one-to-one' actions; however, these actions should integrate both service and assurance focuses—for instance, whether centrally or regionally, these businesses could benefit from tailored advisory services, engagement programs within their industry and advisors' associations, clear interpretations of VAT legislation through public and private rulings, cooperative compliance approaches (offering earlier tax certainty in exchange for transparency and disclosure), and settlement options at earlier stages;
- medium-risk businesses are typically subject to 'one-to-few' deterrence and (ad-hoc) enforcement actions—for instance, whether centrally or regionally, these actions could target subsets of businesses with common characteristics with invitations for self-correction of discrepancies or inconsistencies in declared information, in-person meetings to request additional information and follow up on specific risk positions, dissemination of VAT evasion and avoidance schemes flagging arrangements of concern, and review and audit projects focused on specific industries, VAT issues (refunds, e-commerce) or type of business (family groups, free trade zones); and
- low-risk businesses require lower-cost ('one-to-many') interventions relying on service and education actions—for instance, primarily locally, these businesses benefit from in-person or virtual education, guidance, assistance and information (e.g., practical compliance guidelines, taxpayer alerts), outreach programs (telephone contact, letters, emails, call centers), among others.

[65] Based on Hamilton (2007).

Technology could play a significant role in alleviating staff-intensive functions, either centrally or through regional centers of excellence. It could automate the management of registration information, the identification of non-filers for follow-up actions, return processing, and the identification of unpaid amounts to quickly generate notices.

All Brazilian tax administrations must work collaboratively to develop a nationwide (single) risk-based VAT compliance and anti-fraud strategy where roles and responsibilities for each of them are clear. The significant autonomy of Brazil's subnational governments may hinder the achievement of this goal; however, the establishment of a Management Board (Comitê Gestor) represents a positive step forward. Still, many tax administrations of Brazil's subnational governments. are in the initial stages of adopting CRM practices according to recent TADAT assessments.[66] They are largely enforcement-focused, so their understanding of compliance risk is primarily based on discrepancies identified through various forms of information matching and cross-matching applied to the vast amount of available data. Additionally, there is considerable fragmentation of efforts and responsibilities, with various aspects of CRM operating under their own logic and an absence of outcome-oriented metrics (e.g., tax gap as a high-level performance indicator, trends in unprompted compliance with core compliance obligations). At the federal level, the RFB has taken tangible steps to address this situation through a more robust tax gap analysis program, the development of a new data-driven risk scoring models, enhanced data analytics capacity, and new cooperative compliance approaches like CONFIA to resolve risks proactively and reduce litigation.

[66] See TADAT Assessment Reports here: https://www.tadat.org/en/assessments/performance-assessment-reports.html.

References

Aslett, J., G. González, S. Hamilton, and M. Pecho. (2024). *Essential Analytics for Compliance Risk Management*., IMF Technical Notes and Manuals, International Monetary Fund, Washington, DC.

Badel, A. and C. Kolerus (2025). *Brazil's VAT reform: Macroeconomic impact and inequality implications*. Forthcoming.

Bellon, M., Chang, J., Dabla-Norris, E., Khalid, S., Lima, F., Rojas, E., & Villena, P. (2019). Digitalization to Improve Tax Compliance: Evidence from VAT e-Invoicing in Peru. IMF Working Papers.

Benedek, D., R A de Mooij, and P Wingender (2015). *Estimating VAT Pass Through*, IMF Working Paper WP/15/214, International Monetary Fund.

Bérgolo, M., Ceni, R., and Sauval, M. (2018). Factura electrónica y cumplimiento tributario: Evidencia a partir de un enfoque cuasi-experimental.

Cavalcanti Ferreira, P., B.R. Delalibera, D. B. P. Gomes, and J. Soares (2024). *Tax Reforms and Network Effects.* Journal of Economic Dynamics and Control, Volume 163, June 2024, 104862

Cebreiro Gomez, A. and C. Kolerus (2025). *Brazil's VAT reform: Improving Equity*. Forthcoming

Comptroller and Auditor General of India (2010). *Implementation of Value Added Tax in India – Lesson from transition to Goods and Services Tax- A Study Report,* New Delhi, June 2010

Congdon, J., J.R. Kling,, and S. Mullainathan (2011). *Policy and choice: public finance through the lens of behavioral economics*; The Brookings Institution.

De la Feria, Rita and Artur Swistak (2024). *Designing a Progressive VAT*, IMF Working Paper, WP/24/78, International Monetary Fund.

De Santi, E., Coelho, Isaías. et al. 2023. *Reforma tributária e neutralidade do IVA*. - São Paulo: Editora Max Limonad, 2023.

Domingues, E. P., and D. Freire Cardoso (2020), *Simulações dos impactos macroeconômicos, setoriais e distributivos da PEC 45/2019*, mimeo CciF

Elgin, C., M. A. Kose, F. Ohnsorge, and S. Yu. (2021). *Understanding Informality*, C.E.P.R. Discussion Paper 16497, Centre for Economic Policy Research, London

European Commission (2024), CASE, Poniatowski, G., Bonch-Osmolovskiy, M., Braniff, L., Harrison, G., Luchetta, G., Neuhoff, J., Śmietanka, A., Zick, H., VAT gap in the EU – Report 2024, Publications Office of the European Union, Luxembourg

Fórum Fiscal dos Estados Brasileiros (2012). Modelo de cálculo do GAP tributário do ICMS. Brasília: Escola de Administração Fazendária

Gostomski, A. and Poniatowski, G. (2021). Poland: Sealing Tax Gaps; National Fiscnal Administration, Republic of Poland.Hutton, E. (2017). *The Revenue Administration–Gap Analysis Program: Model and Methodology for Value-Added Tax Gap Estimation*. Technical Notes and Manuals

Hamilton, Stuart, 2007, "An overarching strategic framework for differentiated approaches to compliance risk management in LB&I", Australian Taxation Office Paper.

IMF (2015). *Current Challenges in Revenue Mobilization - Improving Tax Compliance.* Policy Papers. USA: International Monetary Fund.

Keen, M. and B. Lockwood (2010). *The value added tax: Its causes and consequences*; Journal of Development Economics 92 (2010) 138-151.

Leahy, E., S. Lyons and R. Tol (2011). *The Distributional Effects of Value Added Tax in Ireland*. *The Economic and Social Review* 42(2), 213–235.

Lustig, N., C. Pessino and J. Scott (2014). *The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia, Brazil, Mexico, Peru, and Uruguay: Introduction to the Special Issue*. *Public Finance Review* 42(3), 287-303.

Madathil, J. C. and T. Ashitha (2019). *Before and After GST: Impact in CPI (Consumer Price Index) of India* (May 19, 2019). International Journal of Research and Analytical Reviews, May 2019.

Ministerio de Facenda do Brasil, 2023. Alíquota-padrão da tributação do consumo de bens e servicios no âmbito da Reforma Tributária (e Anexo- Detalhamento Metodológico). Asesoria Especial de Comunicacao Social.

OECD (2024), Consumption Tax Trends 2024: *VAT/GST and Excise, Core Design Features and Trends*, OECD Publishing, Paris.

Pecho, M., *Managing VAT credits and refunds*, in VAT Book, IMF. (forthcoming).

Ramírez, J., Oliva, N., and Andino, M. (2018). Facturación electrónica en Ecuador: Evaluación de impacto en el cumplimiento tributario.

Receita Federal do Brasil (2022). *Resultado Tax Gap Tributario PIS-COFINS (2015 a 2020)*. Brasília: Centro de Estudos Tributários e Aduaneiros.

Receita Federal (2020). *Metodologia de Estimativa do Gap Tributário das Contribuições PIS/COFINS – 2015 a 2019*. Brasília: Estudos Tributários, 2020. (Metodologia de Cálculo n.1/2020)

Rocha, R., G. Ulyssea, and L. Rachter (2018). *Do lower taxes reduce informality? Evidence from Brazil*, Journal of Development Economics, Elsevier, vol. 134(C), pages 28-49.

Ruiz, N. and A. Trannoy (2008). L*e caractère régressif des taxes indirectes: les enseignements d'un modèle de microsimulation*. Economie et Statistique 413, 21–46.

Santo, B. and Buffolo, P. (2021). *Challenges and complexities of the Brazilian tax system*; International Tax Review, April 22, 2021.

Schenk, D. (2010). *Exploiting the Salience Bias in Designing Taxes*, Law & Economics research paper series working paper no. 10-37; New York University School of Law NYU, Center for Law, Economics and Organization.

Selera, P.(2023). *Mandatory E-Invoicing from 2024 – Key Features of the System and European Background*, International VAT Monitor 2023 (Volume 34), Issue 6, Pages 229-235, The Netherlands: IBFD

SERT (2023) Anexo - Detalhamento metodológico da nota técnica: Alíquota-padrão da tributação do consumo de bens e serviços no âmbito da Reforma Tributária. Secretaria Extraordinária da Reforma Tributária do Ministério da Fazenda (SERT/MF)

SERT (2024a). *Estimativas atualizadas após o envio da proposta de regulamentação da Reforma Tributária* - 1/7/2024. Secretaria Extraordinária da Reforma Tributária do Ministério da Fazenda (SERT/MF)

SERT (2024b). *Estimativa de impacto das mudanças introduzidas durante a tramitação da regulamentação da Reforma Tributária* - 23/8/2024. Secretaria Extraordinária da Reforma Tributária do Ministério da Fazenda (SERT/MF)

Smith, S. C., and Keen, M. (2007). *VAT Fraud and Evasion: What Do We Know, and What Can be Done?* IMF Working Papers, USA: IMF

Tait, A. (1988). Value Added Tax. USA: International Monetary Fund.

Templado, I., and Artana, D. (2018). Análisis del impacto de la factura electrónica en Argentina.

Ulyssea, G. (2020). *Informality: Causes and Consequences for Development*, Annual Review of Economics, Volume 12, 2020 https://doi.org/10.1146/annurev-economics-082119-121914

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