

Revisiting Personalized VAT: A Tool for Fiscal Consolidation with Equity

Institutions for
Development Sector

Fiscal Management Division

DISCUSSION
PAPER N°
IDB-DP-939

Alberto Barreix
Martín Bès
Oscar Fonseca
Maria Belén Fontañez
Dalmiro Morán
Emilio Pineda
Jerónimo Roca

Revisiting Personalized VAT: A Tool for Fiscal Consolidation with Equity

Alberto Barreix
Martín Bès
Oscar Fonseca
Maria Fonteñez
Dalmiro Morán
Emilio Pineda
Jerónimo Roca

March 2022



<http://www.iadb.org>

Copyright© 2022 Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (<http://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode>) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that the link provided above includes additional terms and conditions of the license.

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.



Executive Summary*

Value-added tax (VAT) is designed to be fiscally neutral across goods and services. In Latin America and the Caribbean (LAC), VAT is the main source of tax revenue, equivalent to an average of 5.9 percent of gross domestic product (GDP) in the three-year period 2017–19. This is close to the share raised from VAT in the countries of the Organisation for Economic Co-operation and Development (OECD) in the same period. The downside to its contribution to revenue is VAT's regressivity: the poorest households spend a higher percentage of their income on the consumption of taxed goods and services (and therefore on paying VAT) than higher-income households.

In this paper we present a proposal to resolve the tension between a modern state's need for resources and the impact of indirect taxes on equity, which derives from the so-called "impossible trinity of consumption taxes." As Ainsworth (2006) stated: "No consumption tax has ever had all three of the critical attributes of a progressive consumption tax: a broad base, a single rate and measured relief for those in greatest need."

The proposed personalized VAT (P VAT) consists of generalizing the tax base, implementing a single VAT rate, and introducing transfers targeted at the poorest deciles of the population to compensate for the increase in the resulting tax pressure. To achieve this, the authors propose adopting the instruments used to target and deliver benefits which have been applied for 25 years in the new generation of Latin American social programs. P VAT refund is a tax refund and not a transfer which can be self-funded via broadening its base and/or a rate change. Tax administrations can play a crucial role in improving the identification of beneficiaries and the fight against fraud by expanding electronic invoicing and similar technologies. Moreover, P VAT is a mechanism which strengthens transparency, budget control, and social support from those who do not benefit directly.

Estimates of P VAT applied in Argentina, Costa Rica, the Dominican Republic, and Uruguay confirm that the proposal would make it possible to protect and even increase revenue from this principal tax pillar in LAC. This in turn would contribute to fiscal consolidation and enable the introduction of compensatory measures to support the most vulnerable sectors of the population.

* The detailed case studies for Argentina, Costa Rica, the Dominican Republic, and Uruguay are only available in the Spanish version of this document. The authors wish to thank the following for their valuable contributions: Martín Ardanaz, Oscar Cetrángolo, Santiago Díaz de Sarralde, Carlos Garcimartín, Juan Luis Gómez, Susana Kidyba, José Larios, Andres Munoz, Belinda Pérez, Axel Radics, Ariel Zaltsman, and Raúl Zambrano. Special thanks to David Ching, Ubaldo González de Frutos, Carola Pessino, Fernando Velayos, and Marcio Verdi for their constant support.

Table of Contents

Introduction	4
A Short Description of VAT and Its Revenue and Distributional Impact	5
Conclusions	16
Summary of Case Studies	20
P VAT in Argentina: Impacts on Revenue and Distribution	20
P VAT in Costa Rica: Impacts on Revenue and Distribution	21
P VAT in the Dominican Republic: Impacts on Revenue and Distribution	23
P VAT in Uruguay: Impacts on Revenue and Distribution	25
References	29

Figures

Figure 1: Pillars, Other Taxes, and Non-Tax Revenue from Natural Resources in Latin America and the Caribbean, 2018 (% of GDP)	5
Figure 2: VAT and General Consumption Taxes, 2018 (% GDP and % EFP)	6
Figure 3: VAT Productivity and Consumption Efficiency, Selected Countries, 2018	7
Figure 4: Tax Expenditure and VAT Evasion as a % of GDP, and Rate of Evasion in %, Selected Countries, Various Years	8
Figure 5: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Argentina, 2018 (%)	20
Figure 6: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Costa Rica, 2018 (%)	22
Figure 7: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Dominican Republic, 2018 (%)	24
Figure 8: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Uruguay, 2018 (%)	27

Tables

Table 1: Distribution of VAT Burden by Income Decile, Selected Countries	9
Table 2: Inequality and Social Spending in LAC 6 and Europe 15	11
Table 3: Exempt Consumption by Decile and Its Share of Total Tax Expenditure in the Four Countries (%)	12
Table 4: VAT Burden by Income Decile, Current Situation, and P VAT Simulation, Scenario 1 (%)	18
Table 5: Fiscal and Distributional Impact of P VAT by Income Decile, Argentina, 2018 (% of GDP)	21
Table 6: Fiscal and Distributional Impact of P VAT by Income Decile, Costa Rica, 2018 (% of GDP)	23
Table 7: Fiscal and Distributional Impact of P VAT by Income Decile, Dominican Republic, 2018 (% of GDP)	25
Table 8: Fiscal and Distributional Impact of P VAT by Income Decile, Uruguay, 2018 (% of GDP)	28

Abbreviations and Acronyms

CIAT	Inter-American Center of Tax Administrations
DBCFT	Destination-based cash flow tax
DGI	Directorate General of Taxation (Uruguay)
DGII	Directorate General of Internal Revenue (Dominican Republic)
ECLAC	Economic Commission for Latin America and the Caribbean
EFP	Equivalent fiscal pressure
ENGH	National Household Expenditure Survey (Argentina)
ENGIH	National Household Income and Expenditure Survey (Dominican Republic and Uruguay)
ENIGH	National Household Income and Expenditure Survey (Costa Rica)
FONASA	National Health Fund (Uruguay)
GDP	Gross domestic product
GST	General sales tax
IDB	Inter-American Development Bank
IMF	International Monetary Fund
ITBIS	Tax on transfers of industrialized goods and services (Dominican Republic)
LAC	Latin America and the Caribbean
OECD	Organisation for Economic Co-operation and Development
SCT	Selective consumption tax
SNIS	National Integrated Health System (Uruguay)
VAT	Value-added tax

Introduction

The fundamental objective of VAT is to raise revenue as neutrally as possible with regard to goods and services. On an international level it removes the burden from exports and—when applied across the board—provides equal tax treatment for imports and domestic goods. In addition, the uniform rate and elimination of differential treatment provide greater simplicity and the lowest cost possible for the taxpayer and the administration; this is further improved by the introduction of new technology (electronic invoicing). Finally, as VAT is consumption based, investment spending becomes tax deductible.

However, one of the other characteristics of VAT is regressivity with respect to current income.¹ Analyses of the distributive impact of VAT (Barreix, Roca, and Villela, 2006; Barreix, Bès, and Roca, 2009; Barreix and Roca, 2010; Lustig and Pereira, 2016) show that the poorest households spend a higher percentage of their income on taxable goods and services and therefore on VAT than households with higher incomes.²

Most countries have followed the “universal” strategy to counteract the regressivity of VAT: identifying the goods and services that make up the bulk of the basket of goods consumed by lower-income households and/or treating them as socially important (basic basket of foodstuffs, transport, education and health, among others) and excluding them from the tax base (zero-rating) or taxing them at a lower rate. However, in absolute terms this strategy benefits those who consume the most, which are the higher deciles of the income distribution scale, thereby constituting a generalized untargeted subsidy with the significant downsides of loss of tax revenue and administrative complexity.

The strategy proposed in this study, Personalized VAT (P VAT) (Barreix, Bès, and Roca, 2010, 2012), is made up of three elements: the first is the generalization of the tax base, the second is to move towards a single rate of VAT, and the third is a mechanism for targeted refunds to lower-income deciles from the higher tax revenue afforded by the generalization of the tax base.

This paper analyzes VAT in Latin America and the Caribbean (LAC), focusing on two trends (traditional VAT and P VAT), and includes a summary of estimated P VAT in four countries (Argentina, Costa Rica, the Dominican Republic, and Uruguay). The original Spanish version of this paper also presents a detailed methodology of calculations and describes the options and results of different alternatives for applying P VAT in each of the four countries.

¹ In a study of 27 OECD countries, Thomas (2020) found that VAT is regressive on current income, but proportional or slightly progressive when measured on consumption. However, its impact on poverty is considerable, underlining the need to compensate poorer deciles in order to counteract the impact of the tax.

² According to the hypothesis of permanent income, VAT is less regressive since it permits consumption smoothing over the taxpayer’s lifetime (Caspersen and Metcalf, 1994).

A Short Description of VAT and Its Revenue and Distributional Impact

VAT is a tax on consumption in the majority of countries where it is applied.³ Unlike other taxes on consumption (for example, retail sales or selective excise taxes), the calculation of the tax is multi-phased: tax is levied at each stage of the transaction chain where value is generated up to the final point of sale of the particular good or service. This feature of the tax facilitates oversight, as it pits the interests of the taxpayers against each other in each phase of the transaction: the incentive for vendors to underestimate sales to reduce their tax liability is counteracted by the incentive for buyers to overestimate purchases to increase their tax credits. VAT's broad base and other characteristics mean that it can be administered centrally across national territories, and hence it has been adopted by most countries in the world.⁴

Despite its inherent conflicting interests, the tax is not immune to evasion, which is in fact a significant issue in several countries (Keen and Smith, 2007; IMF, 2011).⁵ In order to combat tax evasion, the countries that have had most success in administering the tax are investing growing resources in the digitalization of invoicing, in pre-filled VAT declarations, and in the introduction of incentives to facilitate tax collection (IMF, 2019; Naritomi, 2019).

VAT in Latin America and the Caribbean

VAT, together with income tax and social security contributions, is one of the main pillars of modern tax systems.⁶ VAT is the main source of tax revenue in LAC, equivalent to around 30 percent of the regional tax burden. Across the region, VAT reached an average of 6.2 percent of gross domestic product (GDP) over the five-year period 2015–19. This is close to the 6.8 percent of GDP collected from the same tax in the 37 countries of the Organisation for Economic Co-operation and Development (OECD) over the same period. However, in the OECD income tax⁷ (both personal and business) raised 80 percent more revenue than VAT, while in LAC income tax was almost 20 percent less. Figure 1 shows tax and non-tax revenue, including revenue from natural resources, in LAC.

³ Conceptually, the tax liability arises from the difference between the amount collected from the sale of a good or service (tax debit) and that credited from sales related to the production of the good or service (tax credit). The latter includes capital goods used in the production of the good or service sold. Usually, goods and services are taxed in the country where they are consumed (destination principle): imports are taxed upon entry into the country, while exporters are reimbursed for the tax paid on inputs purchased (they can be, for example, zero-rated).

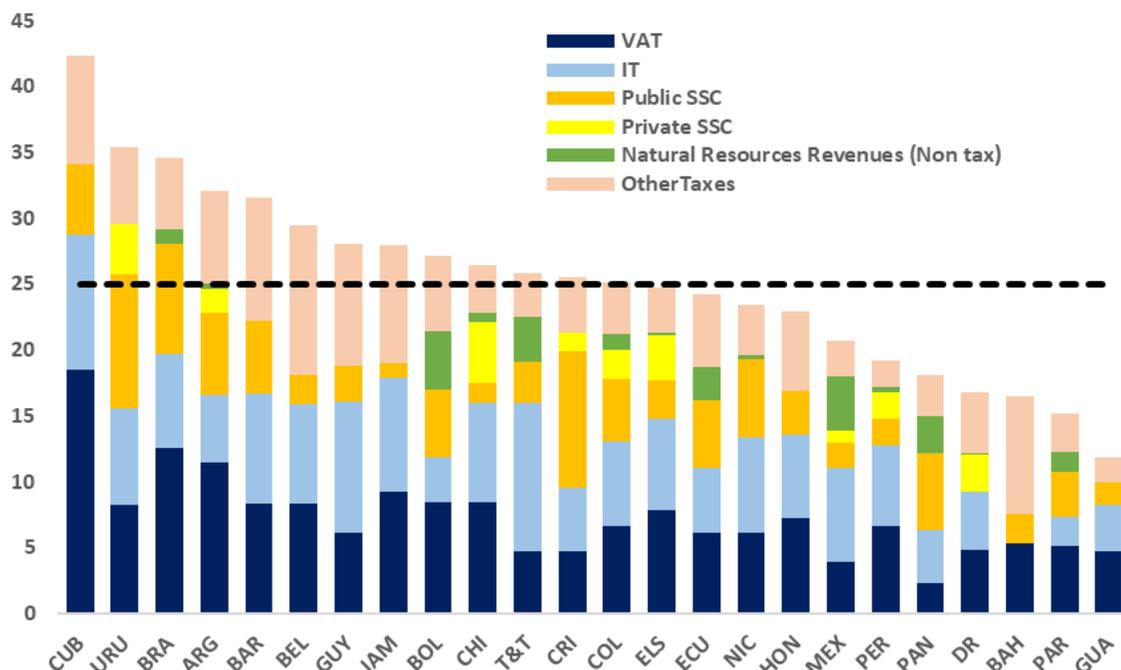
⁴ There are some differences in institutional arrangements, including cases in Brazil where the tax is levied by the states, and in Germany where the administration is carried out at an intermediate level (by the federal states, *Länder*), and collection is shared with the federal government. In Canada, VAT is administered by the federal government. The Canada Revenue Agency administers the tax throughout the country except in Quebec, where the service is provided by the provincial tax administration.

⁵ The logic of conflicting interests breaks down at the point of sale to the final consumer because collusion is possible: the buyer does not pay the VAT and the seller does not report the sale for income tax purposes.

⁶ A fiscal pillar is one which is broad based and capable of generating significant and stable revenue. See Barreix and Roca (2007).

⁷ In general, the "income" fiscal pillar refers to the net tax revenue linked to the income tax system, including any supplementary rates for specific sectors, whether relating to individuals, legal entities, or other unclassifiable categories (for example, payments withheld at source). However, in some cases this pillar includes other direct levies on central or subnational government revenue. These might apply to a particular sector, have a different calculation base (assets), be temporary or extraordinary, and/or tax capital gains or specific income not covered by traditional income tax (Moran and Rojas, 2019).

Figure 1: Pillars, Other Taxes, and Non-Tax Income from Natural Resources in Latin America and the Caribbean, 2018 (% of GDP)



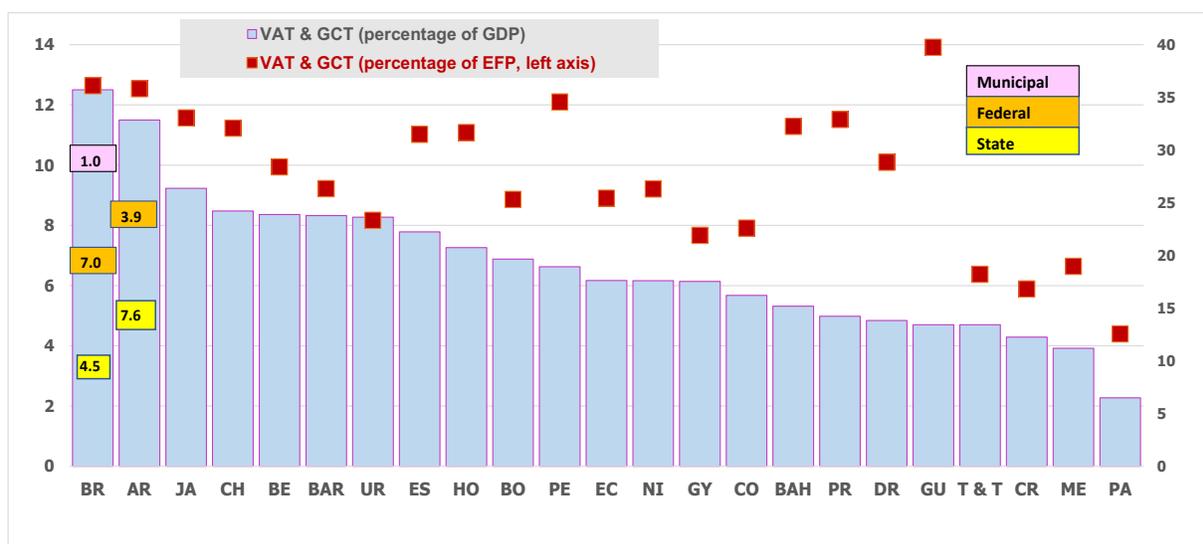
Source: Authors' elaboration based on figures from the IDB-CIAT database (2019).

Note: "SSC" refers to social security contributions, and "IT" is income tax (corporate and personal). The calculations are based on data from the IDB-CIAT database (2019) for the estimate of equivalent fiscal pressure (EFP) and use two additional sources on income as well as the more traditional elements (tax income plus contributions to social security). They represent a compulsory fiscal effort demanded of taxpayers: contributions to private pensions and non-tax resources (dividends, royalties) from natural-resource exploitation.

At the same time, just as incomes vary from country to country, there are also differences in VAT revenues. In countries such as Argentina and Brazil, there are other important general excise taxes levied by subnational governments within the VAT fiscal pillar⁸ (see Figure 2).

⁸ Generally, in the strictest sense, the "VAT" fiscal pillar refers to revenue from VAT. However, depending on subnational tax allocations, it also includes other general taxes on goods and services. For example, in Argentina it includes net VAT (central government) and the tax on gross revenue (provincial government); in Brazil it covers the Contribuição ao Financiamento da Seguridade (COFINS, Contribution for the Financing of Social Security) and Programa de Integração Social/Programa de Formação do Patrimônio do Servidor (PIS/PASEP, Social Integration Program/Civil Service Asset Formation Program) (federal government), the Imposto sobre Operações relativas à Circulação de Mercadorias e Prestação de Serviços de Transporte Interestadual e Intermunicipal e de Comunicação (ICMS VAT on Sales and Certain Services) (state) and the Imposto Sobre Serviços (ISS, Tax on Services) (municipal); in Colombia it covers net VAT (central) and the tax on industry and commerce (municipal).

Figure 2: VAT and General Consumption Taxes (GCT), 2018 (% GDP and % EFP)



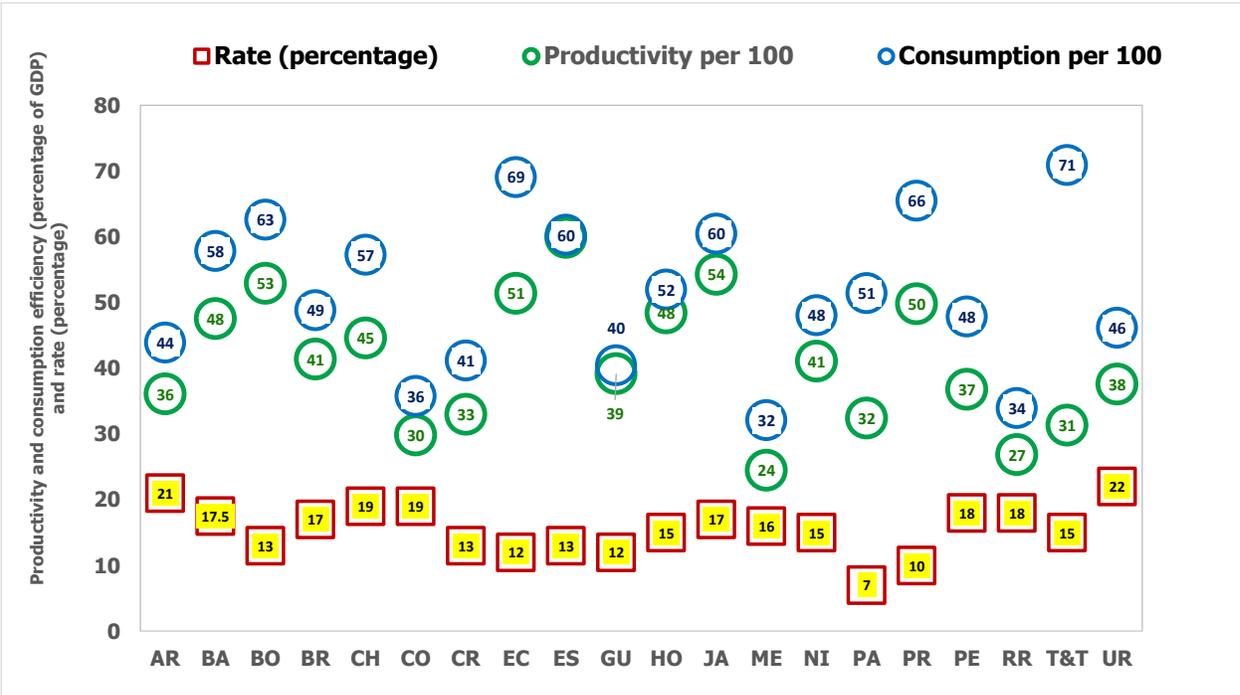
Source: Authors' elaboration using figures from the IDB-CIAT database (2019).
 Note: "GCT" refers to general consumption tax.

With respect to VAT administration in the region, the C (consumption) efficiency index, defined as the ratio of VAT collection and consumption divided by the standard tax, showed an average of just over 50 with a low standard deviation (11.5).⁹ A similar situation arises with VAT productivity, which is the ratio of VAT collection as a percentage of GDP divided by the general rate; this gives an average of 41 with a standard deviation of 9. This is illustrated in Figure 3 for a select group of countries.¹⁰ However, none of these indicators follows a clear pattern because although there are some high-performing countries such as Ecuador, El Salvador, and Paraguay, which have relatively low percentages (13 percent, 12 percent, and 10 percent, respectively), there are others that stand out such as Bolivia (14.9 percent effective rate) and Jamaica (17 percent rate). Some of these countries have made tremendous progress in increasing the scope of VAT despite still being in the process of implementing state-of-the-art technological solutions, such as mass electronic invoicing. Ecuador is a noteworthy exception to this, as noted below.

⁹ To put this into context, average C efficiency in OECD countries is 56, with a standard deviation of 13.2 in 2018 (OECD, 2020).

¹⁰ For a detailed analysis of efficiency, tax expenditure, and evasion, see Díaz de Sarralde (2017). This topic is relevant because it illustrates the VAT expenditure related to differential treatment and evasion.

Figure 3: VAT Rate, Productivity and Consumption Efficiency, Selected Countries, 2018



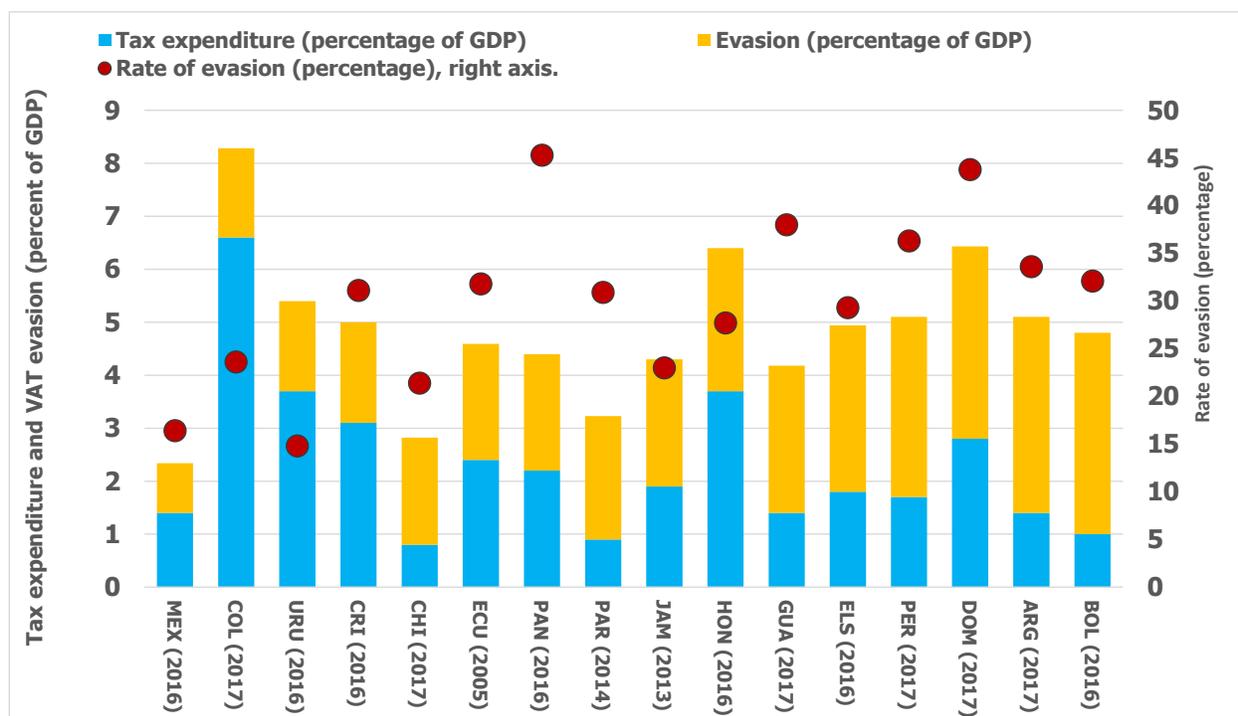
Source: Authors' elaboration with figures from the IDB-CIAT database (2019) and rates according to CIAT.

Problems related to revenue collection can be broken down into those of design and control as illustrated in Figure 4, which shows tax expenditure and evasion by country.¹¹ Differences between countries in terms of tax revenue foregone are in part tautological because they are measured against their own general rate. Also it is very complicated to calculate them when there are differing rates (including 0 percent), and especially given the different exemptions that include VAT on purchases (credit) as a cost. Thus a better means of comparison is through a time series for each country. There are similar issues with productivity and changes in methodology for calculating GDP. There are also no clear patterns of evasion: for example, Mexico, which has a significant zero-rated base (over 35 percent), or Uruguay, which has an intermediate rate and exemptions, have a lower ratio than the much more generalized VAT of Bolivia or Chile (which also has a more advanced tax administration). Tax rates also vary significantly. Panama and Paraguay have low VAT rates of 7 percent and 10 percent, respectively, and a much higher rate of evasion than Uruguay or Argentina, where general VAT rates are more than double. This helps to establish a reference point, since they are estimated from time to time, but it makes analysis more difficult and highlights the limitations of the methodology and the constraints of estimates (Gómez Sabaini and Morán, 2016).¹²

¹¹ In addition and even though data on evasion provide a reference point, space-time analysis is difficult as the data is only estimated occasionally. Lastly, we want to stress that there are various limitations in the methodologies and in the data used in the estimations.

¹² It is important to point out that there are difficulties with estimating the base, given changes to national accounting estimates in the countries, and in particular in the weight of taxed and exempt items in the consumption category.

Figure 4: Tax Expenditure and VAT Evasion as a % of GDP, and Rate of Evasion in %, Selected Countries, Various Years



Source: Authors' elaboration using Gómez Sabaini and Moran (2020).

Note: The evasion rate (right axis) is presented as a percentage of potential revenue.

Finally, it is clear that VAT measured on market (current) income is regressive, as shown in Table 1. It is important to acknowledge that some of the estimates come from the IDB Fiscal Equity Series and other country studies (Barreix, Roca, and Villela, 2006; Barreix, Bès, and Roca, 2009; Barreix and Roca, 2010). We also include the most recent estimates from the CEQ Master Workbook (Martínez-Aguilar, 2019), a Tulane University Project¹³ that looks at adjustments to market income and takes into account government transfers. As a corollary, although there are a few exceptions, VAT is regressive in most cases.¹⁴

¹³ The authors are especially grateful to Nora Lustig and Maynor Cabrera for kindly providing VAT disaggregated estimates for some of the countries, since the project documents include aggregated indirect taxes.

¹⁴ It is important to note that VAT estimates do not include VAT on taxed inputs in the production of goods and services that are exempt from tax, owing to the complexity involved.

Table 1: Distribution of VAT Burden by Income Decile, Selected Countries

	VAT/inc. of 1st decile	VAT/inc. of 2nd decile	VAT/in c. of 9th decile	VAT/inc . of 10th decile	General rate in %	Rec. VAT in % of GDP 2018	Rec. VAT in % of inc. tax 2018	Tax revenue 2018
AR (2018)	14.9	12.1	9.0	7.5	21	7.6	32.1	23.7
BO (2005)*	7.0			8.0	14.94	5.9	37.6	15.7
CH (2003)	34.2	22.0	13.6	8.2	19	8.0	45.7	17.5
CO (2005)	10.8	8.6	5.4	4.7	19	5.5	35.7	15.4
CR (2018)	12.9	9.6	8.3	7.1	13	4.3	34.3	12.5
DR (2018)	5.5	4.4	2.8	2.1	18	4.8	34.8	13.8
EC (2003)	7.1	5.6	6.0	6.3	12	5.6	51.0	11.0
ES (2006)	24.0	15.2	7.0	6.0	13	7.8	48.4	16.1
GU (2014)	5.7	5,3	5,5	4,8	12	4,7	51,4	10.9
HO (2005)*	10.2			5.0	12	5.2	33.5	15.5
ME (2011)	9.9	6.9	5.4	4.6	15	3.6	39.5	9.0
NI (2001)	8.6	5.1	3.4	3.4	15	5,3	48.6	10.9
PA (2016)	3.6	2.1	1.9	1.8	7	2.3	51.1	10.0
UR (2016)	9.9	8.8	8.1	7.6	22	8.4	41.8	20.3

Sources: Cossío Muñoz (2006) for Bolivia; Cantallops, Jorrat, and Scherman (2007) for Chile; Zapata and Ariza (2006) for Colombia; Arteta (2006) for Ecuador; ICEFI (2009) for El Salvador; Cabrera, Lustig, and Morán (2020) for Guatemala; Garriga et al. (2007) for Honduras; Acosta (2011) for Mexico; Petrei (2009) for Nicaragua; Martínez-Aguilar (2019) for Panama. Authors' elaboration for Argentina, Costa Rica, the Dominican Republic, and Uruguay using the IDB-CIAT database (2019) for VAT revenue and tax pressure.

Note: (*) By quintiles.

VAT, as is the case for other excise taxes, does not take into account a taxpayer's ability to pay, and it is evident that the lower income deciles devote a higher percentage of their income to paying this tax than those in higher deciles.¹⁵ Following this line of argument, the unequal income

¹⁵ Jenkins, Jenkins, and Kuo (2006) reach a different conclusion when looking at the performance of VAT in the Dominican Republic. The authors carried out a very detailed study desaggregating 2,042 goods and services consumed by different sections of the population, and analyzing the degree of formality of the businesses where purchases were

distribution of a country is associated with its tax structure and in particular with the share of consumption taxes in total tax revenue.

However, the distributive effect needs to be measured on fiscal policy as a whole and not just on taxes, and certainly not just on one type of tax despite its importance. The impact of a relatively regressive tax can be neutralized and even reversed through targeted spending on goods, services, and transfers to lower-income groups in a population and other more progressive taxes such as personal income tax.

Goñi, López, and Servén (2008) present examples of progressive fiscal policy for a group of European countries, where targeted spending on social security and assistance are determinants in reducing inequality (Table 2) thanks to postwar welfare policies that benefit the population as a whole. Spending of this type is significantly lower in developing countries, not only because of inadequate tax revenue but also because of issues relating to exclusion that impact the informal sector, which makes up between 40 and 60 percent of the population, many of whom live in rural areas, in most of these countries.

Table 2: Inequality and Social Spending in LAC 6 and Europe 15

	LAC 6	Europe 15
Gini – market income	0.52	0.46
Gini – disposable income	0.50	0.31
Difference	-0.02	-0.15
Social security (% of GDP)	6.3	14.7
Welfare (% of GDP)	1.0	1.6
Total (% of GDP)	7.3	16.3
LAC 6: Argentina, Brazil, Chile, Colombia, Mexico, and Peru Europe 15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Portugal, Spain, Sweden, and United Kingdom		

Source: Goñi, López, and Servén (2008).

taking place. The combination of a tax base with multiple exemptions, the degree of informality in the commercial structure, and entrenched consumer preferences relating to the product and place of sale in each section of the population meant that VAT was lower in the lowest quintiles.

Using data from 31 countries, Bachas, Gadenne, and Jensen (2020) argue that VAT can be progressive in a context of high informality. They use a VAT pass-through of 10 percent of sales (40 percent of intermediate inputs accounting for 25 percent of informal sales), based on the 2013 Mexican census, to prove that payment of the tax is concentrated in the highest income levels since they consume formal sector products. However, this conclusion depends heavily on the percentage of pass-through of intermediate inputs bought in the formal sector, a point made by Slemrod (2019) commenting on the original work of Bachas, Gadenne, and Jensen. Slemrod demonstrated that when there is no pass-through for formal inputs, the richest decile pays 70 percent more VAT than the poorest, when the pass-through is 10 percent the payment of the highest decile exceeds the VAT payment of the poorest by over 47 percent, but a pass-through of 30 percent would wipe out any progressivity. Hence the claim that VAT is progressive rests on the degree of informality of the consumption goods of the lower income deciles, which is an empirical matter. However, as evasion is reduced and VAT's rate and taxable base increase, *the tax's progressivity due to informality tends to disappear*.

Solutions for Regressivity

In the preceding pages we highlighted how consumption taxes' impact on inequality poses a real challenge for fiscal policy. In the following pages, we look at two alternatives for resolving the dilemma of the impossible trinity of consumption taxes introduced in the summary of this paper. We begin by presenting the strategy of indiscriminate tax relief (which we term the “universal solution”) to the problem of VAT regressivity, which has been adopted almost everywhere. It involves changes to the tax base and/or the tax rates, without discriminating on income grounds. Below we introduce a proposal for P VAT, which involves compensation for some taxpayers with adjustments to the two variables upon which the universal solution traditionally operates.

Indiscriminate Tax Relief: The Universal Solution

The first step in this intervention consists of identifying goods and services that make up a large share of the consumption basket among lower-income groups and/or that are deemed to be of social interest. The classic examples are foodstuffs, medicines, health services, education, public transport, and, in some countries, publications. The next step is to exclude them from the tax base (exempting them) and/or taxing them at a reduced rate, or even making them zero-rated. This type of intervention is “universal” as it benefits all consumers regardless of their income level.

The universal solution is a simplistic response to the problem of VAT regressivity. Its shortcoming is that the tax relief effected through multiple rates and exemptions from the tax base benefits, in absolute terms, those who consume the most—that is, individuals in the upper deciles of the income distribution, as shown in Table 3. In addition to this unwanted impact, the universal solution has an additional negative impact in that it reduces tax revenue that could have been used to finance public social spending targeted at the poorest deciles.¹⁶

Table 3 shows exempt consumption (differential treatment) for each decile and the share of tax expenditure associated with each exempt consumption and of that decile in total VAT tax expenditure. It is clear that tax expenditure owing to the concentration of income and consumption is concentrated in the three richest deciles of the population. This introduces what could be termed the “inclusion error” of VAT exemption and stems from the fact that between 40 percent and 50 percent of consumption of goods and services is concentrated in deciles 8 to 10. Hence we can see the paradoxical situation where efforts to ease the tax burden for the poorest deciles of the population by means of universal measures (exempting goods and services or applying lower rates) end up benefiting the highest income groups in society.

¹⁶ In their study of six middle- and low-income countries (Ethiopia, Ghana, Senegal, Sri Lanka, Vietnam, and Zambia), Harris et al. (2019) reached a similar conclusion to Barreix, Bès, and Roca (2010, 2012): that unconditional transfers are a more effective means of redistribution than preferential VAT treatment (i.e., the universal solution).

Table 3: Exempt Consumption by Decile and its Share of Total Tax Expenditure in the Four Countries (%)

Decile	Argentina* (2018)		Costa Rica** (2018)		Dominican Republic (2018)		Uruguay* (2016)	
	Exempt consumption by decile	Tax expenditure by exempt consumption	Exempt consumption by decile	Tax expenditure by exempt consumption	Exempt consumption by decile	Tax expenditure by exempt consumption	Exempt consumption by decile	Tax expenditure by exempt consumption
1	36.7	3.6	34.4	4.4	63.1	4.8	47.6	6.6
2	34.2	4.6	33.4	5.1	61.0	5.6	49.0	8.4
3	32.6	5.4	30.7	5.9	61.6	7.0	47.2	8.6
4	31.4	6.4	28.4	6.7	58.9	7.3	44.2	9.0
5	29.1	7.1	27.0	7.6	61.3	8.5	46.0	9.6
6	30.7	8.6	27.3	8.6	59.4	9.6	43.8	10.3
7	29.3	9.9	23.3	9.8	57.0	9.1	41.9	10.0
8	27.4	11.5	20.9	11.3	57.7	11.1	41.5	11.2
9	27.4	15.5	20.2	16.4	56.4	13.3	41.1	12.1
10	27.0	27.4	19.1	24.3	56.5	23.7	37.1	14.3

Notes: (*) Average taxed consumption at rates of 21 percent, 10.5 percent, and exempt in Argentina and 22 percent, 10 percent, and exempt in Uruguay. (**) In the case of Costa Rica, non-residents are treated separately; their exempt consumption is 11.9 percent and the corresponding tax expenditure is 9.8 percent. This table covers distribution of domestic consumption of deciles 1–10.

Although the universal solution is relatively easy to implement from a tax policy perspective, this simplicity does not pertain when it comes to VAT management. The problems it causes will be greater the more complex the structure of exemptions and number of differing rates for specific goods and services, and the weaker the tax administrations. This will also raise taxpayers' compliance costs. Indeed there are two obvious problems for taxpayer compliance and management of the administration: (i) defining which products are taxable among similar products (for example, dairy products and their derivatives) and (ii) the allocation of the value-added of purchased inputs that are not directly affected on taxed or exempt purchases. Finally, in economic terms, the distortion of relative prices affects the patterns of behavior of both the end consumer and producers as it fosters vertical integration¹⁷ to avoid having to absorb VAT costs in the exempt inputs they buy.

Solving the Impossible Trinity: P VAT

The starting point for the P VAT proposal is to generalize the tax base. The only exemptions that would be maintained are those that make sense from the technical viewpoint of the administration of the tax and/or those necessary to ensure consistency of tax treatment across similar items.¹⁸

¹⁷ Integration means that a producer does not have to absorb the VAT payment for the exempt inputs that they buy, which have accumulated VAT as a cost along the chain of production.

¹⁸ A typical example of this is financial services, which are exempt owing to the technical impossibility of charging VAT precisely for the services provided by the financial intermediary to their depositors and lenders. This is because of the cross-flow of services for the saver and the lender, which does not allow for a clear allocation of VAT unlike in the case

In addition, for the purpose of equalizing the treatment of investment in physical assets and human capital formation in VAT, we propose exempting expenditure on private health and education from the VAT tax base. Taxing them would only be justifiable on equity grounds, since the private provision of these services is concentrated in the upper income deciles. However, education and health services are expenditures associated with human capital formation, which constitute investment rather than consumption and therefore should be exempt.

The second element of the P VAT is moving towards a single VAT rate. This recommendation essentially responds to the need to simplify administration of the tax and make it as neutral as possible.¹⁹ The tax rate should be determined in line with each country's fiscal policy aims (level of expenditure, income structure, fiscal sustainability, etc.).

The third element of the proposal to personalize VAT is the implementation of tax relief for those it aims to benefit. This requires two steps: determining the extent of the tax relief to be granted, and identifying the beneficiaries of the relief.

Determining the amount of relief requires estimating the incidence of VAT on the consumption baskets of the different deciles of a country's population. The next step is to choose the cut-off decile, which determines the amount of tax relief to be granted.²⁰ The relief will be, as a minimum, on the whole tax increase which the cut-off decile would have to pay as a function of its consumption, taking into account factors such as fiscal tightening. It is quite possible that this would generate a surplus which could be applied in different ways (for more detail, see Barreix, Bès, and Roca, 2012).

Unlike universal programs, the next step in VAT personalization requires identifying the beneficiaries of the program (that is, the individuals who would receive tax relief). Identifying the beneficiaries of public programs is challenging and tends to be liable to corruption through "clientelist" practices which are prevalent in developing countries. Recognition of the constraints informality places on access to social welfare programs led Latin America to make a huge effort to identify beneficiaries in the new generation of these programs. The valuable experience gained over the past 20 years of conditional cash transfer programs in Latin America contains some rather successful examples of targeting, such as those in Argentina, Brazil, Chile, Mexico, and Uruguay (Cecchini and Atuesta, 2017). Although this know-how is partly applied to the design and implementation of public social policies, it is interesting how poorly targeting has been included in the design of tax policy. Recognizing the potential of targeting is one of the elements that makes the proposal for P VAT viable.

of unidirectional flows in sales between businesses from different sectors, such as agriculture to industry or industry to commerce (vertical flow) or sales between businesses in the same sector (horizontal flow). Another example of administrative difficulty is that of rents, which are exempt owing to the difficulty in controlling for a significant number of unregistered people. This exception would not be justifiable if efficient collection were possible.

¹⁹ While few exemptions and a single rate facilitate VAT administration, P VAT can be implemented by relaxing both constraints.

²⁰ This study aims to focus tax relief on the deciles around the poverty line. Including the deciles that are immediately above the line (Uruguay, in this study) is a decision for public policy, and an issue for fiscal restraint. Locating the cut-off for tax relief will determine the extent of progressivity of the P VAT.

To do this, eligibility criteria are defined and then applicants for the benefit are signed up. Self-selection is combined with verification of eligibility measures by the entity responsible for the administration of the program. This is complex given the high levels of informality in the under-reporting of income, which leads to inclusion errors (including individuals who do not meet the requirements to receive the benefit) and exclusion errors (excluding those who should be considered). The details of the methodology for identification and monitoring vary among the countries of the region. Some have developed reliable compliance tools (proxy means testing), which carry out rigorous statistical analysis comparing information on the beneficiary population with household survey data, field surveys, cross-referencing of conditionality of transfers, and so on.

Finally, delivering benefits has been simplified significantly thanks to monthly accreditation on an electronic payment card for beneficiaries, the amount of which is equal to the VAT on the consumption basket of the cut-off decile.²¹

In sum, this proposal has several distinctive advantages:

- First, generalizing the VAT tax base increases revenue, one part of which transfers income to the groups it aims to benefit. In other words, it is a measure that not only pays for itself by increasing revenue but which also makes it possible to compensate and even improve the situation for lower income sectors.
- Secondly, generalizing VAT facilitates the administration of the tax while also fostering formality through the use of electronic payment methods.²² In addition, setting the refund amount follows an objective criterion (for example, the incidence of the tax on the consumption basket of the decile), so it does not intrude into the consumption decisions of individuals.²³
- Finally, the proposed technology—both to determine the extent of the benefit (the VAT rebate in this case) and to identify beneficiaries and the distribution mechanism—is available and widely disseminated in most countries.

²¹ At the technological level, in Latin America there has been great progress in implementing electronic invoicing on a large scale in 10 countries, while in five the process is still underway. From the perspective of P VAT, universal VAT, and discrimination by type of good or service, this invoicing is good for administration, but in the case of P VAT it also facilitates differential subjective treatment for specific consumers. This is the case in Ecuador for older people on low incomes or with special needs. There are valuable experiences from Argentina and Uruguay in the provision of tax relief, and also in Ecuador, where the VAT discount is effected directly through an electronic invoice.

²² Note that providing compensation for lower-income groups by using an appropriate beneficiary-identification scheme allows us to mitigate the concern recorded by Jenkins, Jenkins, and Kuo (2006) and Bachas, Gadenne, and Jensen (2020) who pointed out that lower-income deciles shop in more informal establishments. Both studies were discussed in footnote 15.

²³ Finally, if corporate income tax were to be reformed and a move were made from the current standard source-based system to the destination-based cash flow tax (DBCFT) with border adjustment system, this would yield a base very similar to the value added plus salary deduction. Hence VAT generalization would facilitate the settlement of both taxes, thereby reducing the tax administration's compliance and oversight costs.

Conclusions

An aim of VAT is to raise revenue with the greatest possible degree of neutrality. In most countries that use VAT, it is set up as a general consumption tax with a relatively broad base. In LAC, this is reflected in the fact that VAT is the main source of tax revenue, averaging 6.2 percent of GDP in the five-year period 2015–19. That is comparable to the share that the OECD countries collected in VAT over the same period. One of VAT’s characteristics, however, is its regressivity: poorer households spend a higher percentage of their income on the consumption of taxed goods and services (and therefore on paying VAT) than higher-income households.

The tension between a modern state’s resource needs and the equity impact of the revenue-raising instrument stems from what has been termed the “impossible trinity of consumption taxes.” As Ainsworth (2006) points out: “No consumption tax has ever had all three of the critical attributes of a progressive consumption tax: a broad base, a single rate, and measured relief for those in greatest need.”

To counteract the tax’s regressivity, most countries have followed the “universal” strategy, which has provided relief to taxpayers. This consists of (i) identifying goods and services that comprise a large share of the consumption basket among lower-income households, and/or that are deemed to be of social interest; and (ii) excluding them from the tax base (exempting them) or taxing them at a reduced rate.

The shortcoming of the universal solution is that the tax relief measures effected through multiple rates and exemptions from the tax base amount to a generalized subsidy that, in absolute terms, mostly benefits those who consume the most—that is, individuals in the upper deciles of the income distribution.

It is clear that, for reasons of efficiency in resource allocation, and even more so in a context of fiscal insufficiency, generalized subsidies should be replaced by targeted subsidies that benefit the population in the lower deciles of the income distribution. This calls for the introduction of targeting into policy design. In LAC, moreover, it requires taking into account the degree of informality prevailing in the region’s economies, which disproportionately affects those in the poorest deciles.

In addition to the undesired impact arising from the absence of targeting, the universal solution has two other negative effects: (i) it entails forgoing tax revenues that could have been used to finance public social spending or infrastructure; and (ii) it introduces complexity into the management of the tax, thereby facilitating taxpayers’ non-compliance with their obligations.

By contrast, P VAT makes it possible to resolve the challenges involved in “the impossible trinity” by addressing VAT’s regressivity without puncturing the tax base as the universal solution does. P VAT consists of three elements:

1. **Generalizing the tax base.** The only exemptions to be retained are those that make sense from the technical viewpoint of administering the tax, and/or those that are necessary in some cases to remain consistent in the tax treatment of similar categories (health and education).

2. **Moving towards a single VAT rate.** This recommendation essentially responds to the need to simplify the administration of the tax and secure the greatest possible neutrality. The tax rate should be determined in line with each country's fiscal design.²⁴
3. **Providing tax relief for intended beneficiaries.** Determining the amount of relief requires estimating the incidence of VAT on the consumption baskets of the different deciles in a country's population. The cut-off decile is then chosen, which determines the amount of tax relief to be granted. The next step is to identify the beneficiaries of the program. The valuable experience gained in Latin America over the past 25 years through conditional income transfer programs makes it possible to include the concept of targeting in indirect taxation; this is one of the critical elements that makes the P VAT proposal feasible. Finally, delivering the benefits has been made much simpler using electronic media (for example, invoices–seller, card–beneficiary).

Though LAC is regarded as the world's most unequal region, analytical work confirms that tax systems have only a very limited impact on income distribution, either in concentrating income or redistributing it: in no case does the Gini coefficient of income distribution vary significantly after taxation. Nonetheless, the fact that the tax system's design will not have a major impact on improving income distribution is not to say that everything possible should not be done to prevent a poor design from making income distribution even worse. This is the central point of the P VAT proposal: to improve the tax's design so as to compensate the most disadvantaged sectors of society, while acknowledging the tax's critical role in a modern tax system.

This is accomplished through targeting and benefit-delivery instruments that have been used quite successfully over the past 25 years in the new generation of social programs in Latin America. The design proposed herein, moreover, makes it possible not only to provide tax relief to beneficiary sectors, but to do so without weakening total tax revenues.

Use of these targeting instruments also makes it possible to deal with the high degree of informality that is a feature of most developing economies. Traditionally, this informality has made individuals in the lower deciles of the income distribution "invisible," preventing them from benefiting from the provision of transfers and public social spending services. The P VAT proposal overcomes this limitation by including individuals in the informal sector, who can account for more than 30 percent of the population in developing countries.

Indeed, a series of programs that take the P VAT approach have already been implemented in the region: (i) since the mid-2000s, Argentina has been using a series of programs for retirees, pensioners, and beneficiaries of the Universal Child Allowance (AUH in Spanish), whereby VAT is partially refunded on purchases made by debit card; (ii) in 2021, Bolivia introduced a partial VAT refund for people on low monthly incomes (who must register with the National Tax Service), and the benefit is granted automatically on the basis of invoices issued in the beneficiary's name; (iii) Colombia has arranged compensation for the poorest households since 2020; (iv) since 2017, Ecuador has been targeting refunds on low-income older adults and people with qualified

²⁴ While few exemptions and a single rate facilitate VAT administration, P VAT can be implemented by relaxing both constraints.

disabilities for the purchase of basic-needs goods and services for personal consumption; and (v) since 2012, Uruguay has targeted a VAT refund on households in situations of extreme vulnerability and beneficiaries of the Family Allowance program (AFAM in Spanish). This latter initiative also aims to foster greater formalization of transactions, since the benefit is conditional on making purchases with the cards—these are the social programs’ electronic wallets, into which the government periodically deposits the benefits (Rasteletti, 2021). Finally, at the subnational level, in December 2021 the Brazilian state of Rio Grande do Sul began the quarterly refunding of state VAT (a tax on the movement of goods and services) via a credit card for low-income families; other Brazilian states are considering similar projects.

P VAT refund is a tax refund and not a transfer which can be self-funded via broadening its base and/or a rate change. Tax administrations can play a crucial role in improving the identification of beneficiaries and the fight against fraud by expanding electronic invoicing and similar technologies. Moreover, P VAT is a mechanism which strengthens transparency, budget control, and social support from those who do not benefit directly.

The empirical analysis presented here and in similar studies confirms that, in contrast to the “universal” solution, P VAT makes it possible to preserve, and even increase, revenues from this main tax pillar in LAC, thereby aiding fiscal consolidation. This is achieved by neutralizing the regressivity of the tax through offsetting measures that benefit the deciles below the poverty line, which are the most vulnerable sectors of the population, as shown in Table 4.²⁵

²⁵ It is important to note that there are differences between the estimates based on household surveys and the VAT actually received by the tax administration. Some of these differences arise from the way in which VAT operates. It is discharged by companies that experience variations in their inventory during each fiscal year, pay with different time frames to accrual, and carry at cost part of the VAT purchased (in the case of goods that are exempt or acquired from the state), among other actions. Problems also arise in determining the consumption aggregates and from the surveys themselves (over-declarations, under-declarations, errors and omissions, and so on). Moreover, each country uses different criteria to measure the poverty level. The estimates included in this study compensate for the increase in VAT up to the decile marking the poverty line in the pre-pandemic period, with the exception of Uruguay. In the latter case it was extended by another decile in view of unmet basic needs.

Table 4: VAT Burden by Income Decile, Current Situation, and P VAT Simulation, Scenario 1 (%)

Decile	Argentina (2018)		Costa Rica (2018)		Dominican Rep. (2018)		Uruguay (2016)	
	Current situation (21%)	P VAT (scen. 1) (21%)	Current situation (13%)	P VAT (scen. 1) (13%)	Current situation (18%)	P VAT (scen. 1) (18%)	Current situation (22%)	P VAT (scen. 1) (22%)
1	14.9	12.0	14.6	7.3	5.5	2.8	10.0	9.6
2	12.1	11.0	9.7	6.6	4.4	3.3	8.7	8.7
3	11.1	10.7	9.4	7.8	3.8	3.7	8.7	8.7
4	10.6	10.6	9.3	16.2	3.8	3.8	9.2	10.6
5	10.3	12.2	8.7	15.1	3.4	6.6	8.2	9.5
6	9.7	11.7	8.8	14.7	3.3	6.2	8.5	9.8
7	9.4	11.3	8.7	14.3	3.3	5.7	8.4	9.6
8	9.4	11.2	7.7	12.2	3.0	5.2	8.5	9.6
9	9.0	10.8	8.6	12.8	2.8	4.5	8.0	9.1
10	7.5	9.1	7.5	10.2	2.1	3.2	7.3	8.2
Total	9.1	10.5	8.4	12.0	2.9	4.3	8.3	9.2
Note: Δ Revenue, % of GDP		0.8		1.8		1.3		0.6

Note: This table presents Scenario 1. A description of the particularities of VAT in each of the countries is analyzed in the Spanish version of this study, as well as the assumptions used in estimating the impacts.

Below we present summaries of a series of case studies, specially developed as part of this initiative, as an empirical test of the prospects of implementing and estimating the potential impacts of P VAT in LAC countries. Specifically, we highlight some findings from the studies of Argentina, Costa Rica, the Dominican Republic, and Uruguay, paying attention to the revenue impacts and the equity effects *exclusively* on private household consumption.

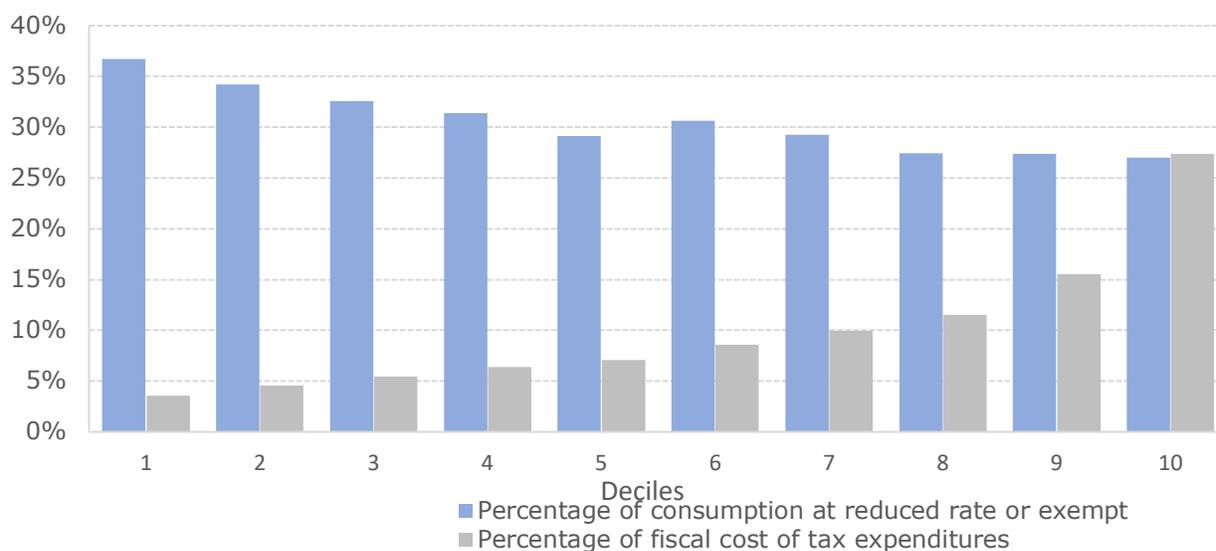
Summary of Case Studies

P VAT in Argentina: Impacts on Revenue and Distribution

In Argentina, VAT has accounted for close to 8 percent of GDP a year during the past decade (OECD et al., 2020). For the past 15 years it has consisted of a general rate of 21 percent (one of the highest in the region), applied to a broad base of goods and services. There is also a series of differential tax treatments,²⁶ consisting mainly of a reduced rate of 10.5 percent and various tax exemptions, all of which entail foregone revenue of at least 1.3 percent of GDP in 2018, according to estimates by the Ministry of the Economy and DGI (2019b).

To assess the potential implementation of P VAT in Argentina we conducted a microsimulation, using as a reference the information contained in the National Household Expenditure Survey (ENGH in Spanish) 2017–2018 (INDEC, 2020). Use of this data confirmed that VAT is regressive when we consider the distribution of current income, even with tax expenditures that seek to mitigate this impact. Indeed, the consumption of the four lowest income deciles contains more than 30 percent of the goods and services that are subject to differential treatment (reduced rates and exemptions). This segment, however, benefits from only 20 percent of total VAT tax expenditure (Figure 5). For the richest 10 percent, by contrast, the proportion of their consumption subject to differential treatment is about 27 percent, but this segment benefits from 27.4 percent of the corresponding tax expenditure.

Figure 5: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Argentina, 2018 (%)



Source: Authors' elaboration based on ENGH 2017–2018 (INDEC, 2020) and updated legislation.

²⁶ There is also a higher rate of 27 percent applicable to the provision of gas, electricity, and drinking water services, among others (Law 23.349, amended text of 1997 and its modifications).

In Argentina, current VAT revenue, considering only household consumption, stood at 5.24 percent of GDP in 2018, rising to 6.3 percent when the tax rate is generalized to 21 percent for the vast majority of goods and services²⁷ (except those taxed at the higher rate of 27 percent).²⁸ Since the proposed generalization is regressive, we recommend implementation of a cash transfer mechanism (consisting of a *refund* and an *added compensation*²⁹) to mitigate the negative effects on the lower income deciles. It is estimated that this transfer would amount to Ar\$2,457 a year per person, and would cover a target population of 16.1 million beneficiaries. It is further estimated that the fiscal cost of the refund would be 0.21 percent of GDP and that of the added compensation would be 0.06 percent of GDP. Thus the total cash transfer would amount to 0.27 percent of GDP (Table 5). Once the VAT rate is generalized and offset by these transfers, VAT revenue would eventually rise to 6.02 percent of GDP (an additional 15 percent). Implementation of these transfers, moreover, would improve the distributional impact of the tax. In effect, the first three deciles' contribution to total tax revenue would decline and the contribution of the fourth decile would remain unchanged as a result of this tax relief. The greater tax burden would fall mainly on the three highest income deciles.

**Table 5: Fiscal and Distributional Impact of P VAT by Income Decile, Argentina, 2018
(% of GDP)**

Deciles	Current VAT revenue (1)	Generalized VAT revenue (2)	VAT increase (3) = (2)-(1)	Refund (4)	Added compensation (5)	Total transfer (6) = (4)+(5)	Personalized VAT revenue (7) = (2)-(6)	VAT difference (8) = (7)-(1)
1	0.15%	0.19%	0.04%	0.04%	0.03%	0.07%	0.12%	-0.03
2	0.22%	0.26%	0.05%	0.05%	0.02%	0.07%	0.20%	-0.02
3	0.27%	0.33%	0.06%	0.06%	0.01%	0.07%	0.26%	-0.01
4	0.33%	0.39%	0.07%	0.07%	-	0.07%	0.33%	0.00
5	0.39%	0.46%	0.07%	-	-	-	0.46%	0.07
6	0.44%	0.53%	0.09%	-	-	-	0.53%	0.09
7	0.52%	0.63%	0.10%	-	-	-	0.63%	0.10
8	0.66%	0.78%	0.12%	-	-	-	0.78%	0.12
9	0.86%	1.02%	0.16%	-	-	-	1.02%	0.16
10	1.41%	1.70%	0.29%	-	-	-	1.70%	0.29
Total	5.24%	6.30%	1.06%	0.21%	0.06%	0.27%	6.02%	0.79%

Source: Authors' elaboration based on ENGH 2017–2018 (INDEC, 2020) and AFIP (2008).

P VAT in Costa Rica: Impacts on Revenue and Distribution

With the implementation of Law 9.635 on Strengthening Public Finances, the general sales tax (GST) system became a VAT system. Articles 8 and 9 of the law describe the different kinds of non-liabilities and exemptions, mostly reduced rates, which are stipulated to be applied in pursuit of a less regressive distribution of tax payments. In parallel, unfortunately, a contradiction arises

²⁷ This analysis does not take into account probable changes in taxpayer behavior as a result of the proposed changes in tax rates relative to the initial situation.

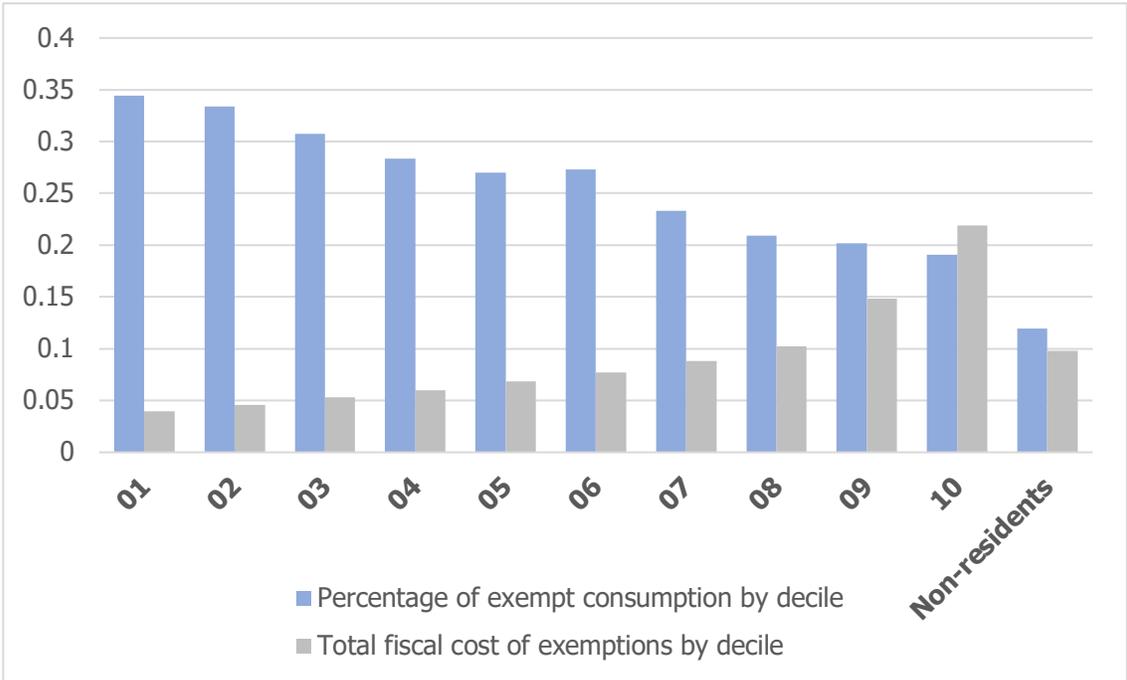
²⁸ This percentage chiefly excludes government consumption and corporate investment differentials.

²⁹ The total transfer for each beneficiary would consist of a *refund* (equivalent to the tax increase stemming from the unification of the rate) and an *added compensation* (determined by the difference between the estimated VAT increase for decile 4 and the tax rise levied on deciles 1, 2, and 3). Hence the refund will rise relative to income, while the added compensation will fall as incomes rise.

in the search for less regressive reforms, because households with greater consumption capacity also enjoy the tax benefit, even though they are not the target population of public policies offering concessions in VAT rates.

The share of spending (consumption) on exempt products or services per decile declines as the income level rises. In other words, higher-income households devote less of their income to consumption with tax expenditure, reflecting a high degree of exemption in their consumption baskets. This reveals the shortcomings of the current design, despite the technical improvement of moving from GST to VAT and securing a broader base.

Figure 6: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Costa Rica, 2018 (%)



Source: Authors' elaboration based on data from ENIGH 2018 (BCRD, 2020).

On the basis of the 2018 National Household Income and Expenditure Survey (ENIGH in Spanish) from the National Institute of Statistics and Census, the exercise considers subjecting the entire tax schedule to general rates of 12 percent, 13 percent, 14 percent, and 15 percent, and making offsets for 120 percent of the increase in the VAT liability to the first three deciles at the national level, as appropriate in each established rate.

Strictly non-taxable items are set aside, as established in Article 9 of Law 9.635. Prominent in that section are spending on social security, real estate transfers, and financial intermediation. Moreover, in Costa Rica specifically, fuels are subject to an excise tax that replaces general consumption taxes, so it too is excluded. At the same time, we include items exempted under Article 8 of the aforementioned law (aside from Article 1 on exports, taken as a non-liability), which features reduced rates for sewage services, electricity services, rental of residential real estate,

and other very specific rates on different tax objects and tax subjects with particular characteristics. Furthermore, all the products in the basic food basket are considered at a general rate.

Provision of the refund mentioned above yields results that reflect a significant improvement in the distribution of VAT liabilities by income level. Table 6 shows the results of the simulations once the refund has been applied.

Table 6: Fiscal and Distributional Impact of P VAT by Income Decile, Costa Rica, 2018 (% of GDP)

DECILE	CURRENT VAT	12% P VAT	13% P VAT	14% P VAT	15% P VAT
01	0.14%	0.08%	0.07%	0.06%	0.04%
02	0.16%	0.12%	0.11%	0.10%	0.09%
03	0.20%	0.17%	0.16%	0.16%	0.15%
04	0.24%	0.38%	0.41%	0.44%	0.48%
05	0.27%	0.43%	0.47%	0.50%	0.54%
06	0.32%	0.50%	0.54%	0.58%	0.62%
07	0.38%	0.57%	0.62%	0.66%	0.71%
08	0.45%	0.66%	0.71%	0.77%	0.82%
09	0.71%	0.98%	1.06%	1.14%	1.22%
10	1.18%	1.50%	1.62%	1.74%	1.86%
Non-residents	0.56%	0.62%	0.67%	0.72%	0.77%
Total	4.59%	6.01%	6.44%	6.87%	7.30%

Source: Authors' elaboration based on data from ENIGH 2018 (BCRD, 2020).

P VAT in the Dominican Republic: Impacts on Revenue and Distribution

Revenue from the tax on transfers of industrialized goods and services (ITBIS in Spanish) amounted to 4.6 percent of GDP in 2013–2019, a figure equivalent to 34.9 percent of the country's tax revenues (OECD et al., 2020).³⁰ Almost 60 percent of the revenue came from the domestic ITBIS, and the other 40 percent from the ITBIS on imports.

More than 50 percent of goods and services are exempt from ITBIS. This includes the vast majority of foodstuffs, fuels, and medicines, as well as books, magazines, and educational material, agricultural inputs, and the main professional services.³¹ There is also a general ITBIS rate of 18 percent and a differential rate of 16 percent for a small group of food products (yogurts and butter, coffee, edible oils of animal or vegetable origin, sugar, and cacao and chocolate). A peculiarity of ITBIS is that producers of some ITBIS-exempt goods are refunded the tax included

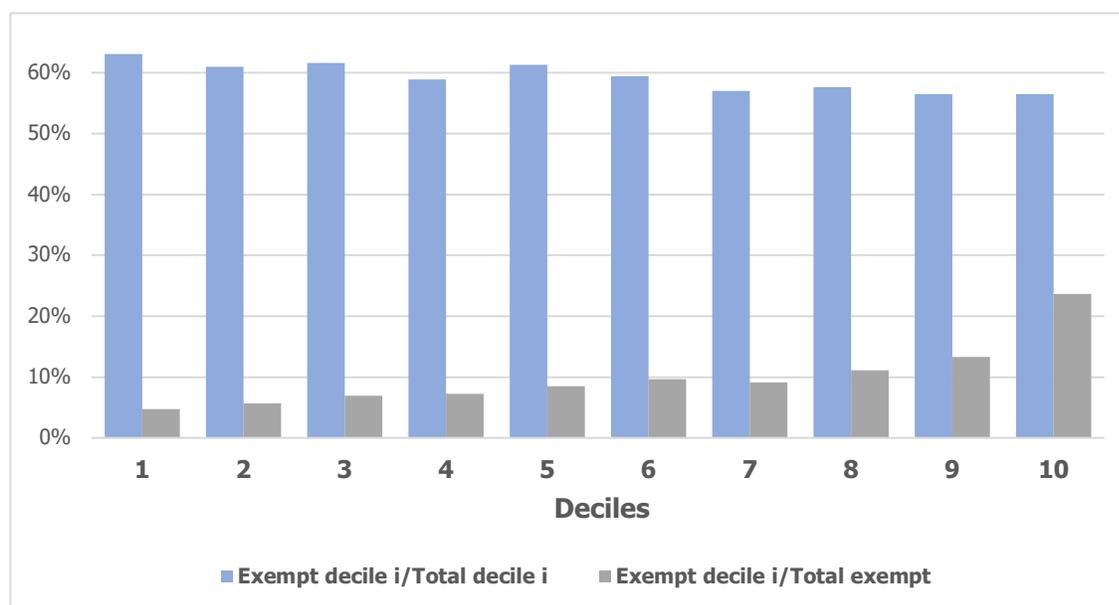
³⁰ The tax on transfers of industrialized goods and services (ITBIS) is the name given to VAT in the Dominican Republic.

³¹ It is worth mentioning that fuels and insurance are taxed through excise taxes.

in the purchase of inputs used to produce/supply those goods; the vast majority of countries reserve this zero-rate treatment exclusively for exporters.³²

To assess the potential implementation of P VAT in the Dominican Republic, we carried out microsimulations using information from the 2018 National Household Income and Expenditure Survey (ENGIH in Spanish) as a reference (BCRD, 2020). The first thing to note is that the current design of the ITBIS, which follows the *universal* approach, gives rise to a significant inclusion error (Figure 7), with equally regressive tax expenditure, by conferring greater benefits on the higher income deciles. In this regard, the percentage of exempt consumption among the poorest decile (63.1 percent) is only 6.6 percentage points higher than among the richest decile (56.5 percent).³³ Additionally, an assessment of tax expenditure shows that the benefit to the richest decile is 4.9 times greater than that to the poorest decile.

Figure 7: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Dominican Republic, 2018 (%)



Source: Authors' elaboration based on ENGIH 2018 (BCRD, 2020) and updated legislation.

The estimation of the P VAT considered two scenarios. The first of these consisted of generalizing the ITBIS tax base and reducing the general rate by one percentage point, setting it at 17 percent. The changes to be made to the tax would allow for an increase in revenue equivalent to 1.87 percent of GDP. From this, 0.62 percent of GDP would have to be subtracted to provide tax relief to the four lowest income deciles. Hence the net revenue increase would be 1.25 percent of GDP.

³² This tax relief has been justified by the need to compensate for the loss of competitiveness caused by such exemptions. Zero-rate treatment applies to raw materials, packaging material, and inputs directly related to the production of powdered and evaporated milk; cereals and milling products; beans; chicken and sausages; educational material; raw materials, packaging material, inputs, machinery, equipment, and spare parts directly related to the production of medicines for human and animal use; fertilizers; agrochemicals; and animal feed.

³³ The inclusion of the tax treatment of fuels and insurance, which are subject to excise taxes, tempers but does not overturn this assertion. In that case, the poorest decile's percentage of exempt consumption is 58.6 percent, and that of the richest decile is 44.5 percent.

The second scenario did not include exempt foodstuffs in the increase in the taxable base, nor the reduction in the tax's general rate, which remains at 18 percent. Similarly, non-exempt foodstuffs would be taxed at the general rate rather than the current reduced rate of 16 percent. These modifications in the tax design would allow for an increase in revenue equivalent to 1.27 percent of GDP. From this, 0.36 percent of GDP would have to be subtracted to provide tax relief to the four lowest income deciles. Hence, the net revenue increase would be 0.92 percent of GDP.

Table 7: Fiscal and Distributional Impact of P VAT by Income Decile, Dominican Republic, 2018 (% of GDP)

DECILE	CURRENT VAT 18%	17% P VAT	18% P VAT
01	0.10%	0.05%	0.07%
02	0.13%	0.10%	0.11%
03	0.15%	0.15%	0.15%
04	0.18%	0.18%	0.18%
05	0.19%	0.37%	0.30%
06	0.23%	0.43%	0.36%
07	0.24%	0.42%	0.36%
08	0.29%	0.50%	0.44%
09	0.36%	0.59%	0.53%
10	0.64%	0.97%	0.95%
Total	2.51%	3.76%	3.43%

Source: Authors' elaboration based on ENGIH 2018 (BCRD, 2020).

P VAT in Uruguay: Impacts on Revenue and Distribution

Gross VAT receipts remained stable at around an average of 9.4 percent of GDP in the period 2013–2019.³⁴ About 64 percent of the revenue came from domestic activity, and the other 36 percent stemmed from receipts on imports.

According to the estimates carried out for this study, using information from the 2016–2017 National Household Income and Expenditure Survey (ENGIH in Spanish) as a reference, 57 percent of goods and services are taxed at the basic rate of 22 percent; 18.2 percent of goods and services are taxed at the reduced rate of 10 percent; and the remaining 24.8 percent are exempt. Note that 86.3 percent of the revenue from the tax comes from the basic rate (22 percent), and the other 13.7 percent from the reduced rate (10 percent).³⁵

³⁴ Neither the Directorate General of Taxation (DGI in Spanish) nor the Ministry of the Economy and Finance (MEF) publish figures on net VAT revenue. The DGI publishes the total amount of credit certificates, but does not report the percentage of these used for VAT payments. Between 2014 and 2019, the total amount of credit certificates increased from 1.4 percent to 1.9 percent of GDP.

³⁵ Revenues from VAT at the reduced rate, according to ENGIH (13.7 percent), are practically double that in the figures published by the DGI (6.9 percent in 2017, the year of the survey). This is because the revenue estimated on the basis of the ENGIH refers only to residents' final consumption, while the DGI revenue figure includes other items, the most important of which are government procurement, non-deductible amounts from exempt sectors, and payments by tourists.

The main goods and services taxed at the reduced VAT rate for the final consumer are: the basic food basket, medicines and proprietary pharmaceuticals, private health services, land passenger transportation services, hotel services, and personal insurance. The main sales of goods and services to the final consumer that are exempt are: milk and sheep milk and meat, rents, the basic charge for electricity and water services, gasoline,³⁶ educational services, contributions to the National Health Fund (FONASA in Spanish) from beneficiaries of the National Integrated Health System (SNIS in Spanish), financial intermediation operations,³⁷ newspapers, periodicals, magazines and educational materials, and some games of chance.

The choice of goods and services taxed at the reduced rate is correct because, as a whole,³⁸ they account for a higher share of the consumption of lower-income households: the share of exempt goods and services in the consumption of the poorest 40 percent of the population (19.9 percent on average) is higher than in deciles 5 to 10 (17.7 percent on average). This does not prevent the higher income deciles from deriving the greatest benefit from the exemptions, given their greater share in the consumption of exempt goods and services: in this regard, the tax expenditure of the latter group is more than double (106.4 percent) that of the former.

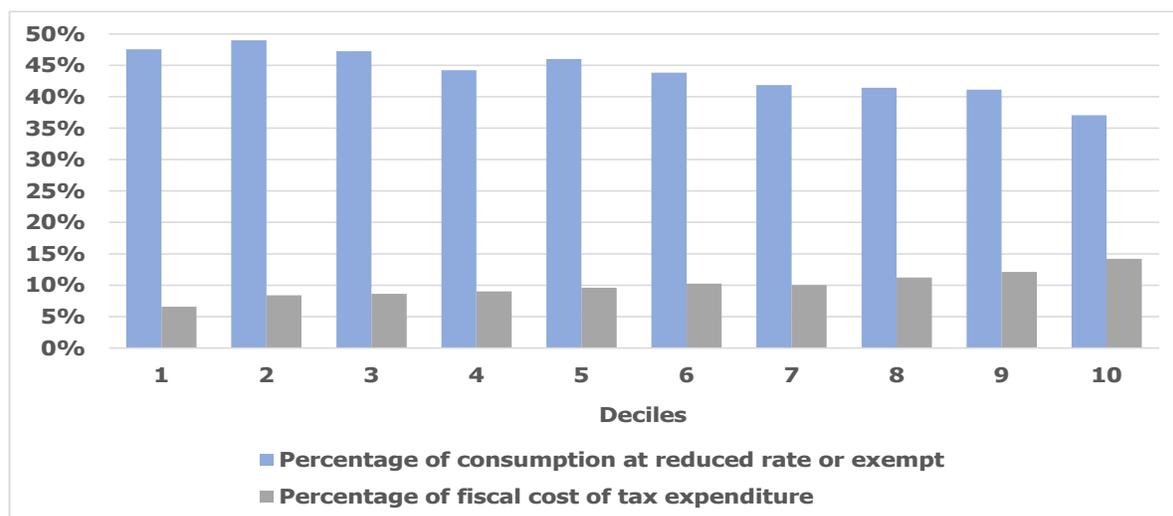
The same is apparent from an analysis of exempt goods and services. The choice of items to exempt is correct because, as a whole, they account for a higher share of the consumption of lower-income households: the share of exempt goods and services in the consumption of the poorest 40 percent of the population (27.1 percent on average) is higher than in deciles 5 to 10 (24.2 percent on average). Again, this does not prevent the higher-income deciles from being the main beneficiaries of the exemptions, given their greater share in the consumption of exempt goods and services: in this case, the tax expenditure of the latter group (exemptions plus the reduced rate) is more than double (107 percent) that of the former group.

³⁶ Gasoline is levied with an excise tax that accounts for about 45 percent of the retail price, per Law 18.109 of April 2007.

³⁷ Interest on credits to individuals (final consumption) are taxed at the basic rate of VAT.

³⁸ If some exempt goods or services were to be considered separately, the conclusion would be different. For example, analysis of the ENGIH data reveals that private education has a greater share in the consumption (without rental value) of the 20 percent with the highest income (4.0 percent) than in the consumption of the 40 percent with the lowest income (1.9 percent). At the same time, spending on education among the two highest deciles accounts for 34.4 percent of total education spending, while that of the poorest 40 percent accounts for less than half of that share (16.3 percent).

Figure 8: Exempt Consumption and Cost of Tax Expenditure by Income Decile, Uruguay, 2018 (%)



Source: Authors' elaboration based on ENGIH 2016–2017 (INE, 2020b) and updated legislation.

Estimation of the P VAT considered two scenarios. The first scenario took the following approach: (i) the VAT rate was unified at 21 percent; (ii) the products in the basic food basket that are currently exempt (basically milk) were taxed; and (iii) the two-point VAT rebate for purchases made with debit cards was repealed, as was the five-point rebate for spending on restaurants and self-drive car rentals made with debit or credit cards. Additionally, an amount equivalent to the VAT increase experienced by the third decile is transferred to households in the three lowest income deciles, so as to compensate them for the increase in tax pressure arising from this reform. The changes would allow for a revenue increase equivalent to 0.87 percent of GDP. From this, 0.23 percent of GDP would have to be subtracted to compensate the three lowest income deciles. Hence the net revenue increase would be 0.63 percent of GDP.³⁹

In the second scenario, the following applies: (i) the basic tax rate is maintained at 22 percent, but the reduced rate is increased from the current 10 percent to 17 percent; (ii) the products in the basic food basket that are currently exempt (basically milk) are taxed at the new reduced rate; and (iii) the two-point VAT rebate on purchases made with debit cards is repealed, as is the five-point rebate on restaurant and car-rental spending made with debit or credit cards. Again, the proposal is completed with the transfer of an amount equivalent to the VAT increase experienced by the third decile to those households that are in the three lowest income deciles, so as to (more than) compensate them for this increase in the reduced rate. In this scenario, the gross yield of

³⁹ As mentioned in footnote 35, revenue from VAT at the reduced rate, according to the ENGIH (13.7 percent), is practically double the share in the figures published by the DGI (6.9 percent in 2017, the year of the survey). It is likely, therefore, that the simulation that reduces the basic rate by one point and increases the reduced rate by 11 points overestimates the results of the reform. If we use the revenue figures published by the DGI and its tax expenditure estimates, the gross yield of the reform is more modest: 0.55 percent of GDP rather than 0.87 percent.

the reform is estimated at 0.75 percent of GDP, the transfer at 0.19 percent of GDP, and the net yield at 0.56 percent of GDP.⁴⁰

**Table 8: Fiscal and Distributional Impact of P VAT by Income Decile, Uruguay, 2018
(% of GDP)**

DECILE	CURRENT VAT 22%	21% P VAT	22% P VAT Red. 17%
01	0.33%	0.31%	0.32%
02	0.40%	0.40%	0.40%
03	0.44%	0.44%	0.44%
04	0.51%	0.58%	0.57%
05	0.50%	0.58%	0.57%
06	0.58%	0.67%	0.66%
07	0.61%	0.69%	0.68%
08	0.69%	0.79%	0.77%
09	0.75%	0.85%	0.84%
10	1.04%	1.16%	1.16%
Total	5.85%	6.48%	6.41%

Source: Authors' elaboration based on ENGIH 2016–2017 (INE, 2020a) and DGI (2020).

⁴⁰ In this case, if we use the revenue figures published by the DGI and its tax expenditure estimates, the gross yield of the reform would be 0.63 percent of GDP rather than 0.75 percent.

References

- Acosta, J. 2011. Tax-Benefit Incidence of Value Added Tax on Food and Medicine to fund Progressive Social Expenditure. Working Paper 194. Palma de Mallorca, Spain: Society for the Study of Economic Inequality (ECINEQ).
- AFIP (Administración Federal de Ingresos Públicos). 2008. Estimación del Incumplimiento en el IVA, año 2007. Buenos Aires: AFIP.
- Ainsworth, R. 2006. Digital Consumption Tax (D-CT). Law and Economics, Working Paper No. 06-26. Boston: Boston University School of Law.
- Arteta, G. 2006. Informe de Equidad Fiscal de Ecuador. In A. Barreix, J. Roca, and L. Villela (eds), *La Equidad Fiscal en los Países Andinos*. Washington, D.C.: IDB.
- Bachas, P., L. Gadenne, and A. Jensen. 2020. Informality, Consumption Taxes, and Redistribution. Working Paper 27429. Cambridge, MA: National Bureau of Economic Research.
- Barreix, A., M. Bès, and J. Roca. 2010. El IVA Personalizado. Aumentando la recaudación y compensando a los más pobres. Madrid: EuroSocial-Fiscalidad. Available at <https://incp.org.co/Site/publicaciones/info/archivos/EI-IVA-personalizado-06092018.pdf>.
- . 2012. Resolviendo la Trinidad Imposible de los Impuestos al Consumo. El IVA Personalizado. In *Reforma Fiscal en América Latina: ¿Qué fiscalidad para qué desarrollo?* Santiago de Chile: CEPAL and Fundación CIDOB Barcelona.
- Barreix, A. and J. Roca. 2007. Reforzando un pilar fiscal: el impuesto a la renta dual a la uruguaya. *Revista de la CEPAL*, 92. Available at <https://repositorio.cepal.org/handle/11362/11195>.
- BCRD (Banco Central de la República Dominicana). 2020. Encuesta Nacional de Gastos e Ingresos de los Hogares 2018. Principales resultados y síntesis metodológica. Santo Domingo: BCRD.
- Cabrera, M., N. Lustig, and H. Morán. 2020. Fiscal Policy, Inequality and the Ethnic Divide in Guatemala. Working Paper 20 of the Center for Inter-American Policy and Research and Department of Economics, Tulane University, and Inter-American Dialogue. New Orleans: Tulane University.
- Cantalops, J., M. Jorrat, and D. Scherman. 2007. Equidad Tributaria en Chile: Un Nuevo Modelo para Evaluar Alternativas de Reforma. Washington, D.C.: World Bank. Available at <https://coyunturapolitica.files.wordpress.com/2011/12/reforma-tributaria-chile-world-bank.pdf>.
- Caspersen, E. and G. Metcalf. 1994. Is a Value Added Tax Regressive? Annual versus Lifetime Incidence Measures. *National Tax Journal*, 47(4).

- Cecchini, S. and B. Atuesta. 2017. Programas de transferencias condicionadas en América Latina y el Caribe: Tendencias de cobertura e inversión. Serie Políticas Sociales 224 (LC/TS.2017/40). Santiago de Chile: CEPAL.
- Cossío Muñoz, F. 2006. Informe de Equidad Fiscal de Bolivia. In A. Barreix, J. Roca, and L. Villela (eds), *La Equidad Fiscal en los Países Andinos*. Washington, D.C.: IDB.
- DGI (Dirección General Impositiva). 2019a. Estimación de la Evasión en el Impuesto al Valor Agregado por el Método del Consumo, 2000–2016. Montevideo: DGI.
- . 2019b. Estimación del Gasto Tributario en Uruguay 2014–2017. Montevideo: DGI.
- . 2020. Boletín Estadístico, various years. Montevideo: DGI.
- Díaz de Sarralde, S. 2017. El Impuesto sobre el Valor Agregado: Recaudación, Eficiencia, Gastos Tributarios, e Ineficiencias en América Latina. Panama City: CIAT.
- Garriga, M., F. Crosta, G. Fernández, and F. Haimovich. 2007. Impacto distributivo del sistema fiscal de Honduras. Washington, D.C.: IDB.
- Gómez Sabaini, J. C. and D. Morán. 2016. La situación tributaria en América Latina: raíces y hechos estilizados. *Cuadernos de Economía*, 35(67): 1–37.
- Goñi, E., H. López, and L. Servén. 2008. Fiscal redistribution and income inequality in Latin America. Policy Research Working Paper 4487. Washington, D.C.: World Bank.
- Government of Uruguay. 1996. Texto ordenado, Título 10. Montevideo: IMPO.
- . 1997. Texto ordenado. Montevideo: IMPO.
- . 1998. Decreto Reglamentario del Impuesto al Valor Agregado. Decreto 220-98. Montevideo: IMPO.
- Harris, T., D. Phillips, R. Warwick, M. Goldman, J. Jellema, G. Inchauste, and K. Goraus. 2019. Redistribution via VAT and cash transfers: an assessment in six low- and middle-income countries. London: IFS.
- ICEFI (Instituto Centroamericano de Estudios Fiscales). 2009. Incidencia de los impuestos sobre la equidad en El Salvador, 2005. In A. Barreix, M. Bès, and J. Roca (eds), *Equidad Fiscal en Centroamérica, Panamá y República Dominicana*. Washington, D.C.: IDB.
- IDB (Inter-American Development Bank) and CIAT (Centro Interamericano de Administraciones Tributarias). 2019. La Presión Fiscal Equivalente en América Latina y el Caribe. Washington, D.C.: IDB.
- IDB Fiscal Equity Series:*
- Barreix, A., M. Bès, and J. Roca. 2009. *Equidad Fiscal en Centroamérica, Panamá y República Dominicana: Impacto Redistributivo de los Impuestos y Gastos Públicos*. Washington, D.C.: IDB.

- Barreix, A. and J. Roca. 2010. *La Equidad Fiscal en Brasil, Chile, Paraguay y Uruguay: Impacto Redistributivo de los Impuestos y Gastos Públicos*. Washington, D.C.: EuroSocial Fiscal-IDB.
- Barreix, A., J. Roca, and L. Villela. 2006. *La Equidad Fiscal en Los Países Andinos: Impacto Redistributivo de los Impuestos y Gastos Públicos*. Washington, D.C.: IDB.
- Gómez Sabaini, J. C. y D. Morán. 2020. Estrategias para abordar la evasión tributaria en América Latina y el Caribe: Avances en su medición y panorama de las medidas recientes para reducir su magnitud. Serie Macroeconomía del Desarrollo 215 (LC/TS.2020/125). Santiago de Chile: CEPAL.
- IMF (International Monetary Fund). 2011. *Revenue Mobilization in Developing Countries*. Washington, D.C.: IMF.
- . 2019. *Macroeconomic Developments and Prospects in Low-Income Developing Countries*. Washington, D.C.: IMF.
- INDEC (Instituto Nacional de Estadística y Censos). 2020. *Encuesta Nacional de Gastos de los Hogares 2017–2018: Manual de uso de la base de datos usuario*. Primera edición. Buenos Aires: INDEC.
- INE (Instituto Nacional de Estadística). 2020a. *Microdatos, formularios y diccionarios de variables de la Encuesta Nacional de Gastos e Ingresos de los Hogares 2016–2017*. Montevideo: INE. Available at www.ine.gub.uy.
- . 2020b. *Principales resultados de la Encuesta Nacional de Gastos e Ingresos de los Hogares 2016–2017*. Montevideo: INE.
- Jefatura de Gabinete de Ministros. 2019. *Informe del Jefe de Gabinete de Ministros a la Honorable Cámara de Diputados de la Nación*. Informe No. 118: 330-333. Buenos Aires: Jefatura de Gabinete de Ministros.
- Jenkins, G. P., H. P. Jenkins, and C. Y. Kuo. 2006. *Is the Value Added Tax Naturally Progressive?* Working Paper No. 1059. Kingston, Ontario: Economics Department, Queen's University.
- Keen, M. and S. Smith. 2007. *VAT Fraud and Evasion: What Do We Know and What Can Be Done?* Working Paper WP/07/31. Washington, D.C.: IMF.
- Lustig, N. and C. Pereira. 2016. *The Impact of the Tax System and Social Spending in Income Redistribution and Poverty Reduction in Latin America*. Madrid: Hacienda Pública Española.
- Martínez-Aguilar, S. 2019. *CEQ Master Workbook: Panama (2016)*. CEQ Data Center on Fiscal Redistribution, CEQ Institute, Tulane University and OECD.
- Morán, D. and A. Rojas. 2019. *Equivalent Fiscal Pressure in Latin America and the Caribbean*. Washington, D.C.: IDB. Available at <https://publications.iadb.org/en/equivalent-fiscal-pressure-latin-america-and-caribbean-analysis-stylized-facts-past-decade>.

- Naritomi, J. 2019. Consumers as Tax Auditors. *American Economic Review*, 109: 3031–72.
- OECD (Organisation for Economic Co-operation and Development). 2018. Consumption Tax Trends 2018: VAT/GST and Excise Rates, Trends and Policy Issues. Paris: OECD.
- . 2020. Consumption Tax Trends 2020: VAT/GST and Excise Rates, Trends and Policy Issues. Paris: OECD.
- OECD, ECLAC, IDB, and CIAT. 2020. Estadísticas tributarias en América Latina y el Caribe, 1990–2018. Paris: OECD.
- Petrei, H. 2009. Equidad Fiscal: El papel de Gasto Público Social en Nicaragua. In A. Barreix, M. Bès, and J. Roca (eds), *Equidad Fiscal en Centroamérica, Panamá y República Dominicana*. Washington, D.C.: IDB.
- Rasteletti, A. 2021. IVA personalizado: Experiencia de 5 países y su importancia estratégica para la política y la administración tributaria. Blog. Washington, D.C.: IDB.
- Slemrod, J. 2019. Comments on Bachas, Gadenne, and Jensen. Washington, D.C.: World Bank. Available at <https://www.bus.umich.edu/ConferenceFiles/Conference-on-the-Value-Added-of-ValueAdded-Taxes/files/SlemrodBachas%20et%20al%20slides%205-10-19.pdf>.
- Thomas, A. 2020. Reassessing the regressivity of the VAT. OECD Taxation Working Papers 49. Paris: OECD.
- Zapata, J. and N. Ariza. 2005. Informe de Equidad Fiscal de Colombia. In A. Barreix, J. Roca, and L. Villela (eds), *La Equidad Fiscal en los Países Andinos*. Washington, D.C.: IDB.