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Fiscal Federalism, Democracy and Trade Integration: The Case of the Brazilian VAT

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Starting in the 1970s, many countries began a process of decentralization with devolution of power to sub-national levels. Federal countries have followed this path (like Canada, for example), as well as have traditionally highly centralized countries like France or Spain. Some countries have transferred a large degree of autonomy to their "provinces" (Italy, UK); others have implemented federal systems (Belgium, Spain). Finally, some countries have "preferred" secession (Czechoslovakia, Yugoslavia, USSR). These evolutions are not only caused by linguistic, ethnic or religious specificities but also by economic inequalities between regions (Bolton & Rolland). Many European Union (EU) countries, paradoxically, have devolved power to the supranational level despite the autonomist pressures inside some of these Member States.

This decentralizing process goes "hand in hand" with two other global trends. The first is the globalization of democracy in Southern and Eastern Europe, in Latin America and in Asia. Demands for decentralization frequently follow the advent of political freedom. The second is trade and financial globalization, where traditional "big nation" arguments (notably, the availability of large protected home markets with potentially increasing returns for national firms) are devaluated (Alesina & Spolaore, 1997).

Seemingly, Brazil is following this same general trend: decentralization and reinforced democracy with the Constitution of 1988, and trade and financial openness mainly following the arrival of the Real Plan (1994). The fall of the military dictatorship in the mid-1980s was partly caused by strong pressures from "rich" Southern States, like São Paulo, in favor of larger fiscal and political autonomy. The implementation of Mercosur and the Real Plan the 1990s put Brazil on the rails of regional and world integration.

However, a more comprehensive analysis of Brazilian policies strongly nuances this simplistic interpretation of Brazilian conformity with a quasi-universal world evolution.

If the implementation of democracy reinforces a demand for federalism, mainly in the richest regions, it also gives a chance to more egalitarian policies in non-egalitarian countries, like Brazil. As found in many empirical studies (Hanson, Harrison, among others), openness can worsen inter-individual and inter-regional inequalities. The problem is the incompatibility of such redistribution effects with decentralization. Redistribution inside a country imposes explicit or implicit inter-regional transfers from richer to poorer provinces, which are then usually imputed at the national level. In Brazil, the financial crisis of sub-national levels in 1990s contributed to legitimize a partial recentralization process (see Brami Celentano & Siroen, 2007 for more details).

In this paper devoted to Brazil, we will develop a number of comparisons with the EU. Is fiscal federalism an obstacle to national integration? What is its contribution to inter-regional inequalities? Is there fiscal competition between Brazilian States and Municipalities as exists at these levels in European countries? We will specifically analyze the role of the value-added tax (VAT) in Europe and in Brazil. The VAT is frequently described as a tax with few distortions. However, its non-cumulative characteristic does not mean an absence of distortions in trade between areas having different systems, what is exactly the case in Brazil, as it is for the EU. In Brazil, a large part of the VAT (imposto sobre a circulação de mercadorias – ICMS) is collected at the sub-national State level. It plays a central role at the fiscal level, affecting local resources, inter-regional inequalities, barriers to internal trade and distortions to international trade. The ICMS was at the core of a "fiscal war" between Brazilian States and it might still exert some influence on Brazil's insertion in the world economy.

EU/Brazil Tax Policies

To compare EU and Brazilian tax policies might seem amazing because the EU is not a fiscal federation, whereas Brazil is. Many elements of fiscal and tax policies are also different. For example:

- EU budget expenditures are restricted to the very low 1.24% of the Union's Gross National Income (GNI). In Brazil, Federal expenditures are increasing and today represent 17.25% of the Brazilian GDP (2006, Tesouro Nacional).
- The Union budget is not allowed to be in deficit, whereas for the Brazilian central government, it may be unbalanced.
- Three quarters of the EU budget are co-managed ("shared management") by Member States and the Union. In Brazil, transfers to States and Municipalities represent only 17% of Treasury receipts.

- Despite the Brazilian Constitution of 1988 which reinforced the fiscal power of States and Municipalities relative to the Federal level, the Real Plan (1994) and the Fiscal Responsibility Law (2000) unambiguously give the ultimate power to the central level. In the EU, all fiscal directives (European "laws") require unanimous decisions. For the current 15 Member States in the Euro area, fiscal policy is constrained (the public deficit and debt are respectively limited to 3% and 60% of the national GDP).
- In Brazil, direct taxes (mainly income and corporate revenue taxes) are collected at the Federal level. For these kinds of taxes in the EU, only Member States are competent.

Even if with these distinctions it appears inappropriate to compare what might not normally be comparable, there is at least one area where analogies and differences can pertinently be analyzed: the VAT.

Economists and fiscal federalism theory usually consider that a VAT should be a federal tax. Problems with sub-national VAT are normally related to inter-state (cross-border) trade issues. Autonomy means different tax rates and different tax bases between States, that can lead to fiscal wars between them (for example, tax-exempt people/entities will buy where the tax is lower, driving all states to reduce their tax rates and/or their bases). Moreover, a sub-local VAT implies controlling inter-state trade, which raises trade transaction costs and affects the national integration of markets. The main advantage of a VAT is the large amounts this tax can yield, with corresponding important economies of scale (for example, collection costs are not five times higher when the VAT rate goes up from 5% to 25%[1]). Theoretically therefore, a sub-national VAT should primarily concern highly decentralized federal countries where the sub-levels have large prerogatives to influence receipts as well as the locus of expenses (Oates, 1972, 1999). However, few countries collect VAT at the sub-national level; Brazil and Canada can be considered as exceptions. In Brazil, two kinds of VAT are in force: the first, IPI[2] is collected at the federal level and partly reversed to sub-national levels. The second, ICMS[3], is collected at the State level. A portion (25%) is reversed to municipalities. The high level of fiscal decentralization in the EU also explains why VAT is collected by Member States. Only a small and declining part is reversed to the Community (supranational) level (51% of EU resources in 1996, 15% in 2007[4]). However, if the EU is not a fiscal federation, VAT

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[1] See Bird, 2000, for a rehabilitation of VAT as sub-national tax.

[2] Imposto sobre Produtos Industrializados (Tax on industrialized products)

[3] Imposto sobre Circulacao de mercadorias e prestacao de services interestadual e interminicipal de transporte e de comunicação (Tax On circulation of goods and transportation and communication services)

[4] *The European Union at a glance*, European Union, 2007.

are only partially harmonized in Europe despite the unanimity rule: minimum rates (respectively 15% and 5% for the standard and reduced rates) and common bases (with some derogations) apply. However, rates are strongly different between countries: from 15% in Luxembourg to 25% in Denmark, which appears rather like a "race-to-the-top", rather than a "race–to-the bottom", contrary to the expected results in "fiscal war" situations. The reason is probably that, with EU market integration (the Single Market of 1993), other fiscal bases are more mobile than goods and services are. Increasing VAT rates might be considered as a compensation for decreasing highly varying corporate revenue taxes, which is exactly what the Merkel government did in Germany. However, if rates tend to increase, the VAT′ share in total taxation is stagnant, which mitigates the compensation hypothesis (see Graph 1).

VAT and Inter-State Trade

If Brazil and the EU both "decentralize" the collection of their ICMS and VAT for goods and services moving between States (Member States for the EU), fiscal regimes are quite different in Brazil and in the EU.

There are actually two main methods of determining a VAT with dramatically different economic consequences.

Under the rule of origin, sales (exports) to other States (countries are taxed and purchases (imports) are not. Under the destination rule, the reverse occurs. Economists usually consider that if rates and bases are different between States (countries, the origin rule is distortive. It gives a competitive advantage to the countries with low rates and this may lead to fiscal wars. In contrast, the destination rule is more neutral and compatible with varying VAT regimes.

A. The European Destination Rule

The realization of the Single Market in 1993 laid the foundations for the abolition of all controls inside EU borders. With the destination rule applied in the EU, VAT is effectively charged at the rate applicable where the buyer is established. Sales to other EU countries are exonerated and VAT is collected by the buyer's country. The issue with this system is that it requires border controls, especially for consumers involved in cross-border shopping where tax revenues cannot be recovered in the next stage of the production process. In response, the Commission proposed moving from the destination system to an "origin based system". This would have effectively abolished fiscal frontiers within the EU. However, if this system was to be non-distortive, Members States would have had to harmonize their VAT rates and tax bases, and agree on a system of compensation between countries. This proposition was eventually not accepted by Member States, reluctant as they were to standardize VAT coverage and rates. Today, there is a "standard" rate of between 15% and 25%, and Member States may also apply one or two "reduced" rates in certain cases, the lowest common threshold being 5%. There are a number of so-called "temporary" derogations (for example, zero rates in certain categories in the United Kingdom and Ireland). VAT coverage still differs from one Member State to another. Overall, the EU Community has instituted a destination rule without frontier controls, accepting an origin-based VAT system only for sales to private persons who can buy anywhere in the Union and take the goods home without having to pay VAT again in their home country.

B. The Brazilian Origin Rule

In the Brazilian system, VAT is imposed by the provider's State (origin rule) which then collects the revenues. The standard intra-trade rate is roughly 17-18% (with a great diversity of rates inside individual States). The inter-state rate is 12 %, with a reduced rate of 7% for the poorest States. When a registered taxpayer purchases goods from other States, he is allowed to deduct the tax collected by the State of origin as a credit against his ICMS liabilities in the State of residence. For example, a firm from Parana buying investment goods from São Paulo and paying this State 1000 Reais, will deduct this amount (rated at 12%) from the imposed ICMS for sales in Parana (rated at the internal rate of 17%)[5]. This system gives an important advantage to States having a "surplus" compared to other States: they collect the ICMS, which in turn is deducted in the net purchaser State. However, if the "imported" good is not used in further operations, the purchaser has to pay his State the difference between the internal tax rate and the inter-state tax rate (in this example, 5% if the internal rate is 17% and the inter-state rate is 12%). The reduced rate for the poorest States (7%) gives 10% to the destination State. The difference between internal and external rates allows a sharing of tax receipts between seller and buyer States. However, this rule does not prevent a strong inequality between the States (see below). Rich producer States, like São Paulo, benefit from large fiscal revenues that the poorest ones cannot enjoy.

The main distortive effect is to incite local governments to reduce tax rates or exonerate national or international firms to attract them to their State. Even if the ICMS structure and rates are framed at the Federal level, States have a free hand to grant fiscal exonerations or advantages, frequently as disguised restitutions of the ICMS in the form of low (sometimes zero) rated long-term loans (Mora & Varsano, 2001). At the same time, the ICMS remains deductible in the destination State even though it has not effectively been collected in the State of origin. These loopholes or "opportunities" lead to an intensive fiscal war between States which culminated in the 1990s.

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[5] Unlike European VAT, the rate is applied to the tax-included amount; a rate of 17% in Brazil is equivalent to a rate of 20, 5% in the E.U.

The perspective of attracting direct investments increases the temptation to fiscal wars. Foreign firms actually represent 36% of tax revenues, essentially on goods and services[6].

Nevertheless, the situation is very heterogeneous. In the poorer States, the ICMS represents a very weak share of revenues, which implies proportionally larger contributions of Federal transfers. São Paulo benefits from the largest share of the ICMS in total fiscal receipts (Graph 2).

An origin rule with different rates is also exposed to increased fraud. To reduce their ICMS, operators under-declare the value of sales to pay less and over-declare the value of purchases to deduct more. Therefore, the system implies controls to inter-state trade, which is one reason to "federalize" this kind of tax.

VAT and International Trade

For international (extra-EU) transactions, the EU and Brazil apply the destination rule, which neutralizes competitiveness distortions caused by different tax rates between partners.

A. The EU Destination Rule on Imports and Exports

No VAT is charged on transactions with non-member countries and the VAT already paid on inputs to exported good is deducted. This exemption, with the right to deduct the VAT on inputs, is called 'zero-rating' and means there is no residual VAT charged in the export price. Symmetrically, VAT must be paid when goods are imported and these are therefore on the same footing as equivalent goods produced in the Community. Taxable entities will deduct this VAT in their ensuing VAT return.

B. The Brazilian Destination Rule on Imports and Exports

Similarly to the EU, all exports are exonerated and imports taxed. If the origin rule applies on internal trade in Brazil, it is the destination rule that applies to foreign trade. Exporters benefit from an exemption to the right to deduct the ICMS on the inputs, similar to the EU. Thus, the Complementary Law n°87 of 1996, the so-called "Kandir Law", widens the exoneration of ICMS to primary and semi-manufactured goods like soya, orange juice, ores and steel-making products that represent about a third of Brazilian exports. The "Kandir Law" also authorizes the deduction of ICMS on inputs to export goods (Article 32). However, resulting credit balances are not automatically refunded.

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[6] ICMS and IPI; in 2000. From the *Censo of capitais estrangeiros*, Banco central do Brasil and IPEADATA

These measures bring the Brazilian system closer to the European one. They favor competitiveness, but reduce the receipts of exporting States that do not have any other fiscal instruments to balance the loss. These exonerations caused a loss of 3 Billion dollars for the States involved; the small exporters States (Pará, Amapá, Espírito Santo) lost between 22% and 35% of their ICMS receipts (Melo, 1998, p. 22). The negative impact on the larger States was important, but was compensated by the growth of ICMS receipts on public utility services (communications, electric power). The pressure on Governors resulted in the setting up of a compensation mechanism. The Fund of Compensation of Manufactured Exports (FPEX) was created in 1989 to compensate the losses sustained by the federative units caused by exoneration measures imposed by the Union. This fund, supplied by transfer of 10% of IPI (the federal VAT), is affected to States in proportion to the value of their exports of manufactured articles. However, no State can receive more than 20% of the amounts. In fact, this ceiling only affects São Paulo, where about one third of Brazilian exports are concentrated. For the other States, the rule of proportionality is roughly respected (see Brami Celentano & Siroen, 2007) with an unfavorable difference for a few large exporter States (São Paulo, Rio, Bahia, Espirito Santo), but a favorable balance to the others (Minas Gerais, Rio Grande do Sul, Parana, Matto Grosso do Sul).

The origin rule for interstate trade coupled with the exoneration for exports can distort the tax policies of States toward incitation to produce for home markets, which preserves ICMS revenues, against an export strategy implying a loss of revenue. States wishing to increase ICMS revenues must then encourage sales toward other Brazilian States and, a fortiori, inside the State. Symmetrically, States benefit by encouraging imports on which the ICMS can immediately be collected, rather than purchases to other States where it is not. Some States can encourage fiscal incentives to attract importing firms, which amounts to sharing ICMS revenues, which in turn contributes to fiscal war between States.

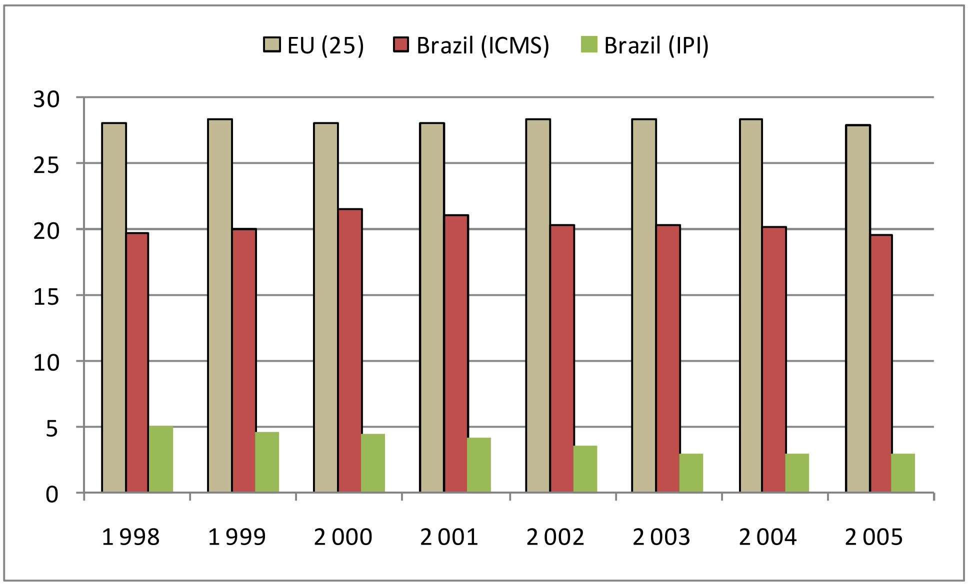
Further Empirical Analysis Concerning Brazil

The following statistics and correlations analyze a number of the quantitative consequences of the Brazilian VAT system.

A. Descriptive Statistics Concerning the ICMS

In the EU, the share of VAT in total European receipts is stagnant (Graph 1). This is also the case for the VAT (ICMS) in Brazilian States. However, the federal VAT (IPI) in Brazil is strongly declining. Finally, the overall share of VAT is slightly larger in the EU.

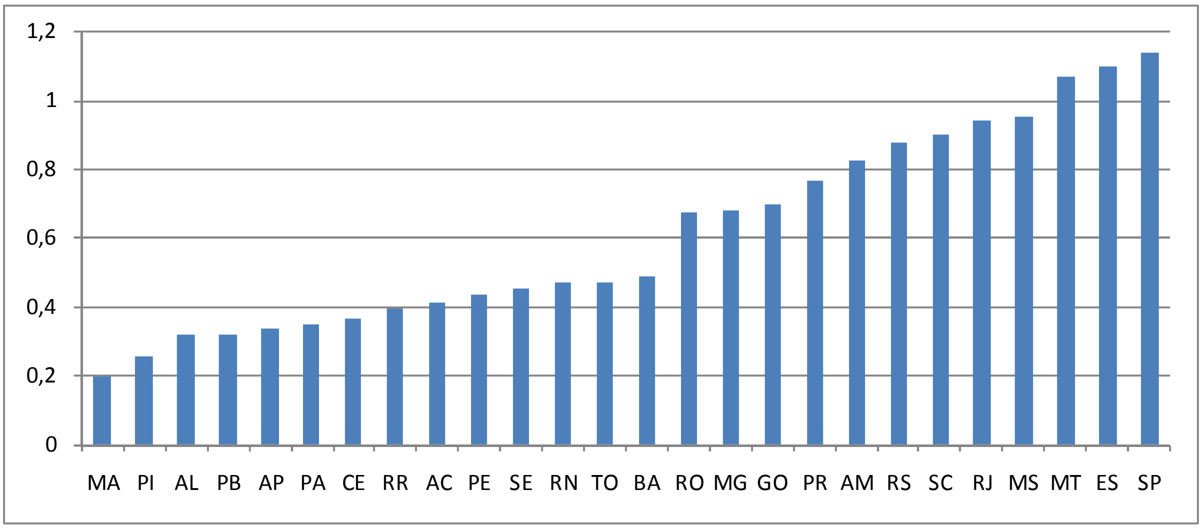
Graph 1 : VAT and ICMS, Percentages of Total Tax Receipts



Source : Eurostat and Tesouro Nacional, Resultado do Governo General.

Graph 2 shows huge inter-state inequalities in the collection of the ICMS: from 196 R$ for Maranhão, to 1135 R$ for São Paulo.

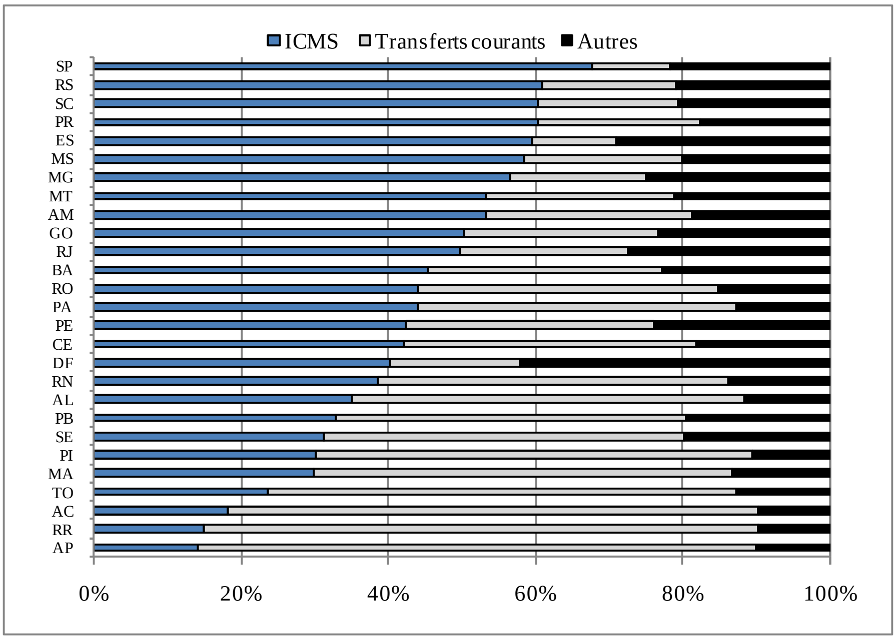
Graph 2 – ICMS per Inhabitant in 2004 (1000 R$)



Source : IPEADATA

Corollary: the structure of fiscal receipts is hugely heterogeneous between States. The ICMS represents between 14% (Amapa) and 68% (São Paulo) of revenues (Graph 3).

Graph 3 – Structure of State Receipts in 2005



Source : Ministerio da Fazenda, Secretari do Tesouro Nacional, COREM

B. Few Correlations about the ICMS

First, we test the determinants of State ICMSs in the total ICMS collected in 2004. All regressions exclude the District Federal. This share is adjusted by size (GDP or population). The first column of Table 1 confirms that larger and richer States have a higher share in ICMS than they do in GDP. We do not expect any influence of a State's exports due to their exoneration. Conversely, imports should have a positive effect. We introduce GDP per capita to quantify the influence of a State's wealth. Taking account these descriptive statistics, we expect a positive effect: rich States collect a greater share of the ICMS. Table 1 (Columns 2 and 3) shows that shares are obviously positively influenced by size whatever the indicator. As expected, the influence of exports is not significant and import share is a significant and positive determinant of ICMS revenues. The level of development (GDP per capita) is negative when the size is controlled by GDP, but positive (not significantly) when we replace GDP by population. The reason is that GDP already takes into account the level of development. In this latter estimation, the positive influence of imports dramatically increases. However, when we test ICMS per capita (Column 4), only GDP per capita influences the ICMS, with a quasi-linearity.

Table 1 – The Determinants of States' Shares in the ICMS Revenues

	ICMS's share	ICMS's share	ICMS's share	ICMS per capita
GDP's share (%)	1.028 (22.77)**	0.761 (7.73)**		
GDP per capita		-0.147 (2.32)*	0.074 (0.66)	0.092 (4,28)**
Exports' share (%)		0.115 (1.36)	0.161 (1.09)	
Imports' share (%)		0.142 (2.90)**	0.354 (4.42)**	
Population's share (%)			0.548 (4.48)**	
Exports per capita				0.000
				(1.05)
Imports per capita				0.000
				(-0.21)
Constant	-0.083 (0.71)	0.684 (2.71)*	-0.657 (1.35)	0.096 (1.68)
Observations	26	26	26	26
R-squared	0.99	1.00	0.99	0.81
Robust t statistics in parentheses * significant at 5%; ** significant at 1%				

Source : IPEADATA (ICMS, population, GDP per capita), SECEX (exports and imports in 1000 US$)

If the ICMS tends to increase inequalities in tax revenue between Brazilian States, it is interesting to verify if there is convergence or not. In Table 2, we regress the initial share in 1993 (just before the Real Plan) with the annual growth rate of ICMS revenues between 1993 and 2004 (β-convergence) and with the share in 2004. These two regressions show a convergence: the share of the larger collectors in 1993 have, on average, a lower ICMS revenue growth rate (negative sign and positive constant, Column 1) and, therefore, a decreasing share (coefficient < 1 and positive constant, Column 2).

Table 2 – The Convergence Trend

	Annual growth rate of ICMS revenues (%) (1993-2004)	States' ICMS share in 2004
States' ICMS share in 1993 (%)	-0.003 (2.98)**	0.847 (54.13)**
Constant	0.633 (83.68)**	0.554 (6.23)**
Observations	26	26
R-squared	0.29	0.99
Robust t statistics in parentheses		
* significant at 5%; ** significant at 1%		

Source : IPEADATA

Conclusion

Although the VAT appears to be a tax suited to internationalization thanks to its neutrality, its non-cumulative character and its relatively weak base mobility (especially for a relatively isolated country like Brazil), in this case IPI's share regressed when ICMS's is stagnant, even in a context of general increases in fiscal and social taxes.

The collection of the ICMS by States, rather than by the Union, adds a multitude of problems besides. The first is that the tax base is more mobile between States than between countries, which encourages fiscal wars between States that are not fiscally harmonized. This inequality is increased by the rule of origin, which taxes products in seller States and imposes deductibility for tax-payers in the purchaser States.

The choice of a local tax system focalized on a VAT system like the ICMS has also resulted in a fiscal recentralization with multiple kinds of interventions. First, the Federal level has imposed some rules to contain inter-state fiscal wars, even though these are often insufficient. Second, because the ICMS increases with consumption and the average level of development, high inter-state inequalities in income leads to high inter-state inequalities in fiscal resources. Taking account that VAT is also a "regressive" tax (poor people pay relatively more tax than rich people because they relatively consume more), the Federal level has had to compensate a lack of fiscal resources in the less developed States with Federal transfers, in contradiction with the orthodox principles of fiscal federalism theory that advocate a correspondence between local expenses and local receipts. Finally, and paradoxically, the exoneration of exports leads the Federal level to compensate exporting States that frequently are the richer ones. This exemplifies the limits of current Brazilian fiscal federalism.

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