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Indirect taxation reform in Brazil: a necessary complement to trade opening

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1. Introduction

The indirect tax reform in Brazil can have a positive effect on foreign trade and support trade liberalization. This outcome does not directly arise from the expected theoretical results of a value added tax (VAT). In theory, the VAT effects are neutral for foreign trade. The theory concedes, however, that faulty VATs that do not assure exemptions from exports, and that overly tax tradeable sectors, due to exemptions to non-marketable sectors, can cause negative effects on foreign trade.[1, 2]

[*] The original version was published in Breves Cindes nº 100.

[1] Feldstein, Martin; Krugman, Paul. Trade effects of value-added taxation. NBER Working Paper #3163 November 1989; Clyde, Gary Hufbauer; Zhiyao (Lucy) Read. Border tax adjustments: assessing risks and rewards.PIIE Policy Brief, January 2017.

[2] For empirical evidence, see Mihir A. Desai; James Hines, Jr. Value- added taxes and international trade: the evidence, NBER, Jan. 2005. The explanation is given by the production shift effect: "Countries find themselves most able to tax the trade-related sectors of their economies, and typically impose VAT rates at higher effective rates on traded sectors than on non traded sectors. As a result, countries that rely on VATs effectively tax traded sectors at higher relative rates than do economies that do not rely on VATs and have smaller import and export sectors as a result. In addition, most countries collect VATs promptly on imports, but fail to provide VAT export rebates in a timely and complete fashion. Consequently, VATs in practice have some of the same features as tariffs on imported goods, which reduce imports and therefore also reduce exports".

[3] The positive effect on foreign trade and growth were central arguments in the introduction of VAT in France. Jobim, Eduardo. Tributação sobre o consumo na experiência europeia e a tributação das exportações no Brasil: o tratamento dado ao ICMS e ao IPI. Biblioteca Digital, Revista Fórum de Direito Tributário (online), 2019.

The VAT reform positive influence on foreign trade arise from the magnitude of Brazil's indirect tax system inefficiencies.[3] A case that is embraced in the special settings mentioned by Feldstein and Krugman (1989). This effect will be proportional to the distance decrease between the current indirect taxes and a VAT that is close to the ideal, that is, that has a broad base and includes services, comprehensive credit, swift credits reimbursement, reduced number of rates, non-tax burdens on capital goods and taxation at destination.

The indirect taxation system malaise in Brazil is well known.[4] A reform that removes its main problems can promote a positive shock in the Brazilian foreign trade. Positive, and once and for all, effects may arise due to the tax burden removal on exports and investments, legal uncertainty and litigation reduction, and asymmetries trimming in the competition terms with imported products, which are not subjected to the same distortions as in Brazil.

Facing these dysfunctions will increase the Brazilian economy efficiency and productivity and its ability to join the global economy by removing distortions in resource allocation linked to organization of production choices, bias on territorial decisions and sectoral preferences that affect the tradeable sectors' performance.
The indirect tax reform in Brazil has great impact in the trade liberalization setting. It increases the potential for companies' responsiveness, both by exports and investments.

[4] Varsano, Ricardo. *Tributação do valor adicionado, ICMS e as reformas necessárias para conformá-lo às melhores práticas internacionais*. BID, 2014; Appy, Bernard et al. *Reforma do modelo brasileiro de tributação de bens e serviços*. CCIF, julho de 2019; Afonso, José Roberto. Ciclo de Debates ITV: *Desafios do Congresso da Reforma Tributária*, 2017; CNI – Confederação Nacional da Indústria. *Modernização da tributação indireta para garantir a competitividade do Brasil*. 2018.

2. Reviewing concepts: VAT and foreign trade

2.1. Overcoming the persistent cumulativity problem

The VAT genesis is tied to the solution of a chronic tax problem of taxes on sales: cumulation. Cumulation is taxation without deduction of the amount paid in the previous step; it creates the effect of a "tax on tax" when applied to inputs of the production process chain and its final product. This feature increases taxation as taxation increases with the number of production stages; it taxes exports and investments and induces vertical integration to reduce the payment of taxes.[5]

Not by chance, one of the first value added tax advocates, still in the 1920s, was the German entrepreneur Von Siemens. Taxes on revenues, then prevailing, reduced competitiveness and international economic integration.[6]

Many countries then began to mobilize instruments and procedures to overcome cumulative taxes dysfunctions and to seek new revenue sources. Those solutions were inefficient due to costs, distortions and complexity.[7] France's experience with VAT implementation solved many of these problems and was a source of stimulus for its rapid dissemination, from the end of the first half of the twentieth century.

A perfect VAT is comparable to a sales tax at the final stage of consumption. The difference is that sales tax is paid by the final consumer while VAT taxation is applied at various stages of production, with taxes levied on inputs deducted from product taxation, which guarantees, respecting the unrestricted credits use and the absence of conditionalities, the equivalence of VAT to a consumption tax. A perfect VAT does not tax intermediate goods or capital goods,[8] which are recognized as inputs to production; treats imports in the same way as domestic production and does not tax exports. Due to the taxes paid deductibility, the value chain taxation is independent of the number of production stages.

2.2. VAT as a trade integration "tax software"

VAT it is a tax that does not differentiate locally produced from imported goods. These goods are taxed at the same rate. It is different from an import tariff, as it does not affect purchasing decisions due to changes in relative prices between domestic and imported goods. It is not a trade policy instrument such as tariffs are. In exports, due to tax at destination, there is no VAT incidence. This avoids consumption double taxation. It is a border adjustment tax; it does not tax exports and taxes imports. An application sheltered from WTO resolutions.

Due to its characteristics, it has become a kind of an international integration "tax software". The European integration was a great inducement to its diffusion. In fact, the Financial Commission of the European Community, as early as 1962, through the sixth Directive, recommended that all its members adapted their tax systems for VAT.[9]

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[5] Alan A. Tait. Value added tax, international practice and problems. IMF, 1988.
[6] Liam Ebrill et al. The modern VAT. IMF, 2001.
[7] Examples of complexity: the use of methods to subtract inputs, numerous differentiated rates, differentiated use of consumption taxation for domestic protection, exemption for capital goods and raw materials. See The modern VAT, IMF, op. cit.

[8] As VAT is a consumption tax, it does not have a tax on savings/investment and does not generate distortions on capital formation and growth. Capital goods are treated as "long-lived" inputs and subject to special rules, such as depreciation, to credit expenses incurred.
[9] For an analysis of this process, refer to Jobim, Eduardo, 2019.A Tributação sobre o consumo na experiência europeia e a tributação das exportações no Brasil: o tratamento dado ao ICMS e ao IPI. Biblioteca Digital, Revista Fórum de Direito Tributário (online).

VAT has features that facilitate integration processes:

- Removes a source of loss of competitiveness – cumulative taxation – and creates level playing field in competition with countries that do not have these tax anomalies. The isonomy conditions are due by three means: (i) the non-taxation of exports; (ii) a level playing field on competition with imported products that were not hampered, at their production phase, by cascading taxes; and (iii) the tax elimination on investment, which reduces the cost of capital and help the economy structural adjustment.
- Reduces the potential for conflicts with the WTO. Deductions from indirect VAT taxation are not deemed as subsidies. VAT shows itself as a superior solution relative to other means used to neutralize cumulative taxes, such as rebates to the exporter, which are always subject to controversy on methodologies used for the estimates. It is almost impossible to meet each production segment distinctions, which leads to rebates that overestimate or underestimate the value necessary to neutralize the cumulation.
- It taxes imports and crafts isonomic treatment for domestic producers and foreign producers, respecting art III, GATT non-discriminatory treatment clause.
- Removes incentives for unfair tax competition between countries. The border adjustment in VAT does not create production transfer incentives and/or decisions involving profits allocation induced by differences in income tax rates between countries, as it happens with Income tax.

[10] Some countries seek to neutralize the presence of tax residues that result from the imperfect application of VAT by offering tax rebates to the exporter based on estimates of this waste. Brazil adopted, for a period, the Reintegra. China made use of this instrument, applying it in a discretionary manner according to trade, industrial, fiscal and economic reactivation policy objectives. Piyush Chandra e Cheryl Long.2013.VAT rebates and export performance: firm-level evidence. Journal of Public Economics, v. 102, 2013, estimate that for each percentage point of increase in rebate, exports grew 13%. In 1988, rebates corresponded to 0.88% of tax revenue, in 2007, to 12.35%. Julien Gordon, Stephanie Monjon and Sandra Poncet. Incomplete VAT rebates to exporters: how do they affect China´s export performance, 2017, estimates that for each percentage point of increase an increase of 7% in exported quantities.

- It increases the economy overall efficiency and its ability to compete, by eliminating/reducing measures that distort companies' size and sectoral and geographical resources allocation.
- Creates neutrality in the way firms organize their production; promotes specialization and efficiency by not inducing verticalization, a process encouraged by taxes on revenues.

3. Transition from imperfect VAT to an ideal VAT: the exceptionality of Brazil

A VAT analysis of more than 170 countries shows that the optimal VAT operation is not present in all of them.[11] The closest "hard core" to the ideal model are the OECD and European Union countries. A VAT new generation is also present in some countries outside this group, such as South Africa and the Gulf Countries.[12]

Few countries have gone back on VAT. The few cases noted are from small countries, usually islands like Malta, which introduced once, repelled and reintroduced it. In other countries, the dominant challenge has been overcoming dysfunctions and approaching the highest standards.

The remaining large countries with special faulty VATs were Brazil, India, and China. On this group, Brazil has been the only one that has not evolved towards a broad and undistorted VAT. China and India went through a long process to complete the distortions elimination, stressing the inclusion of taxation on services and the burdens exemption on exports and investments.[13]

[11] The modern VAT, IMF, op cit.
[12] The modern VAT, IMF, op cit.
[13] Varsano, Ricardo. IVA e tributação na Federação, BID, CAE/Senado Federal, 27/11/2013.

China began trialing with VAT in 1979, but only in 1994 it made a comprehensive movement despite maintaining several deficiencies as on exports (rebates as a source of sectoral stimulus/discouragement), services exclusion and taxation on capital goods. It should be noted that China has made intense use of special export zones that contributed to the neutrality of distortions in the most trade-intensive sectors. The reform had new steps and, in 1999, capital goods were credited and, in 2012-2016, services were included.

India included services in the VAT tax base since 1994, but had a tax system with several distortions, as mentioned, and internal taxes that made it difficult to create a free market in India.

The last frontier is Brazil. Having launched the VAT in1967, one of its pioneer's, it is perhaps the country with the longest inconclusive process of removing distortions and creating a national VAT.

The VAT attempts towards an ideal model pursue some basic elements: a broad basis that includes services, comprehensive credit, swift credit reimbursement, small number of rates, non-burden on capital goods and taxation at destination. The Brazil's indirect taxation appraisal shows a great gap in the direction of these attributes.

4. The brazilian VAT: incomplete and imperfect

The indirect taxation complexity in Brazil is a consensus highlighted by comparative studies, researches and reports from international experts and global company operators. The complexity goes along with distortions that reduce the economy growth potential: a still high share of taxes on revenues anchored on a federal VAT and state VATs with flaws that lead to exports and investments taxation.[14]

Chart 1 presents the indirect taxes dysfunctions and tax assessment regimes.

Chart 1
The indirect taxation distortions in Brazil

INDIRECT TAX/TAX ASSESMENT REGIMES	FEATURES AND DISTORTIONS
INDIRECT TAXES	
PIS AND COFINS	Federal taxes. There are two procedures: cumulative and non-cumulative, the latter with higher rate. It is, in theory, a border adjustment tax as it taxes imports and exempt exports. There are, however, several restrictions for the credit's settlement.
IPI	Federal tax. A tax on industrialized products. A border adjustment tax as taxes imports and exempts exports. There are, however, several restrictions for the credit's settlement.
ICMS	State tax. Rates vary in states and according to the transaction between states. The modal rate is 17%. A border adjustment tax, as taxes imports and exempts exports. There are, however, several restraints for the reimbursement of credits. A relevant constraint is the 48 months' time for investment credit appropriation.
ISS	Municipal tax. Includes services that are not in the public utilities' category, taxed by ICMS. Results in cumulation, without compensation.

[14] See Varsano, Op cit, 2014, Doing Business 2019, World Bank.

TAX ASSESMENT REGIMES	
SIMPLES	Unifies, in a single tax on revenues, federal, state, and municipal taxes (IR, CSLL, PIS / Cofins, IPI, ICMS, ISS and the employer's contribution to security) for companies with sales below R$ 4,800,000.00. It has variable rates. Results in cumulation, without compensation.
PRESUMED PROFIT (Deemed taxable income)	It is a federal taxation option (IR, CSLL, PIS/Cofins) for companies with revenues less than R$ 78 million. Profit is assumed according to the company type of activity. For the PIS/Cofins, the collection is made each month on the company's revenues (0.65% for The PIS and 3% for the Cofins). In a portion of these indirect taxes, cumulation is generated, without reimbursement.
TAX SUBSTITUTION	It is a collection mechanism used in ICMS. The "tax substitute" is responsible for collecting the tax from the value chain. The indiscriminate use has created new distortions (financial cost, arbitrary margins, reduced competition, cumulation for replaced companies) [15]

Source: Own elaboration.

In all these taxes and tax assessment regimes, there are common elements: restrictions and/or credit reimbursements privation. Empirical studies show the economic effects for competitiveness:

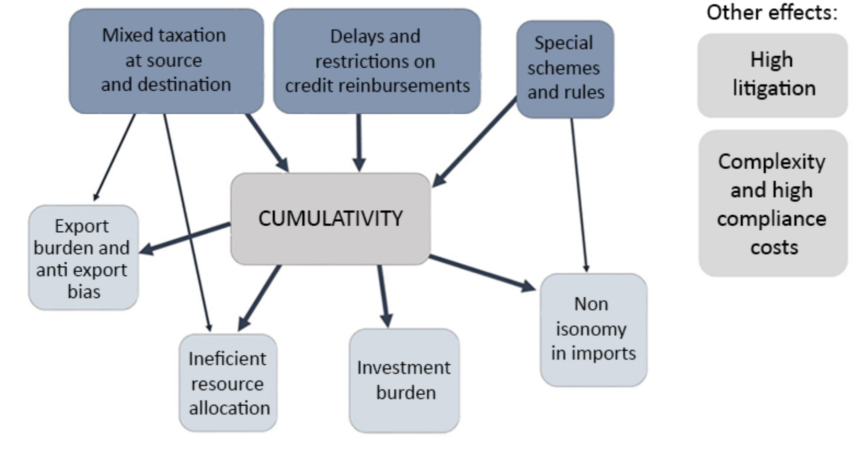
- The estimated cumulation in the exports of the manufacturing sector, measured for the PIS/Cofins and ISS, is 2.75% on net revenues.[16]
- The tax cost of investment in Brazil, already deducted of tax incentives, is about 6% and, with the inclusion of financial costs, it approaches 11%. In a comparative exercise for an industrial plant with the same technical specifications, Ernst & Young, in a study prepared for CNI, identified values of 1.7% for Australia, 1.6% for Mexico and 0.4% for the United Kingdom.[17, 18]

[15] The study *A substituição tributária no Brasil*, CNI-PwC, 2017, systematizes the tax substitution distortions in the various states of the federation.
[16] Afonso, José Roberto et al. Exportação: a retomada do crescimento econômico. Resumo Executivo, July, 2017.
[17] CNI - Confederação Nacional da Indústria. O Custo Tributário do Investimento: as desvantagens do Brasil e as ações para mudar. 2014.
[18] Estimates of the presence of cumulative taxes on the value of investments were 8% when VAT was introduced in the Federal Republic of Germany. IMF, 1998, op. cit.

Graph 1 summarizes the various indirect tax distortions in Brazil. The problems result from the tax type (persistent taxes on revenues), from current VAT failures (reimbursement of imperfect credits) as well as from taxation mechanisms, such as tax substitution.

Graph 1
A summary of indirect tax problems in Brazil

The analysis of these distortions allows the understanding of how these problems create growth obstacles.



Source: Own elaboration.

4.1. Incomplete VAT: taxes on revenues preservation and services exclusion

The indirect tax reform in Brazil cannot only tackle the VAT operations improvement. The challenge is to build a comprehensive VAT that allows the removal of taxes on revenues. There are many issues to be handled: from the PIS/Cofins and ICMS cumulative taxation to the ISS tax inclusion on a broad VAT.

The ISS inclusion on VAT reform is essential for the foreign trade agenda. Companies do not receive credit for expenses on ISS services taxed. These expenses are increasingly important for industrial and non-industrial companies and there is a growing trend towards the economy "servicification".

Deprived of ISS credits, companies export taxes and have their investment costs increased. It is more and more common companies incurring in expenses for providing services related to installation, maintenance, and training. This reinforces the need to turn this issue part of a comprehensive tax reform.

According to OECD studies, about 35% of the value added in Brazilian manufactured exports is linked to services. The 2015 Annual Industrial Survey (PIA/IBGE) shows that services subject to ISS incidence represent about 7% of total expenses of an industrial company.[19]

Service cumulation problems can limit moves toward outsourcing and business specialization, despite increased legal certainty stemming from recent changes in labor legislation.

[19] CNI – Confederação Nacional da Indústria. 2018, op. cit.

Problems in the taxation of services extend beyond the lack of inclusion in the VAT base

VAT problems linked to services taxation also extend to imports and exports tax treatment of services.

On services imports taxation, the problems result from a series of distortions in the calculating taxation methods in which the weight of taxation on income stands out. There are also issues associated with Pis/Cofins indirect taxation.[20]

The main distortions identified in this study concern: i) taxes inclusion in the calculation base of another tax; (ii) the non-application of double taxation provisions; iii) the non-granting of exemption from IOF-Câmbio for payment of imported services, as happens for goods; iv) the incidence of Cide-Remessas abroad on technical services imports that do not imply technology transfer and vi) the non-deductibility of expenses in the import of services that involve technology transfer, as well as the deductibility limitation when contracts do not imply technology transfer, but must be registered with the INPI, the Brazilian intellectual property agency.

The fiscal obstacles analysis to Brazil's integration into global value chains cannot be made without the evaluation of these issues. Depending on the calculation method, the tax incidence can vary between 41.1% and 51.3% of the operation value.

The key references, however, are not the nominal tax rates. There are countries, such as France, Spain, and Italy that have rates higher than in Brazil and others, such as England and Germany, which have rates in the range of 20%.[21]

[20] CNI – Confederação Nacional da Indústria. Tributação sobre importações de serviços: impactos, casos e recomendações de políticas. 2013.
[21] CNI - Confederação Nacional da Indústria. Comparação internacional da tributação nas importações de serviços. , 2016.

The Brazilian case uniqueness is linked to the taxes on consumption cumulation (PIS/Cofins importação) and with the fact that Cide-Remessas exterior, which represents a part of the taxation of income, constitutes a burden on the importer. In other countries, the income taxation is fully recorded by the exporter. Moreover, around 10% of taxes are not recoverable and a little more than 10% are subject to conditional recovery[22], according to some estimations for Brazil.

In other countries, taxes on imports are fully recoverable and there are cases, such as in Mexico and South Korea, in which institutional mechanisms allow the effective collection of import duty, which minimizes any effects on cash resulting from administrative delays in the recognition of credits. These distortions affect the knowledge and technology flows, limit Brazil's ability to be a regional value chains hub and have significant impacts on the country's ability to export services.[23]

Other direct and indirect taxation issues also affect Brazil's services exports. On indirect tax, the distortions sources are the difficulties in the credits recovery that cause cumulation and the nature of interpretations on the "non-incidence" of the Service Tax (ISS) on exports of services abroad.

4.2. Imperfect VAT: the debt-credit system shortcomings

In addition to taxes on revenues, indirect taxation is faced with the flawed malformations of the current VAT system, both at state and federal levels. The problems complexion bonds them in the ability to generate distortions for the economy and foreign trade operation.

The credit recovery system presents both structural (the physical credit instead of financial credit, as explained below) and operational (the credit balances return delay). All these dysfunctions lead to recurrent legal battles, in which exporting companies refer to the constitutional precept of not taxing exports and submit petitions to the court to claim expenses recognition that are not recognized by the tax authorities.

Physical credit: reduced competitiveness

The physical credit concept is applied in ICMS, IPI and PIS/COFINS. This concept implies that companies can only take credit for expenses incurred in the production process, i.e. it does not allow credits recovery that do not physically enter the product or are consumed in the production process. In the financial credit system, all taxable transactions generate credit, regardless of their nature. The physical credit system leads to the following situations:

- Companies credit themselves with lower expenses than their competitors and end up exporting taxes. Administrative, marketing, transportation, research and development expenses are not creditable.
- Compliance management, for companies and tax authorities, increases with the complexity and bureaucracy levels created. An example is the electricity expenditures handling. The energy used in production entitles the company to credit; used in the administration it does not entitle. Similarly, a screw used in the office chair does not generate credit; if it is used on a machine in industrial operation, it will be credited.
- Competitiveness is distorted and neutrality is reduced. Companies that rely more heavily on marketing, transportation and research and development are most affected.
- The tax level is shaped by the technological and production processes. There are production systems that have greater attachment to the physical credit concept and, despite having non-recoverable credits, get less credit than in other production processes. This is the case with oil exploration. In the

[22] CNI, 2016, Op. cit.
[23] CNI 2016, Op. cit.

exploration phase, some of the equipment have no physical contact with in natura oil and are not consumed entirely in the production process.[24]

The creditors clearing and reimbursement difficulties

The creditors clearing and return is another difficulty. It is a regular problem in all indirect taxes in Brazil[25]. It happens in companies that have more credits than tax debts. It is acute in exporting companies. There are evidences that companies plan to limit the share of exports on revenues not to accumulate excess credits that would affect their profitability.[26]

This problem affects exporting activities profitability and engagement. For many companies, the credit delay is equivalent to the credit existence denial. This create pressure on working capital. In Brazil, it is worsened by the domestic interest rate levels and by the fact that the tax authority does not pay late interests delays.

The delays in return are meaningful and can take up to several years. Always hunting fiscal resources, state and federal tax authorities generate protocols limiting credits use, restricting the non-cumulation principle and hindering the use and transfer of accumulated balances, ending up restricting and delaying tax credits returns.

In the ICMS case, a CNI[27] study on export credit accumulation problems identified the following main restraints:

[24] Meireles, José Antônio de Sousa.2017. Princípio da não cumulatividade do ICMS e mitigação do direito ao crédito: análise concernente à indústria de petróleo e do gás natural, FGV/ Escola de Direito de São Paulo.
[25] CNI - Confederação Nacional da Indústria. Perda de competitividade nas exportações: o problema do acúmulo de créditos de ICMS. CNI, 2018.
[26] CNI - Confederação Nacional da Indústria. Desafios à competitividade das exportações brasileiras. FGV/CNI, 2018.
[27] CNI, 2018, op. cit.

- No compensation of accumulated credits in debits arising from tax substitution (ICMS-ST), import (ICMS-import) and rate differential (ICMS-Difal). It mostly affects exporting companies that are likely to have fewer ICMS debits from the internal market.
- General obstacles on the accumulated credits disburse, such as requirement to prior permission from the tax authority, credits amounts restrictions that can be used, and the credits access conditioned to the absence of debts by the taxpayer, even with suspended collection. These requirements preclude taxpayers from paying off their debts using accumulated credits, compelling them to pay with cash resources.

The companies' creditor balances amounts are significant. Studies identified a stock of tax credits near R$ 90 billion reais in 2013. Most of the mentioned problems are linked to the tax system structural traits and won´t be merely solved with increased administrative and judicial efficiency.

Box 1
The return of creditor balances in the European Union

The European Union periodically conducts assessments to identify how the guidelines for the return of accumulated credits are being incorporated into national laws, the degree of compliance of the guidelines on reimbursements and the degree of adherence of the practices of the tax authorities in dealing with claims in accordance with the laws and judgments of the European Union. This audit is based on the following justification:

> *"The timely receipt of VAT refunds and VAT reimbursements is of vital importance to European businesses. This is particularly true of micro, small and medium-sized enterprises ("MSMEs"), for whom delays in payment can cause severe cash flow problems. As such, the issue of VAT refunds and reimbursements is a topic of strategic importance for the European Commission in its efforts to further the development of the internal market and to reduce unnecessary administrative burdens on, and costs for, businesses (whether operating across borders or in a single EU jurisdiction)"*

Algumas das questões avaliadas na auditoria:

- Rejection of claims, without informing the reasons
- Problems and delays in the payment of interest
- Easy access to information
- Exaggerated request for information

Source: VAT Refunds and Reimbursements: a quantitative and qualitative study, European Commission, 2017.

The road to litigation

Litigation becomes an attractive path. Companies file lawsuits requesting the immediate right to credit, without restrictions, based on Art. 155, §2, l, ICMS cumulation principle, which establishes that the state tax does not apply to operations that use goods to export, ensuring the maintenance and use of the tax amount charged in previous operations and installments.[28]

A study on tax litigation in Brazil reveals that the most common litigation in taxes on consumption is the non-cumulation issue.[29] A 30 largest Brazilian publicly traded companies sample listed on the Stock Exchange identified 31.8 billion reais in disputes, which is equivalent to 21.7% of the total disputes identified in the survey. The most common theme in these disputes is the discussion on credit-giving operations and the input concept, with disputes around 12.6 billion reais.

Each indirect tax legislation has an input definition. The consensus on the input legal concept is greater in ICMS and IPI regulations, but there are repeated disputes linked to characteristics of the production process in which it is probed whether the input was spent in the production process, or whether it became part of the traded merchandise.

Recent legislation on non-cumulation for PIS/Cofins did not solve the conflicts on the input definition scope, an item of legal-conceptual plan. Tax payers argue that the definition concedes the physical wear and tear of product transformation notion. As in ICMS and IPI, there are repeated disputes linked to the production process properties that affect the input definition.

[28] The tax disputes magnitude and scale in Brazil deserves a special research agenda. From examining the litigation sources to the structural issues of the tax system vis-à-vis judicial and administrative practices and rules. Special attention should be paid to international comparisons.
[29] Lopes, Ana Teresa Lima Pink.2017.Contencioso tributário sob a perspectiva corporativa: estudo das informações publicadas pelas maiores companhias abertas aberto, FGV, 2017.Escola de Direito de São Paulo, Mestrado.

All these problems results from the physical credit concept in the Brazilian tax system This distortion, usual in the embryonic VATs in the 60-70s, endures in two countries: Haiti and Brazil.[30]

The financial credit-debt system solves this issue and attacks, at the root, one of the main sources of tax litigation and the economy productivity loss. Many of the physical credit conflicts are turned to the Supreme Court and are affected by decision's slowness; the average trial time for these cases is between 12 and 17 years.[31]

The tax system complexity is highlighted by some results presented in a recent study on tax litigation:

- Tax disputes are more uncertain than disputes in other areas of the economy. The contingency amount value in the tax area (processes evaluated as "possible loss") is 20.2 times higher than the provisioned value (processes evaluated as "probable loss"). This proportion is 2.4 times in the labor area and 3.3 times for the civil area.
- 32% of the value of the 30 publicly held companies in the sample are committed to risks arising from tax litigation.

All these evidences disclose the Brazilian tax system structural problems. Half-done tax reforms and most welcomed cutting red tapes agendas will not have a significant impact on overcoming the tax system structural problems that are largely dependent on broad reforms that tackles the cumulative taxes sources and eliminate burdens on exports and investments and inefficient resources allocation that reduce the Brazilian economy growth potential.

[30] Coelho Isaías. Um novo ICMS: princípios para a reforma da tributação do consumo. Funcex, RBCE n. 120, jul./set. 2014.
[31] The information on litigation in this session is extracted from Ana Teresa Lima Rosa Lopes (Op cit.).

An additional problem: the states coalition against exports

Indirect taxation in Brazil has an additional distortion that arises from the taxation mixed system, in which part of the interstate taxation is done at the source and another partinthe destination. This rule creates an anti-export attitude in Federation states that feel harmed by this system.

In practice, this attitude is displayed in the extra burden caused by administrative rules that intensify the cumulation, in the difficulties of credit balances transfer, in the lack of interest in modernizing administrative processes for improving credit returns and in the anti-export stance that manifests itself in recurrent political actions aimed at delaying the Kandir[32] Law implementation and/or pushing for taxes on exports design. This approach is the by product of VAT structural problems that arise in the mixed source/destination system:

- Exports, rightly, are not taxed, but the inputs may have been produced in other Federation states. In source system, the taxation revenues are kept in the producing state and not in the inputs destination state. The exporting state does not receive these claims but incurs payment of the difference between creditor and debtor balances. The greater the lack of purchases of inputs in the own state, the more the state will feel "wronged" by the tax rules.
- The imports geography from abroad also adds to intensify this "belief". As imports may not come directly to the state ports in which the investment is located, indirect taxation take place at the provenance import port. This reinforces the anti-export attitude and, in this case, anti-integration into global value chains.

[32] The Kandir Law exempted the ICMS from exports of semi-prepared primary and industrialized products, export services and ensured the use, subject to a credit appropriation rule in 48 months, of ICMS credit in fixed assets. The project provided that the Union would compensate states for revenue losses by the financial year 2002, but there were several extensions, negotiated each year; at this time, there are negotiations in the National Congress to include resources in the budget and initiatives aimed at creating taxes on exports of primary and semi-elaborate products.

It is a tax system with several "incentives" against foreign trade. As previously shown, companies from a certain threshold, "plan" to limit their exports due to restrictions on the use of accumulated credits. The issues above reveal that curbing the distortions could increase the potential for increased exports.

5. The indirect taxation reform, trade opening and the demand for sectoral policies

The indirect taxation distortions in Brazil have upshots in other policy areas that end up crafting a fertile environment for policies that induce low productivity.
A sectoral policy demands evaluation reveals expressive claims for special indirect taxation dealings. These are requests for the assembly of a "normal" tax system for the demanding sector; claims to correct the tax system problems and bring it closer to global standards. The solutions produce an even more complex system, and by creating preferential solutions for some industries, they erode the coalition needed to drive pressure for a more horizontal and less discretionary system.

Many of these requests are pinpointed in reducing the tax costs share on investments, that is, eliminating a problem that should not exist if VAT worked perfectly.[33]

5.1. Incentives for tax entropy

The special tax regimes exemplify this problem. Reidi (infrastructure), Reporto (ports), Repes (service export platforms) and Recap (exporting companies) have a common factor: the deferral of PIS/Cofins for the machinery and equipment purchase in the domestic and international markets.

[33] It is also common in these schemes, instruments aimed at reducing import tariffs, which connects them with the trade liberalization agenda.

This solution, which arises from an incomplete and imperfect VAT, causes an entropy in the system. The deferral is not neutral for the equipment manufacturer in the country, because it loses a tax that would be part of the tax's reduction paid for inputs and accumulates credits difficult to be recovered or imperfectly recovered. This, in turn, creates a demand for solutions that end up increasing the system entropy in the name of equal conditions to compete.

Thus, the ingredients are shaped for an industrial policy agenda that directs on "molding" the tax system and distancing from agendas aimed at increasing productivity and developing ecosystems favorable to innovation.

A tax system without "integration software", accumulative system byproduct, encourages demand for protection. The tax system dysfunctions fuel this movement:

- The burden on exports, due to credit restrictions on expenses and difficulties in receiving the credits due.
- Taxation on investments due to non-recoverable taxes and restrictions on f credits use in the operational phase.
- Competition with imported products without the same tax recordings and, in some cases, ICMS deferred due to state policies to attract investments.

The joint action of theses distortions reduces the country's ability to benefit fully from trade opening effects, intensifies negative impacts and limits responsiveness. On the one hand, exports remain burdened, subject to litigation and complexity, and imports arrive without the comparable problems. On the other hand, the tax burden on investments caps the companies' ability to react, in pursuit of greater efficiency and structural adaptation, to the inevitable adjustment pressures resulting from greater competition.

Brazil's credit reimbursement systems comparative assessment with three selected countries (Chart 2) shows the sources of increased investment cost in Brazil.

The fact that companies can only credit themselves after its operation phase is an important limiting factor for competitiveness, entrepreneurship, and structural adjustment. Similarly, the deadline for payment: it ranges from 14 days in Australia to 48 months in Brazil, ICMS, which creates a high pressure on working capital.

Chart 2
Investments - Credit reinbursement systems comparison

	Recoverable tax	Refundable tax	Deadline for reimbursement	Deadline for payment	Operations start requirement
Brazil	Yes [34]	Yes	After the operations start	Not defined in law	Yes
United Kingdom	Yes	Yes	Quarterly	Month following application	No
Mexico	Yes	Yes	After the company opened	40 days	No
Australia	Yes	Yes	Monthly	14 days	No

Source: Ernst &Young, CNI, 2014, op. cit.

These obstacles show that improving indirect taxation plays an important role in creating conditions for increasing companies' productivity and responsiveness to competitive pressure.

Closing the gap to global standards on indirect tax is an important pair to infrastructure, education, and business management to reduce Brazil's productivity gap. Brazil is far from the frontier not only in relation to technologies and management practices already available in the market, but also in relation to

[34] Note that companies incur financial costs in loading accumulated credits and are not always able to recover them.

the tax system. Catching up in all these areas is low cost: an approach to good international practices is the way.

To the negative effects on the economy associated to the exports and investment burdens must be added the restrictions and incentives that sustain factors mobility towards more productive activities.

This is a critical issue in the path to adapt to increased competitive pressure arisen from trade openness. The greater the distance between the economic decision and the one that derives from the tax incentive (lack of neutrality) the greater the difficulty for the structural adaptation to promote the expected liberalization effect on productivity.

The key objective to be pursued is to eliminate, in the indirect taxation reform design, the restrictions that affect the firms' improvement in relation to their global competitors and that create a stimulating environment for efficient firms without maintaining incentives that fuel the inefficient organizational arrangements.

These negative incentives are present in the current tax system: companies that plan not to export on account of unearned credits, companies that multiply by different small companies in order not to leave the SIMPLES favorable tax system, production techniques that are not used because of tax treatment (e.g., construction with metal structures vs. construction in the work itself), goods transit to suit incentives, spatial location decisions without rational economic reasoning, incentives that generate unfair competition, fiscal informality that ensures the survival of the most inefficient.

Chart 3 summarizes some key elements present in the relationship between taxation and productivity.

Chart 3
Tax distortions affecting productivity

Tax burden on investments	Tax burden on exports	Verticalization (cumulation) and deverticalization (credit ficto)
Incentives for non-growth of companies	Compliance costs	Litigation and legal uncertainty
Differentiated taxation of products	Tax informality	Fiscal war

Source: Own elaboration.

6. What to expect from VAT reform?

The VAT reforms, under discussion in the National Congress, are moving towards overcoming many of the identified problems. The projects under discussion face, to a lesser or greater extent, the distortions that affect exports and investments. The CCIF proposal,[35] the core project in the House of Representatives, deals with the problems identified in this note and move toward VAT global standards. The proposal in the Senate, which draws from the Hauly Project,[36] pursues some of the same objectives, but has taxes that exacerbate the accumulation, the main obstacle to be broken to help the integration of Brazil with the global economy and increase the economy investment rate.

PEC 110, which engages the Hauly Project, increase the number of goods and services on Exercise taxation, including oil operations and their derivatives, fuels and lubricants of any origin, natural gas, cigarettes and other tobacco products, electricity, telecommunications services, alcoholic and non-alcoholic beverages,

[35] CCIF, Op cit.
[36] Hauly's bill was absorbed by PEC 110 in the Federal Senate.

and new, terrestrial, aquatic and air motor vehicles. These inputs are an important part of companies' expenses and would become a cumulation source.

VAT reform is no guarantee that the problems identified will be overcome in their entirety. There are many notice points that deserve follow-up. The checklist for the evaluation of the result of the project's been dealt in the National Congress should have as reference the following principles:

- Broad base of goods and services
- Limited number of tax rates
- Taxation at destination
- Few exemptions and exclusions

Keeping these principles as guidelines is fundamental to ensure that VAT reform can, in fact, break the obstacles that harm the Brazilian economy growth potential. This is an area where international experience and evidence can help in the choice's creation. There is a need for nuclei in the Executive and Congress with the ability to manage the pressures and counter pressures on partial solutions that will only end up transferring the burden to the business neighbor.

In a VAT there is no neutral exemption, exclusion or zero rate. Each decision that distance from the general principles, call into check the sector competitiveness, which is part of the value chain.

7. Is VAT the "end of history" in indirect taxation?

VAT is a classic *path dependence* case. Even if alternatives arise, the sunk costs in models, accounting rules, human resources training, national and international practices and institutions are such that the obstacles and costs change virtually make transformation impossible. The closest image is the QWERTY keyboard: there may be better keyboards, but the sunken costs do not create incentives for change.

The VAT spreading process is one of the most notable stories of public policy dissemination in the world.[37] It is also worth noting the efforts to adapt VAT to the new challenges posed by the digital economy and the transformations in the organizations' production models.[38] It is a model that is anchored in at least three sources of knowledge and tax practices influence: the IMF, the OECD and the European Union.

As mentioned, VAT is the equivalent of a "tax software integration" of the global economy and, of the European Union, whose countries have adapted their tax systems to VAT.

7.1. A possible candidate

Although VAT is now the tax systems "QWERTY keyboard", there are long-term threats that stem, paradoxically, not from indirect taxation models, but from problems affecting direct income taxation, as the multinational companies' profits

[37] The modern VAT (Op. cit) and Kathrym, James. The rise of the Value-Added Tax. , Cambridge University Press, 2015.
[38] The adaptation of VAT to the new challenges of services and intangible goods has been the subject of OECD attention in: International VAT/GST Guidelines, November 2015. The need for overall coordination is necessary for this adaptation. This reinforces the importance of Brazil's engagement in OECD groups dealing with tax issues.

sharing. The movement towards the Base Erosion Profit Shifting (BEPS), a G20 initiative led by the OECD, showed the complexity and difficulties of coordinating international rules on income taxation.

It is with this background of discussions on income taxation complexity that the *destination-based cash flow tax* (DBCFT) concept arises.[39] The proposal was on the Republican Party's legislative propositions in the US[40] Congress and on tax reform ideas at the beginning of Trump's administration. Due to its disruptive impact on the economy and the global tax order there was a perception that the environment was not yet mature, with many open points and no answers, to its advancement, which aided to suppress the initiative.

The intellectual debate on the proposal remains and IMF and researchers have been committed to its development, improvement and overcoming challenges implementation. The initiative is far from maturity to be launched, but it is a proposal that will likely receive more attention and studies.

In summary, the DBCFT[41] combines border adjustment with cash flow treatment:

- It replaces income tax with a uniform tax on cash flow. It taxes income, minus savings.
- The mechanism is due to a border adjustment tax applied to domestic production by the "subtraction method". It is applied to imports and excludes exports.
- It allows the wages deduction, which does not occur in VAT, and on the spot accelerated depreciation, instead of recovery over time.
- It taxes only the territorial basis, i.e. income derived from domestic transactions. Reduces the incentive for the profit's allocation on different territorial bases.

The proposal's challenges are noteworthy, but it is expected that it may be at the discussions on future tax models. The complexity to move in this direction is noteworthy: WTO compatibility, relative prices impacts, receiving credits, high negative externalities for countries that do not adopt it and financial institutions taxations issues.

The move towards another model have such difficulties that it is not appropriate to Brazil postpone the longer and time-consuming process to achieve a world standard VAT. It is a VAT strength that DBCFT does not depart from its principles and effects.

[39] Hufbauer, Gary C.; Zhiyao (Lucy) Lu. IMF Policy Paper, Corporate Taxation in the Global Economy. 2019.
[40] A Better Way: our vision for a confident America, June 24, 2016, better.gop; Weisbach, David A. A Guide to the GOP Tax Plan-The Way to a Better Way. The Law School, the University of Chicago, January 2017.
[41] IMF –International Monetary Fund. Corporate Taxation in the Global Economy. Policy Paper, 2019.

8. Final remarks

The article aims to organize the main indirect taxation issues in Brazil from the angle of its effects on foreign trade and Brazil adjustment to trade liberalization. There are other relevant aspects of indirect taxation that have not been addressed.

The main message is to restate the indirect taxation reform standing to increase the positive impacts for successful trade liberalization. The indirect taxation dysfunctions in Brazil– the incomplete and imperfect VAT – reduce the exporting sector profitability, increase legal uncertainty, distort competitive conditions and, by increasing the cost of capital, reduce the ability of companies to react the pressures to move towards structural transformation.

The high degree of indirect taxation flaws in Brazil is an evidence recognized by international institutions such as the IMF, OECD and World Bank, experts, and economic operators. The countries with which Brazil sells goods and services do not have tax systems with similar distortions. China and India, countries that maintained systems with high distortions, are accomplishing their reform processes.

The fact that trade liberalization and tax reform are in a corresponding time agenda is auspicious. The further away in time is the dysfunctions correction of indirect taxation, the lower the ability of the country to benefit from the positive effects of a liberalization process. Not by chance, all countries in the European Union must adapt their tax systems to the VAT model when accessing the European Union.

The paths that affect companies due to the tax dysfunctions show that there is an important research, economic and legal agenda, to be developed in Brazil to explore the relationship between indirect taxation shortcomings and growth. All sources of problems surveyed (cumulation degree, effects on investments, effects on exports and imports, litigation and legal uncertainty, special rules and regimes distortions, administrative standards, and delay in the credits return) are candidates.

Given the abundant and widespread VAT expertise in international institutions such as the IMF, World Bank and the OECD, it would also be useful to have a globally based VAT quality assessment system to study its effects on economic operators and the tax authorities themselves.

If Brazil succeeds in its tax modernization program, the assessment of the effects and impacts of transformations will be an important research agenda to better understand the problems and identify the necessary adjustments. Between the ideal VAT and the one implemented there is always a great distance.