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STATE FISCAL INCENTIVE PROGRAMS IN FEDERALISM – THE CASE STUDY OF PARANÁ, BRAZIL

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1. INTRODUCTION

This paper will present the evolution of GDP – Gross Domestic Product – in Brazil and its states and the ICMS growth. The ICMS (“imposto sobre operações relativas à circulação de mercadorias e sobre prestações de serviços de transporte interestadual e intermunicipal e de comunicação” – tax on the circulation of merchandise and interstate and intermunicipal transportation services and communications) is the most important subnational VAT – Value Added Tax – in Brazil.

1.1. Objectives

The main objective of this paper is to present the economic context in which Brazilian states are competing for investments, the instruments they are using to attract companies and the case study of the state of Paraná regarding postponed ICMS revenues. The intention is to produce an analysis that may subsidize the authorities with data for future discussions on incentive programs.

In order to support this study, secondary goals will be pursued. The following comparisons will be useful to verify the efficiency of the incentive programs adopted by the state of Paraná: (*i*) between Paraná and Brazil GDP growth, (*ii*) Paraná’s and other selected states’ GDP growth, (*iii*) Paraná’s and Brazil’s average ICMS growth, (*iv*) Paraná’s and selected states’ ICMS growth, (v) Paraná’s and Brazil’s unemployment rates evolution.

This paper aims at enabling a deeper discussion on the subject of fiscal benefits in Brazil after the monetary stabilization.

1.2. Method

The research method will be a descriptive case study based on data collection and historical research. The data will provide figures for numerical comparisons, while the historical research will help explain the fundamentals of the contemporary economic scenario in Brazil.

1.3. Structure

Chapter 1 presents the contextualization of the subject, the objectives of the paper, the research method, the paper's structure and its limitations.

Chapter 2 describes the history of federalism in the United States of America and Brazil, drawing a comparison between their characteristics – constitution, tiers of government, level of autonomy – and the path that each country trailed to reach democracy.

Chapter 3 brings about a specific topic of federalism that will be necessary for a better comprehension of the case study, and will provide the necessary knowledge on fiscal federalism.

Chapter 4 explains the role of the Finance State Secretariats, state level government institutions responsible for determining the tax policy and subsidizing the budget with the revenue forecasting.

Chapter 5 presents the particular case of the state of Paraná in detail as a means to analyze the outcome of each major program the state implemented with the intention of attracting investments. GDP, ICMS revenue and unemployment rates will support the conclusions of this chapter.

Chapter 6 compares the view of two important economic schools of thought in relation to the incentive programs that Paraná managed to put in action.

Chapter 7 will analyze the accomplishment or not of the proposed objectives, final considerations about the adequate use of economic data for public decision making and suggestions for future studies.

1.4. Limitations

This paper does not intend to exhaust the subject of actions Brazilian states have been using to pursue stronger economic growth. The case study will focus solely on incentive programs based on postponing VAT revenue. This choice is relevant due to the difficulties in finding reliable data on different incentives, such as tax reduction and presumptive credit.

The time period is deemed adequate considering the changes occurred in the VAT legislation resulting from the current Brazilian Constitution, promulgated on October 5th, 1988. The milestones that defined the analysis period are the monetary stabilization (1994-1995) for the GDP and the Lei Kandir (Lei Complementar 87/1996) – Kandir Law for the ICMS.

2. FEDERALISM

In order to reach the main subject of this paper, it is necessary to go through some concepts about federalism. This chapter introduces these concepts and briefly presents the Federalist systems adopted in the United States of America and in Brazil, to eventually give a highlight their differences and comment their consequences.

The first concept to be understood is Federalism. It consists of a "mode of political organization that unites separate states or other polities within an overarching political system in such a way as to allow each to maintain its own fundamental political integrity", according to the definition of Encyclopedia Britannica (2012).

Politically, federalism can be defined as a political system in which power, authority and responsibilities are divided between two (union and states) or more levels of government (ALLEN, 2009; THRO, 2010; GUNTHER, 2011).

Moreover, federalism is a complex political organization due to the division of a government into multiple tiers of governments, each one with different responsibilities and a mission of working cooperatively to reach the best results for their population.

Considering this is such a complex system, it is intriguing why 25 countries accounting for 40% of the world's population (FORUM FEDERATIONS, 2012) would adopt Federalism globally.

Prado (2006) gives the primary reasons why countries adopt federalism: (*i*) geography – very large countries tend to resist unification; (*ii*) policy – the federate units may be interested in being supported by a Federal government without losing its regional identity; (*iii*) economy – being part of a federation may enhance provision of public goods; and (*iv*) history – colonization and how the country has been formed.

To support this theory, one can refer to Downs (2011): "The U.S. and Canadian federal forms are substantially different, as are those in India, Brazil, Australia, and Germany, because the ideological underpinnings of federalism in each of those cases are products of varying historical experiences."

Although the cited countries have many rich experiences on federalism, this section is restricted to explore the American and Brazilian federalist systems and to identify similarities and differences in order to improve the analysis of future developments.

2.1. Federalism: United States of America

Prior to the Constitution of the United States in 1789 theorists assumed that sovereignty demanded a unitary government, according to Samples (2008). The author explains that at first, the national government decisions should affect only the states, not their citizens.

Notwithstanding major events, remarkably the Civil War, (southern states wanted to keep slavery legal and were eventually defeated in 1865) the federalist system became even stronger. In 1868 the Fourteenth Amendment limited state power in order to protect the rights of citizens.

The period of federalism described above came to be known as "dual federalism", and lasted until the 1930's. It was characterized by the competition between two levels of government (Zackin, 2011).

After the Great Depression, a new stage of federalism in the United States had begun: the cooperative federalism. “A critical advantage of a cooperative federalism approach is that it sets forth a basic federal framework while allowing states to experiment within certain contours.”, states Wieser (2003) while also listing four benefit categories of cooperative federalism: (*i*) respecting state autonomy; (*ii*) facilitating greater accountability for public policies; (*iii*) allowing interstate competition; and (*iv*) relying on the economy of local agencies.

The crisis represented an opportunity for the Federal government to employ regulatory power and put an end to its competition with the states. Zackin (2011) states that “The federal government standardized and centralized domestic policymaking, transforming states from independent and competitive sovereigns into cooperative or even coerced administrators.”. Wieser (2003) also alerts about the risk of transforming cooperation into coercion depending on the approach used to reach cooperative federalism. For this reason cooperative federalism is also called by some authors “coercive federalism”.

The New Deal was a “program to bring more national involvement and finances into the provision of services in the states.” according to Janiskee (2011). It has been achieved under Roosevelt’s presidency, because the conditions were ideal to such a change in this division of labor, and three Supreme Court cases validated the shift in power (LOWI, 1995): (*i*) National Labor Relations Board v. Jones & Laughlin Steel Corporation, (*ii*) Helvering v. Davis, and (*iii*) Steward Machine Company v. Davis.

The state-centered federalism lost strength after the Great Depression, and the national government took the opportunity to grant itself regulatory power over economic activity. Along with the economic issues, the Civil Rights Movement helped diminish the importance of states in the federation even more.

Janiskee (2011) considers the Great Society of Lyndon Johnson the milestone for the end of cooperative federalism. The author explains that the Great Society consisted of an increasing participation of the national government in areas the state had so far been dominant, such as health, education and welfare policy.

The New Federalism, as this period has been called, evokes the return to dual federalism or, at least, tries to reach a better equilibrium between the national and state governments. Richard Nixon followed this path through revenue sharing – inter-governmental transfers – and Ronald Reagan offered a clear trade-off to the governors, restoring autonomy to those states willing to exchange it for less money (JANISKEE, 2011).

After this historical view on American federalism, it comes to conclusion that this system is very strong in the United States and, although it has changed since the Constitution was signed, it has been an evolutionary process that certainly has not yet finished – and probably never will.

It is clear that the population’s demand for services is always evolving, and the governments have to cope with it in order to allow voters to do their accountability.

2.2. Federalism: Brazil

Nogueira (2005) proposes five distinct periods to the republican era in Brazil: (*i*) First Federalism (1889-1930), (*ii*) Civil Unitarism (1930-1945), (*iii*) Second Federalism (1945-1964), (*iv*) Military Unitarism (1964-1985), and (*v*) Third Federalism (1985-today).

Brazil has suffered major changes in its government since the end of the Empire in 1889. The Republic started with a Constitution (1891) that was based on the American Constitution – remembering the Dual Federalism was ongoing in the United States by this time. The First Republic, also called the "Old Republic", lasted until the mid-1930s, and was characterized by the predominance of politicians from the states of Minas Gerais and São Paulo.

This meant that power during First Federalism was changing hands among groups with the same interests, which came to be known as "política café com leite" – coffee and milk politics – and it was named after the states most important products - cattle raising in Minas Gerais and São Paulo's coffee plantations. Beside these states, there was one more competitor for the rule of the federal government: Rio Grande do Sul (COSTA, 2003).

And it was from Rio Grande do Sul that came President Getúlio Vargas, who ruled the country for 15 years – which came to be known as the Civil Unitarism period. The Constitutions of 1934 and 1937 became effective under his presidency, but they had very different concepts. The Constitution of 1934 granted welfare – mostly labor benefits –, which affected productive sectors, and characterized the populist government conducted by Vargas during his first years of presidency.

The Constitution of 1937 established the "Estado Novo" (the New State), Vargas dictatorship, and was based on the Polish Constitution of 1935 – also a dictatorship. It is necessary to mention that the Vargas dictatorship had not been comprehended by Brazilian citizens as a dictatorship in the actual sense of the word. There was an understanding that this government would be a transitory solution and was ongoing on behalf of protecting democracy (RANGEL, 2007).

As expected, this constitution came to be authoritarian with a strong executive branch – with legislative authority – and so centralizing that it became the only political power, according to Amaral (2004).

Following the authoritarian line, Vargas tried to use this constitution to extinguish the Old Republic's federalism, naming interveners to rule the states, banning state competences and symbols, as well as granting the national government power to intervene in economic activities and labor issues on behalf of the nation's best interest (SCHERER, 2007).

The Second Federalism dealt with some problems similar to the ones First Federalism faced. It was the post-World War II period, and the country had just overcome a dictatorship. The Constitution of 1946 restored federalism by granting autonomy to states and municipalities.

Nogueira (2005) explains that, although the states regained their place in the federal system – three presidents were former governors –, the national government was now well established and kept much of the power obtained by the previous regime, reorganizing federative structure.

During this period, successive crises unmasked an unstable government, as Camargo (1992) comments: (*i*) President Vargas – deposed in

1945 and democratically elected in 1950 – committed suicide in 1955 due to political issues, (*ii*) President Quadros resigned the office due to political pressure and (*iii*) President Goulart was on duty in 1964 when the military State coup occurred.

The Military Unitarism (consolidated by the Constitution of 1967) that followed the above events was quite different from the Civil Unitarism, for the states did not approve the new national government – President Vargas was, at first, supported by most governors, as Nogueira (2005) explains.

The author leads to reflections upon centralization, now devoted to economics: previously, the national government was present in the mining (Companhia Vale do Rio Doce) and oil (Petrobrás) sectors; during the military government its control expanded to the electric sector (Eletrobrás), the railway business (RFFSA – Rede Ferroviária Federal S/A) and to telecommunication sector (Telebrás) – the last one being the only branch in which the states had some participation, through subsidiaries.

On other subjects, in spite of trying to be subtle, the military government took over politics by determining who would become the governors in indirect elections – but maintained political parties as a means to legitimate their actions.

The states started recovering power in the federation in 1982, after free elections for governor. This event was the milestone of the re-democratization of the country, when the national executive government gradually lost power to both the national legislative branch and the states, eventually leading to the Constitution of 1988 (ARAÚJO, 2009).

The period after the military dictatorship has been named “Nova República” – the New Republic – and started with the Constitution of 1988, which brought a new actor to the federative pact: the municipalities. For over almost a hundred years the states and the national government had been the only two players in Brazilian federalism. From 1988 on, local governments represented the third layer in the federal system, the closest one to the citizens.

A moment that could have represented the beginning of a strong new model of federation, which firstly saw states fighting together, claiming their autonomy and getting rid of some of their obligations, ended up with each state focusing on its own interests (NOGUEIRA, 2009), therefore losing political influence – and intergovernmental transfers – to local governments.

At this very moment there is an intense debate about the way federalism is being conducted in Brazil. For instance, the judiciary system is also part of the process. As the states could not reach an agreement on the division of federal transfers (the FPE – Fundo de Participação dos Estados – “States Participation Fund” in a free translation) a decision of the Supreme Court now obligates the states to reach a solution by the end of 2012 – otherwise the fund will no longer exist.

This debate has been postponed year after year by the CONFAZ – Conselho Nacional de Política Fazendária – a council that gathers all 27 State Finance Secretaries every trimester – and had not reached any conclusion by the time the Supreme Court issued its decision. It is important to mention that decisions at CONFAZ need to be unanimous, what makes sensitive issues hard to be confronted and decided.

Although the discussion above is restricted to the financial area, it successfully represents the maturing point in which Brazilian federalism stands nowadays.

2.3. Differences between the systems and their consequences.

After the historical approach to American and Brazilian federalism, it is now possible to draw some conclusions.

One of them is that Brazilian federalism has faced many changes from authoritarian centralizing regimes to liberal decentralizing regimes (COSTA, 2003) and this is determinant to the development of this country's federalism. On the other hand, the United States, despite having to cope with domestic and international issues, has not suffered significant changes in the way it is ruled.

So, the comparison here comes to be between a "young federalism" – Brazil – and an "old federalism". Apparently, the most significant difference lies on the behavior of the federated units.

In the United States, units of the same tier may compete among themselves, but are united in granting their tier the power and revenue to provide the services to their citizens.

Given the example of Brazilian states – especially the one in section 2.2 – it is reasonable to assume that states might be losing power to the national and local governments. The following analysis on fiscal federalism will be of some help to understand this scenario.

3. FISCAL FEDERALISM

After the introduction to federalism concepts and the historical approach, it is now possible to delve a little deeper into one of the branches of federalism, the fiscal federalism. The discussion hereby intended does not try to completely exhaust this field – its main objective is to cast some light on an interesting and sensitive subject, because it involves collecting taxes and government expenditures.

The choice of fiscal federalism being used to further study the relations among the tiers of a federation is due to the interest of the citizens. In order to have good services, the population is supposed to pay taxes. How to distribute tax competence and reach the equilibrium between revenue and expenditures to provide efficient public services is the question that will lead this chapter's discussions.

Kokov and Liubimtsev (1997) define fiscal federalism as "a direction of economic reform that embraces economic, financial, and political relations". This broad definition, that presents fiscal federalism as a constantly changing concept, matches the discussion about federalism seen in Chapter 2, confirming that the federalist pact is an ongoing evolutionary process.

The relevance of distinguishing fiscal federalism from regulatory federalism is highlighted by Super (2005) especially for police makers: thus, it is significant to introduce this concept for the purposes of this study. The term "fiscal federalism" dates back to 1959 and its first use and development are attributed to Richard Musgrave, according to Kapucu (2007).

Fiscal federalism is the established set of rules that commands financial relations between central and lower levels of government in a federalist system (KESNER-SKREB, 2009; KAPUCU, 2007).

For the purpose of reaching a better understanding on fiscal federalism, Hickey (2009) presents three questions: “i) When will regions centralize/decentralize authority over fiscal instruments?, ii) How large is the effect of tax competition over business property?, and iii) Why do self-interested politicians engage in intergovernmental transfers of resources?”.

Based on these questions it is possible to point out some key issues of fiscal federalism that will be addressed: (*i*) autonomy, (*ii*) harmonization, (*iii*) inter-governmental transfers, (*iv*) expenditures, and, (*v*) political decisions.

Governments want autonomy to rule countries, states, and cities. Although this is an obvious statement – for democratic federations –, it has a serious financial implication: every tier of government has to cope with a budget to provide services to its citizens. So, revenue becomes an outstanding issue to satisfy the population’s needs and expectations.

Fiscal federalism is the instrument to provide public consumption levels suitable to a heterogeneous population, acting through decentralization to subnational governments (BRUECKNER, 2006).

Tiebout (1956) studies demonstrate the benefits of fiscal federalism for citizens linking these benefits with the mobility rights of consumer-voters. Tiebout’s theory enunciates that if the local government does not provide expected public goods, population moves out, causing a decline in tax revenue and a subsequently decrease in the quality of public services – reinitializing the process.

Notwithstanding the fact that the described situation might be good for the local government which the citizens move into, it is not necessarily true that this outcome is always desirable. The neighboring of a wealthy community is also important, thus it might be relevant to find equilibrium balance, otherwise the negative effect of mobility – a poorer neighbor city, for instance – may affect the welfare of the community.

Sometimes, as a means to reach the targeted equilibrium, the intervention of a higher level of government (state or central) is necessary to assist local governments, usually through funds transfer, equaling the services provided to citizens living in different cities. The aimed break-even point can also be obtained by tax harmonization, but this usually impacts the level of autonomy granted to local governments, which might not be acceptable because it centralizes power.

Gil-Serrate and López-Laborda (2009) studied revenue decentralization and observed that there is a level of optimal tax decentralization for regional growth, and it is determined by taking into consideration "private and public capital productivities, the tax burden rate in the absence of decentralisation and the intensity of the *flypaper effect*". An interpretation of the flypaper effect is offered by Bae and Feiock (2004):

> "According to economic theory, lump-sum grants should have the same effect on local government expenditures as the local government residents' increase in income. But, empirical work reports that the response of local government expenditures to lump-sum grants has often been greater than the effect of equal increases in the income of residents. This is called the *flypaper effect*."

Bailey (1999) provides further explanation about the *flypaper effect*.

It is appropriate to emphasize the distinction between fiscal and administrative decentralization. Tanzi (1995) claims that "fiscal decentralization exists when subnational governments have the power (…) to raise (some) taxes and carry out spending activities within clearly established legal criteria". The author gives an example of administrative decentralization in which local governments of Italy raised 8% of total net revenue of the general government in 1992 but spent about 37% of total net expenditure.

Iimi (2005) demonstrates it is arguable whether decentralization leads to economic growth, despite the fact that many developed and developing countries adopt decentralization as a means to accomplish growth. Thornton's (2007a) study conduces to a similar outcome, eventually establishing, in disagreement with most authors, that "high sub-national government and expenditure shares do not necessarily indicate high local autonomy".

A logical argument for decentralization – specifically to local governments – is given by Stansel (2005) who performed a study in all US metropolitan areas and the outcome of the test supports the theory that decentralization leads to economic growth. The author also states that "the relationship between the structure of local government and economic growth has direct relevance to contemporary policy debates".

Fiscal competition is a possible outcome when subnational governments have tax autonomy. The tax payer chooses where to live or where to begin a business based on the benefits granted by state or local government – or both.

On this matter Brunori (2005) draws a conclusion that fiscal competition among subnational governments is inevitable, given the increasing mobility of capital and labor, although the author recognizes that no state will forgo tax incentives unilaterally.

Consequently, a dilemma is presented: whether to have fiscal centralization or not. The arguments will be further analyzed from the standpoint of the tax payer (citizen or firm), of the central government and of the state/local government.

An important issue economists have been addressing is the relation between fiscal decentralization and economic growth. Thornton (2007b) explored the link between revenue decentralization and inflation and concluded that "when the measure of revenue decentralization is limited to the revenues over which sub-national governments have full autonomy, its impact on inflation is not statistically significant".

Wasylenko (1987) analyzes the relation between fiscal decentralization and economic development. His conclusions show that per capita income appears to be determinant in decentralization when the fiscal decentralization is measured in terms of the extent to which subnational governments make expenditures or in terms of total state and local government revenues.

The same subject was also studied by Oates (1999), who agrees that decentralized finance has an important potential role on economic development, albeit the author prudentially stresses that "the translation of this potential into a real contribution to economic growth depends on a number of crucial conditions regarding the responsiveness of local institutions to local welfare, which, in turn, depends importantly on the proper structure of fiscal institutions".

For the purposes of this study, it is necessary to make some assumptions in order to try to understand the players' standpoint in the debate on fiscal centralization. The players considered are tax payers, central government and subnational governments.

Tax payers might see advantages in centralization in view of simplification of legislation. Large companies operating in different states may find cope better with less fiscal legislation when trying to fulfill government requirements. Companies' efficiency may increase, because less labor will be focused on bureaucracy and consequently be available for production, so, less paperwork is also an advantage. The money "saved" is a simple exchange from government expenditures (G), that are possible because of tax collection, to private investment (I) in the Ricardian Equivalence (Y=C+I+G+NX). The reduced government expenditure – subnational governments will not need to have fiscal structure and develop their instruments – is likely to become a third advantage for tax payers. Albeit this paragraph focused only on firms, the statement is valid for citizens, changing the results that became investment for firms to consumption (C) for citizens.

On the other hand, tax payers can also see advantages in fiscal decentralization. Altunbaş and Thornton (2012) exhibit robust data providing "strong support to the view that fiscal decentralization has a beneficial impact on improving governance in a country by reducing corruption". Furthermore, the authors highlight another conclusion: state/local government autonomy might reduce the beneficial impact on corruption, implying that fiscal decentralization may be more effective if the resources are directed by the central government. Another advantage of decentralization is the proximity to the public good supplier, meaning that the community (citizen and firms) can hold more influence in public decisions.

For subnational governments, the advantage of fiscal centralization seems to reside in less expenditure. But this is a simple compensation for the revenues that will not be directly collected, so the central government will be able to balance subnational government's transfer according to its needs.

Adopting the still more accepted approach, the very first advantage subnational governments might enjoy in a fiscal decentralized federation is more autonomy, as a result of managing their own revenues. Secondly, the state/local political actors are granted more participation into the democratic process. The third advantage is reaction speed. Thanks to the closeness to the community, local governments can be particularly more efficient in undertaking changes in the supply of public goods in the short-run.

In the long-run, however, Seitz and Kempkes (2007) provided evidence for the relation of aging population with increasing central government expenditures in Germany.

As for the central government, the only advantage in decentralization is the fall of expenditures, accompanied by a decrease in taxes to maintain the equilibrium. On the other hand, centralization might increase the central government influence in state/local decisions through federal grants tied to programs outcomes – which is not necessarily good for the citizens.

As an example on quality of expenditure, a research performed by Patrick (2012) brings performance policies into the context of fiscal federalism, and her finding "supports the claim that fiscal federalism allows federal policy makers to influence the policy process throughout the states".

Taking into account the bibliographical review presented, it is now possible to reach a conclusion: although economists have been trying to explain the existing relations between fiscal federalism and its variables, most decisions – if not all – depend on the elected politicians, meaning that vanity and the thirst for power may also play a relevant role in providing public services for the population, whatever tier of government we are dealing with.

3.1. Tax administration: the American system

Given the autonomy that state and local governments have in the United States (as seen in Chapter 2), it is clear that subnational governments must control their own budgets.

Brunori (2003) asserts that Americans prefer local government over state or federal governments, as confirmed by many years of public research. The author mentions Tiebout's general theory and links it to the growing number of local government entities (from 24,500 in 1942 to 71,293 in 2002). In the United States, local government units can be: counties, municipalities, townships, school districts, and special districts.

In order to assess how the state interferes in local governments' performance Holcombe and Williams (2011), based on 2005 data, compared per capita incomes with local expenditure participation, as shown in Table 1.

Table 1 – Top five and bottom five local expenditures relative to state and local expenditures

State	Local / Local & State	Per Capita Income
Nevada	0.66	38,117
New York	0.63	40,690
Colorado	0.61	38,555
California	0.61	38,767
Nebraska	0.61	34,318
Vermont	0.39	33,441
Rhode Island	0.38	36,214
Maine	0.37	32,008
West Virginia	0.37	26,686
Delaware	0.34	37,001

Source: Holcombe and Williams (2011)

In terms of expenditure, the average per capita income is 15% higher in the most decentralized states (US$ 38,089) than in the most centralized ones (US$ 33,070). This leads to the assumption that the less centralized the expenditures, the wealthier the citizens.

At this point, it might be interesting to know a little more about expenditures in the United States. Brunori (2012) explained the role of each tier of government, and, regarding expenditures, the most remarkable one is the structure of the education, which deserves the following notes.

The federal government runs the military academies and is responsible for transferring resources to state and local governments. State governments run universities and colleges, giving incentives (cheaper tuition fees) for state residents and defining the study plans that will be used at local governments. The state can also transfer revenue to local governments. The local government answers for education from kindergarten to the 12th grade. It is a free public good offered to the population, but there is an uneven level of education, which leads to problems in the relationship with the state. Poor local governments receive transfers for the purpose of enhancing their students' achievements, but then the state might interfere, sometimes imposing its own beliefs to indirectly run the schools.

The information of the previous paragraph – and extending it to other public good and services – evidences a dispute for revenue to follow through with the governments' commitments with tax payers. This issue brings to light one of the fundamental questions of fiscal federalism: are different levels of government willing to make a joint effort on behalf of their citizens?

Important contribution on this issue and evidence that governments change their actions in harmony with the ambience is given by Koethenbuerger (2011):

> "Previous literature predominantly assumes taxes to be optimized and expenditures to adjust residually. The paper endogenizes the choices of policy variables by state governments and, in particular, explores how federal policy toward state governments influences the choices. We find that governments choose to optimize over expenditures when federal transfers subsidize tax effort. Conversely, governments choose taxes as the policy variable when transfers implicitly tax own-source tax revenues. The paper's results are of relevance for predicting the efficiency of state policy and the incidence of federal policy. Specifically, the efficiency of local policy for a given choice of policy variable and the efficiency when accounting for the endogeneity of policy variables may differ. In the same vein, the level of taxes and expenditures are sensitive to the choice of policy variable and so does the incidence of federal transfer policy that is conditioned on local fiscal choices."

Although the United States have many fiscal federalism issues to embrace in the near future, Inman and Rubinfeld (1992) show the relevance of having a long standing fiscal federalism, asserting that the then new European Economic Community should take into consideration the American experience.

3.2. Tax administration: the Brazilian system

The current Brazilian tax administration system was introduced in the Constitution of 1988. As presented in Chapter 2, the local governments took part in the federation after 1988, so any revenue comparison among tiers of government respects that milestone.

It is interesting to quote Diaz-Cayeros (2006) conclusions, highlighting that, in Brazil, state governments maintained its status and some autonomy, despite the fact that the country faced two dictatorships. As a means to get acquainted with Brazilian fiscal reality, Figure 1 represents Brazilian total tax burden growth from 1947 to 2011.

Figure 1 – Brazilian tax burden – 1947-2011

Source: Afonso (2012).

Although the trajectory suffered important changes during this period, for the purpose of this paper it is relevant to notice that in the first years after the Constitution of 1988 the tax burden was more volatile, oscillating around 25% of the GDP. In recent years, the curve shows a steadier trend, close to 35% of the GDP.

An instrument that brought more stability to public finance was the “Lei de Responsabilidade Fiscal” (“Lei Complementar 101/2000”) – Fiscal Responsibility Law, in a free translation – approved by the Congress in 2000. Its effects can be seen in Figure 1, approximately where the tax burden jumps from 28% to 33%, and later softens the curve to a slower growth in participation of GDP.

According to Rezende (2003), the centralization of power existent before the current Constitution allowed the municipalities to claim decentralization. The outcome is shown by Afonso (2012): municipalities’ participation in total tax revenue increased from 13.3% in 1988 to 18.4% in 2011. This growth was compensated by losses of the central government – from 60.1% to 57.1% - and of the state governments – from 26.6% to 24.6%.

From here on, there were several challenges for state governments in the early 1990’s. The competition was established with local governments, but this combat would only occur in a political arena, and changes were not likely to happen in favor of the state government over local government – this situation remains unchanged.

The scenario propitiated the beginning of the “fiscal war” as fiscal competition among state governments came to be known in Brazil (VARSANO, 1997). The intention is to attract investments to the state granting fiscal benefits and infra-structure to companies interested in new investments or in moving their plants from other states (NASCIMENTO, 2008).

Considering that the consumption of (some) goods produced by a company that received the incentives will be consumed in the state, Liebel and Pires (2006), on one hand, understand it can result in an increase of tax revenue. On the other hand, the authors demonstrate their concern with the quality of the public goods and services offered to the tax payers, because the continuous fiscal benefits granting, aggravated by the fact that the neighbor states will adopt the same instrument to attract corporations to their territory, can lead to a "race to the bottom", where corporations benefit a lot, but the competing states will often overestimate their capacity to postpone – or even give up – tax revenues.

A natural consequence of less revenue is the deterioration of public goods and fewer services to the citizens.

As for the expenditures, one important issue to be discussed is the definition of clear competences among the three tiers of government. Action is needed to avoid inefficient expenditures and excuses for not providing a service. This is not part of the competition previously mentioned, but rather an outcome. Every level of government tries to do their best within the budget, but also counts on other levels in order to fulfill different needs of the tax payers. The main idea is correct, but it has to be clear to all players – particularly to tax payers – who are the providers of each public service or good, favoring accountability.

4. THE ROLE OF FINANCE STATE SECRETARIATS IN THE ECONOMY: A BRAZILIAN PERSPECTIVE

Having presented the most relevant concepts of federalism and fiscal federalism, it is now possible to analyze and understand Finance State Secretariats responses to economic issues.

Finance State Secretariat is usually called “Secretaria da Fazenda” in Brazil – 24 out of 27 federative units use this terminology (CONFAZ, 2012) and its most usual abbreviation is SEFAZ. Their duties can be summarized saying that the Finance State Secretariat plays the role of “treasurer” of state finances, primarily performing tax collection and expenditure control (SEFAZ-SP, 2012).

State tax collection is based in three taxes, according to article 155 of the Brazilian Constitution (1988): (*i*) tax on property transmission *causa mortis* and donations – ITCD or ITCMD – “imposto sobre a transmissão *causa mortis* e doação, de quaisquer bens ou direitos”, (*ii*) tax on the circulation of merchandise and interstate and intermunicipal transportation services and communications – ICMS – “imposto sobre operações relativas à circulação de mercadorias e sobre prestações de serviços de transporte interestadual e intermunicipal e de comunicação”, and (*iii*) tax on property of automotive vehicles – IPVA – “imposto sobre propriedade de veículos automotores”.

As a means to enlighten state options to raise tax collection, Table 2 brings the representativeness of each of the state taxes for every Brazilian state in 2011.

Table 2 – Tax revenue representativeness per state – 2011

State	ICMS	IPVA	ITCMD
Acre	94.2%	5.5%	0.2%
Alagoas	94.3%	5.5%	0.2%
Amapá	91.9%	8.0%	0.1%
Amazonas	96.3%	2.9%	0.7%
Bahia	95.0%	4.8%	0.2%
Ceará	94.0%	5.4%	0.6%
Distrito Federal	88.7%	10.6%	0.7%
Espírito Santo	95.9%	3.9%	0.3%
Goiás	93.1%	5.9%	1.0%
Maranhão	94.1%	5.8%	0.2%
Mato Grosso	94.6%	5.0%	0.4%
Mato Grosso do Sul	94.7%	4.0%	1.2%
Minas Gerais	90.2%	8.5%	1.3%
Pará	95.0%	4.6%	0.3%
Paraíba	94.9%	4.6%	0.4%
Paraná	90.4%	8.8%	0.8%
Pernambuco	95.0%	4.6%	0.4%
Piauí	94.2%	5.5%	0.2%
Rio de Janeiro	92.8%	5.7%	1.5%
Rio Grande do Norte	94.5%	5.2%	0.3%
Rio Grande do Sul	91.0%	7.8%	1.2%
Rondônia	95.4%	4.5%	0.2%
Roraima	93.5%	6.3%	0.2%
Santa Catarina	92.0%	7.3%	0.7%
São Paulo	89.8%	9.3%	0.9%
Sergipe	95.0%	4.6%	0.4%
Tocantins	92.6%	7.1%	0.4%
BRAZIL	**91.7%**	**7.4%**	**0.9%**

Source: Author's elaboration based on COTEPE (2012) data.

At a glance it becomes easy to understand why the ICMS is the preferred tax to enhance tax collection, since representativeness is the key. But there are two other factors that directly affect this option: (*i*) who pays the tax and (*ii*) the political impact of the decision.

Although the citizen is the real tax payer in every taxed operation, this is not very clear for tax payers in Brazil. The ICMS is known as a tax paid by companies, simply because the true tax payer does not have to collect it for the state. So, nevertheless paying ICMS whenever buying goods or services, tax payers do not "feel" like they are the ones paying the tax included in the price.

The second factor is a derivation of the first one. The IPVA is due yearly, and it has to be paid by the person/company who has the property of a vehicle. The same analysis fits the ITCMD, though not in a regular basis. It means that changes in any of these two taxes, especially increasing their rates, will largely affect the population – voters – and whoever is in charge might become very unpopular.

On the other hand, when the government increases its revenue through ICMS changes, companies might complain and eventually move out of the state, in pursuit of better circumstances.

Consequently, states have to be creative when searching for a solution to improve their results in tax collection as a means to offer better public goods and services to the population, preferably without increasing current rates. The next section will explore what Brazilian states are doing in order to increase – and sometimes only preserve – their revenue.

4.1. Revenues and expenditures: how to maintain equilibrium without overcharging taxes and offer adequate public goods and services

Summarizing the question of this section's title, how does a state increase its revenue without changing the rates of its taxes? It is pertinent to remember that actions to increase state revenue have always been taken towards ICMS, the reason why we will focus on this particular tax in this study.

For the purpose of increasing revenue, the state's economy has to grow. A convenient solution would be the establishment of more companies in a short period of time. The actions to do so are controversial, because they lead to fiscal competition.

In Brazil, fiscal competition is relatively new, as seen in previous chapters, and it opened after the current Constitution was promulgated. Some states, to prevail over others started to offer benefits for companies they were interested in attracting to their states.

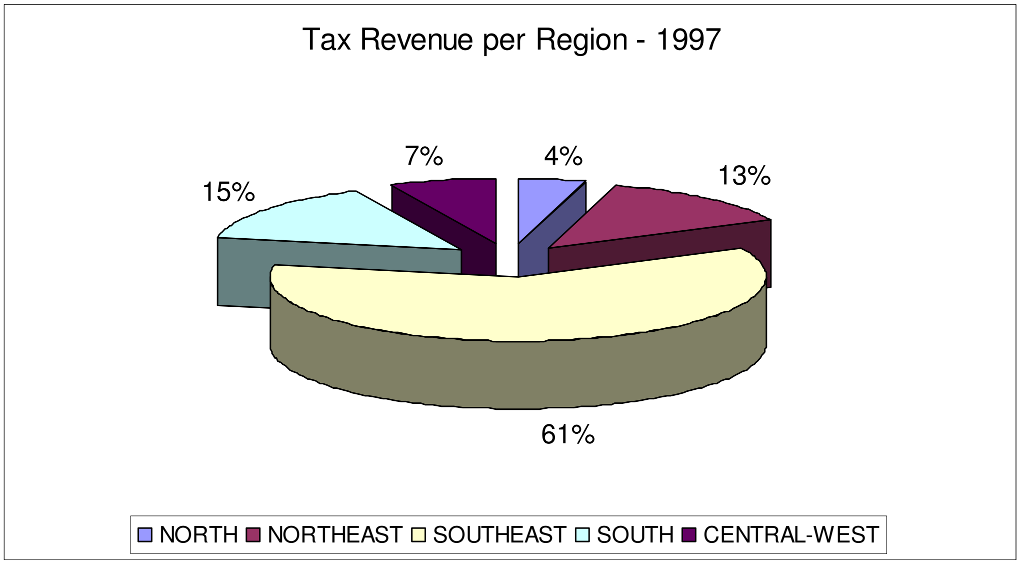
During the 1990's, due to an agreement settled among government, industry, car shops and workers union, the states started a race among themselves to obtain automotive factories. The reason governments tend to consider an automotive industry such a good investment derives from the fact that when a company like Ford decides to manufacture its vehicles in a determined location, all the systemists will follow the assembler and will consume local goods, enhancing the economics of the region in at least three manners: (*i*) the output of the factory, (*ii*) the indirect increase of output due to the systemists, and (*iii*) the increase of income due to the skilled professionals the industry requires.

The economic growth an automotive industry can bring to a region is valid to other kinds of industries and some services, and the development that comes with this growth is what governments are seeking. In other words, state governments in Brazil understood that in the end they would have economic growth, and as a side-effect tax revenue would increase.

Here the states analyzed their position in the market. For the investing company, willing to expand its business, after deciding on country it still had to settle the specific location of the factory. Although roads, railways, ports and general infra-structure play a significant role in this strategic decision, fiscal amenities might be the most debatable point, since states offer different conditions in order to guarantee the investment.

The next question in this scenario should be which states can compete in this market? Figure 2 presents the ICMS share of Brazilian regions in 1997.

Figure 2 – ICMS tax revenue per region – 1997



Source: COTEPE/ICMS - Boletim do ICMS e demais impostos estaduais (1997).

Analyzing the diagram, it is possible to infer that regions Southeast, South and Central-West would be better equipped for a fiscal competition. Considering they had a higher share of the ICMS, it could be interpreted they had less budget vulnerability (more money) and more willingness to forgo revenue at that moment as a means to assure a better position in the future.

All this arguments have been shown as if the states were a free market competing for companies' investments. That is not true. As seen in section 2.2 of this paper, there are regulations from CONFAZ that limit the power of states in conceding fiscal benefits. But there are no clear punishments for those that disobey their rules and the case is now for the Supreme Court to decide.

All in all, it is reasonable to conclude that the states are quite interested in increasing their revenue, but this is only one side of the story. Why do governments emphasize revenue so much, if they could also take measures to reduce their expenditure?

The answer is that reducing expenditure usually implies reducing the offer of public goods for the population, and this is not an affordable outcome for politicians, who depend on popular vote and public opinion.

There have been some budget cuts recently, in areas that can deal with it without compromising the quality or the quantity of public services, but it always represents a political friction to decide which Secretariat is going to give up resources in order to achieve the target budget.

4.2. Externalities that affect forecast numbers

After a budget is approved by the legislators, it is the Finance Secretariat's responsibility to make it happen, controlling and centralizing all revenues and expenditures, as well as executing the payments for the expenses each organ has approved and verified.

A forecast is always a number used to set the direction of the expenditure, but major changes due to externalities can turn the whole budget upside down, and thus, the forecast becomes suitable for a revision.

An example is the change in the electric energy policy that has been recently announced by President Rousseff, which aims to reduce its current price in up to 20%. Excellent for consumers, but this means states need to re-estimate their tax revenues. In the state of Paraná, for instance, this sector represented almost 15% of the ICMS revenue in 2011.

Other changes in the market can also impact tax revenues. During the financial crisis of 2008 many jobs were lost, and less income means less consumption, which in turn leads to less output and higher prices. This way, taxes are affected in a similar proportion to sales, and the government eventually tries to intervene for the purpose of stopping this cycle.

Whenever any of the reported events happen, independent of its origin, the governments have to consider their options and weigh the consequences. Two different approaches will be explored in the next section: technical and political.

4.3. Decisions on budget: technical approach x political approach

The technical approach to an extraordinary situation, as the examples on section 4.2, will provide data to subsidize decisions. Government bureaucrats may also indicate alternative lines of action. The problem is that technical decisions tend to use the alternative which has the best numerical outcome, regardless of other possible implications.

As the final decision on fiscal policies comes from the Governor, assisted by their Finance Secretariat, the information has to cover a wide range of subjects, such as the effects the new fiscal policy might have, for tax payers, on employment, output, demand, and supply; and for the government, on revenue and expenditures. It means several departments will get involved in the formulation of this kind of public policy. For example, the

Finance State Secretariat of Paraná has the following departments to cope with this task:

– "Coordenação da Receita do Estado" – CRE – State Revenue Coordination. This is the department responsible for tax administration, collection and auditing. It prepares tax regulations to send to the Legislative, controls the revenue, looks after the interaction between tax payers and authorized banks to collect taxes, monitors the companies based on indicators of fiscal fraud and eventually audits them. Regarding the budget, the State Revenue Coordination provides data and forecasts on the state taxes. Its mission is to "execute tax administration with integrity, enforcing the legislation in order to have an adequate tax collection" (CRE, 2012).

– "Coordenação da Administração Financeira do Estado" – CAFE – State Financial Administration. This department's duties towards the budget include forecast of all non-tax revenues and the compilation of the expenditures. It also manages the Executive branch payments and the payroll of the whole government.

– "Coordenação de Assuntos Econômicos" – CAEC – Economic Issues Coordination. Regarding budget, the Economic Issues Coordination is responsible for federal intergovernmental transfers forecast. This department takes care of the relationship between state and potential investors, remarkably those interested in fiscal benefits. After a company formalizes its intention, the Economic Issues Coordination proceeds to an economic analysis to subsidize the decision on whether granting or not the benefits. It is also responsible for the "Fundo de Participação dos Municípios" – FPM – Municipalities Participation Fund. This fund receives 25% of the ICMS revenue to be redistributed to municipalities according to Law 9491/90 (Paraná, 1990). The value added in operations with ICMS is the most representative item to obtain the ratio of participation.

The Finance Secretariat works along with other Secretariats to carry out the economic strategy of the state. Continuing with the example of Paraná, the Budget and Programming Coordination of the Planning Secretariat – "Coordenação de Orçamento e Programação da Secretaria de Planejamento" – is the department responsible for planning and executing the budget, putting together all Secretariats actions and financial information provided by Finance Secretariat.

With reference to development issues, the "Secretaria de Indústria e Comércio" – Industry and Commerce Secretariat – seeks companies interested in expanding operations in Brazil and endeavors to provide assistance in order to reach an agreement of investment in the state.

There are certainly many other institutions involved in this process, but the intention is to demonstrate the Finance Secretariat role in the economy of the state. Nevertheless, it was necessary to mention these two other secretariats due to the narrow link they have with the Finance Secretariat.

The decision on how to deal with economic issues will evince the manner a government manages its share of responsibility to stimulate economic growth. The ICMS gives state governments at least three different tools to induce this outcome: (*i*) tax reduction, (*ii*) presumptive credit, and (*iii*) postponed tax revenue.

Tax reduction is quite simple and depends basically on altering the legislation to benefit a specific set of industries or services. The Legislative branch undoubtedly endorses it, because the proposed legislation is sympathetic to investors – and sometimes to established companies –, and aims at developing the state.

Presumptive credit is a more complicated instrument and depends on various studies to confirm the amount of credit that should be offered. It became a common tool for the fiscal war, but it might start chain reactions – neighbor states can adopt a similar legislation to prevent that companies in its territory are hurt by the advantage given by the first state, and to avoid the departure of firms to that state. The use of this strategy may lead the states to a “race to the bottom”, as reviewed in section 3.2, deteriorating tax revenue.

One problem in adopting either of these two strategies is that they do not meet CONFAZ requirements, and might even be considered illegal. Another point to be taken into consideration is that states do not permit the publishing of details on these benefits, what makes it virtually impossible to obtain reliable data, even for a theoretical exercise.

The third strategy is postponing ICMS revenue, therefore giving time for a new company to recoup its investment. This strategy is usually followed through after a formal approval of CONFAZ, which analyzes the program and verifies whether its contents do not hurt the federal pact.

The main objective of this article is to explore whether these incentive programs that postpone ICMS revenue bring the expected outcome to the state: increase in GDP, ICMS revenue and level of employment. The next chapter will present the case study of Paraná.

5. FISCAL INCENTIVES: STATE OF PARANÁ CASE STUDY

Rodrigues (1998) presented one of the first studies about the subnational governments' relevance for Brazilian economic growth towards decentralization, and indicated seven states as the ones which received most investment after the monetary stabilization – 1994/1995 – Bahia, Ceará, Minas Gerais, Paraná, Rio de Janeiro, Rio Grande do Sul, and São Paulo.

5.1. Fiscal incentive programs from 1996 to 2010 in Paraná

The State of Paraná launched its first structured fiscal incentive program in 1992, named "Bom Emprego" – Good Employment, and it was based on postponing a significant installment of the due ICMS in order to grant industries cash flow for their expansion. It is worth remembering that companies could only postpone incremental ICMS, i.e., if they were already established in Paraná, only the increase of due tax would be affected by the benefit.

The amount of ICMS companies could postpone, as well as the percentage of incremental tax, were defined according to a list of municipalities given by the state government. The intention was to decentralize industrialization, thus offering better benefits for unindustrialized areas as an attempt to encourage investments in the poorer areas of the state.

Focusing again on employment, the next program was "Paraná Mais Emprego" – Paraná More Employment –, in 1995, with similar rules. With a wider ambition, the Prodepar "Programa de Desenvolvimento Econômico, Tecnológico e Social do Paraná" – Program of Economics, Technological and Social Development of Paraná –, in 2001, brought its scope in its name. And in

2003, the “Bom Emprego” was restored – with some improvements and minor changes – and lasted until 2010.

Based on the Decree 630/2011, which implemented the current fiscal incentive program “Paraná Competitivo” – Competitive Paraná –, it is possible to offer some details that most of the depicted programs had employed:

> “The program aims to attract investment, generate employment and income, and promote regional decentralization and environmental preservation, induced by industrial development of the state. It is designed for industrial companies already settled or intending to settle in Paraná with the commitment of accomplishing a permanent investment.” Paraná (2011)

This excerpt of the first article sets the objectives of the program as well as limits to the kind of companies able to benefit from it. The investment mentioned refers to the amount of capital invested during the twenty-four months prior to the beginning of the benefit fruition. The amount invested is also the limit of incremental ICMS to be postponed.

The incremental ICMS is any ICMS due above the average of the previous twelve months, so it means the company has to increase the output after the investment in order to enjoy the benefit.

Nevertheless, if the company accomplishes a new investment after the beginning of the benefit fruition, the new amount invested can also be authorized as part of the program, but new limits will be drawn as previously described.

The fiscal benefit postpones part of the company’s incremental ICMS – from 10% to 90%, depending on government technical analysis, e.g., whether there is a competitor to the good the company will produce – for a period from two to eight years. The first installment is paid on the regular due date and the second installment is paid after the grace period described. This authorized “tax collection delay” ensures companies a better cash-flow, right after completing an investment, avoiding the need to resort to loans in the market.

This program also brings social requirements for the companies. The companies cannot reduce labor force during the whole period of the program and they are obligated to invest part of the benefit granted – up to 5% – in qualification programs for its employees.

Although all these programs aimed at economic development, its critics could see them as an attempt of increasing ICMS revenue, which is considered by programs’ defenders as a long-run side effect of the economic growth – that had only been achieved due to the programs.

Table 3 brings some valuable information to compare regional GDP performances.

Table 3 – Region Participation (%) on Gross Domestic Product 1995 – 2009

Region	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
North	4,2	4,3	4,1	4,2	4,2	4,4	4,5	4,7	4,8	4,9	5,0	5,1	5,0	5,1	5,0
Northeast	12,0	12,5	12,5	12,4	12,4	12,4	12,6	13,0	12,8	12,7	13,1	13,1	13,1	13,1	13,5
Southeast	59,1	58,4	58,5	58,2	58,2	58,3	57,7	56,7	55,8	55,8	56,5	56,8	56,4	56,0	55,3
South	16,2	16,2	16,1	16,2	16,4	16,5	16,7	16,9	17,7	17,4	16,6	16,3	16,6	16,6	16,5
Central-West	8,4	8,6	8,8	9,0	8,8	8,4	8,5	8,8	9,0	9,1	8,9	8,7	8,9	9,2	9,6
Brazil	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

Source: IBGE (2012a).

Considering the fiscal competition that began in the mid-1990s, it is possible to detect that the Southeast region, the most developed one in the country, lost 3.8% of its participation in Brazilian GDP during the 15-year period analyzed, which represented a decrease of 6% in relative terms from 1995 to 2009.

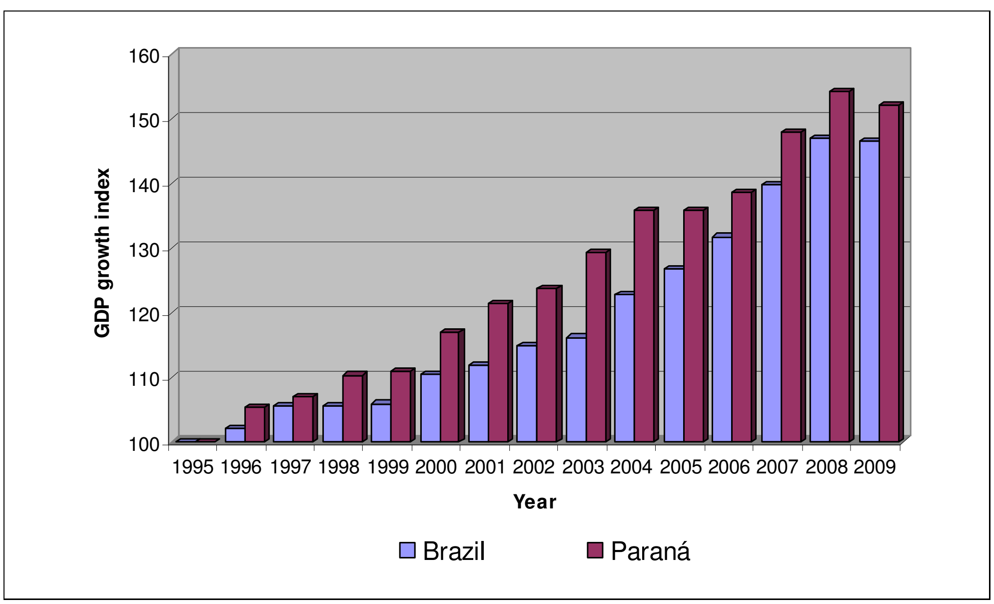
The South region, where Paraná is located, had a minor variation in participation, with an increase of 0.3% (16.2% to 16.5%), or an augment of 2% when comparing the 2009 results with the achievements of 1995.

The other regions had a better relative increase in their participation: the North grew 19% (from 4.2% in 1995 to 5.0% in 2009), the Central-West grew 14% (from 8.4% in 1995 to 9.6% in 2009) and the Northeast grew 12% (from 12.0% in 1995 to 13.5% in 2009).

These data does not allow drawing a conclusion about the efficiency of the programs because they are aggregated by region, but they help understand the decentralization movement that happened in Brazil after the monetary stabilization.

As a means to go deeper in the analysis, Figure 3 shows a comparison between the aggregated GDP growth of Brazil and Paraná.

Figure 3 – Brazil and Paraná GDP growth – 1995-2009 (basis 1995 = 100)



Source: Author's elaboration based on IBGE (2012a) data.

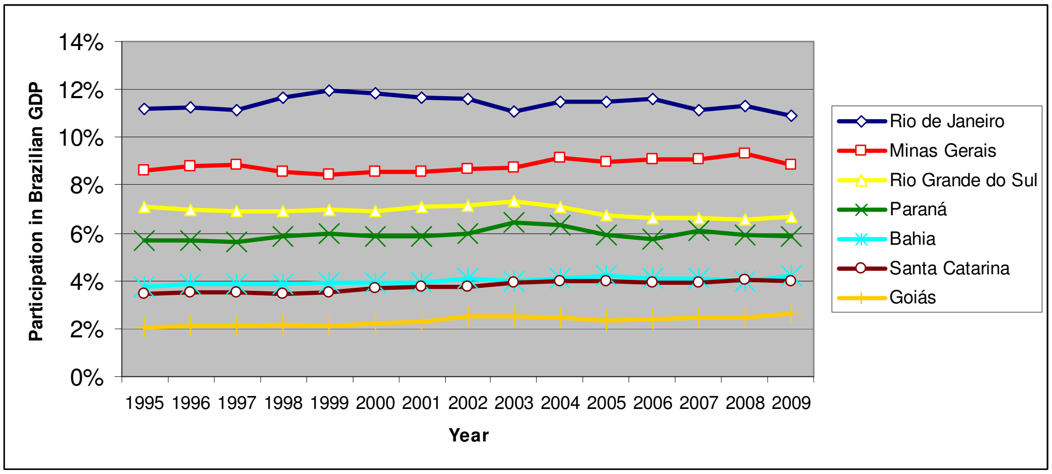
It is remarkable that the State of Paraná maintained a consistent higher level of growth than Brazil up to 2004, when the gap started shortening. A possible explanation to that is the increasing number of states that adhered to fiscal competition. Another data that is clearly significant is that the amount of money invested in the period between 2003 and 2010 was barely equivalent to the amount invested in 2011 alone, when the new program "Paraná Competitivo" – Competitive Paraná – took place.

A possible effect of the programs can be seen in 2009, when Brazil suffered its first decrease in GDP in many years. The state suffered a more intense impact due to the cut in investments derived from the financial crisis of 2008.

While this comparison gives Paraná's programs some credit, it is also necessary to test their performance against similar states. Independent of on what level these states entered the fiscal competition, they were chosen based on the similarity of participation in GDP. For this analysis the Federal District was not considered due to its very specific situation – no industries at all and the highest income per capita in the country because of the concentration of high level public employees.

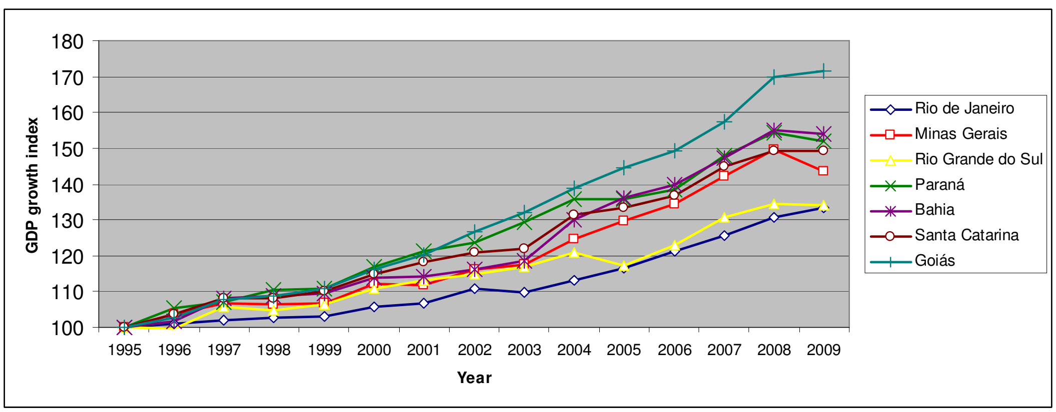
The selected states are, based on GDP participation in 2009: Rio de Janeiro (10.9%), Minas Gerais (8.9%), Rio Grande do Sul (6.7%), Bahia (4.2%), Santa Catarina (4.0%) and Goiás (2.6%) – the first three immediately above Paraná's participation (5.9%) and the last three immediately below. Figure 4 shows the evolution of their participation in Brazilian GDP and Figure 5 presents the aggregate growth curve for these states, allowing for a visual comparison of their performances (basis 1995 = 100).

Figure 4 – Participation in Brazilian GDP, selected states – 1995-2009
(basis 1995 = 100)



Source: Author's elaboration based on IBGE (2012a) data.

Figure 5 – GDP growth, selected states – 1995-2009 (basis 1995 = 100)



Source: Author's elaboration based on IBGE (2012a) data.

The analysis of Figures 4 and 5 allows at least two inferences: (*i*) it is very difficult to move significantly upwards in GDP participation, despite the efforts conducted by states (or maybe because their group efforts have nullified their individual endeavors), and (*ii*) the bigger the state's share on the graph, the harder to consistently maintain an elevated GDP growth ratio.

Paraná's performance, when compared to the selected states, lies close to average. It might mean that the enhancement of fiscal competition made it difficult for the state to keep a continuous high performance in GDP growth. But it is arguable how the state of Goiás managed to grow so much above its competitors. The difference could be partially explained by the GDP participation of the state, the smallest one among the selected states.

5.2. Analysis: GDP x Tax Revenue

Having presented the most relevant data about GDP and comparisons with similar states, it is now necessary to analyze the performance of the tax used for the competition – the ICMS –, how its behavior has been affected and the outcome for state budget and strategic planning.

The ICMS data used in this section cover the period from 1997 to 2011. The restraint of the research period is due to the last major modification in ICMS legislation, the "Lei Kandir" ("Lei Complementar 87/1996") – Kandir Law –, named after the Planning Minister at the time. The law prohibited states from taxing exports of primary products and semi-manufactured products or services and caused considerable damage to the ICMS revenue of some them. There was a temporary compensating fund to help states adjust to the new situation, but the states lobby has managed to postpone its end repeatedly – and there is no forecast to bring it to closure yet.

Table 4 presents a participation comparison among Brazilian regions regarding ICMS revenue.

Table 4 – Region Participation (%) on ICMS revenue 1997 - 2011

Region	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
North	4,5	4,3	4,1	4,5	4,7	4,9	5,2	5,3	5,5	5,6	5,6	5,6	5,6	5,7	5,6
Northeast	13,1	13,7	13,5	13,8	13,8	14,4	14,3	14,6	14,6	15,1	14,8	14,4	14,8	15,1	15,1
Southeast	60,5	60,3	59,7	58,7	58,1	56,5	54,8	54,9	54,6	55,0	55,5	55,9	55,2	55,2	54,6
South	14,9	15,1	15,3	15,5	15,9	16,3	17,1	16,4	16,7	15,8	15,5	15,5	15,7	15,6	15,9
Central-West	7,0	6,6	7,3	7,4	7,5	7,9	8,5	8,8	8,6	8,4	8,6	8,6	8,7	8,4	8,7
Brazil	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

Source: Author's elaboration based on COTEPE (2012) data.

The behavior of the ICMS participation over the years is exactly the same as the one shown by the evolution on GDP participation – Table 3 – with a slightly bigger decrease for the Southeast region (-10%), and consequently a better performance of other regions which increased their participation as follows: North (25%), Central-West (25%), Northeast (15%) and, South (7%). All percentages reflect the relative change on regions participation in ICMS revenue.

As a means to facilitate the comprehension of the relation between the variables – GDP participation and ICMS revenue participation – Table 5 brings the relative growth obtained in both cases.

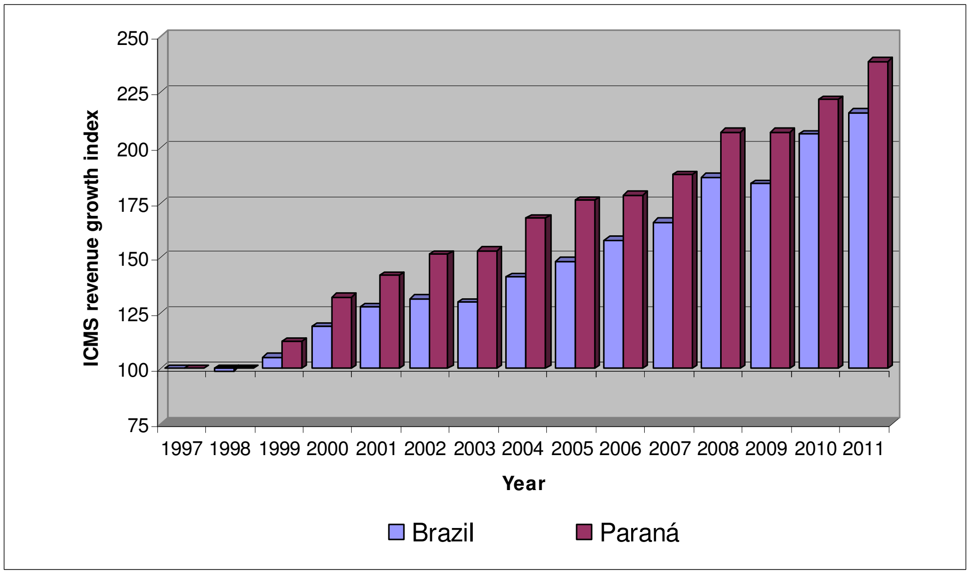
Table 5 – ICMS participation growth and GDP participation growth – 2011/1997

Regions	ICMS growth	GDP growth
North	25,4%	19,3%
Northeast	15,1%	12,2%
Southeast	-9,7%	-6,4%
South	6,5%	2,1%
Central-West	25,2%	14,1%

Source: Author's elaboration based on COTEPE (2012) and IBGE (2012a) data.

Following the same line of analysis enacted with GDP, Figure 6 demonstrates a comparison of ICMS revenue growth between Brazil and Paraná.

Figure 6 – Brazil and Paraná ICMS revenue growth – 1997-2011
(basis 1997 = 100)



Source: Author's elaboration based on COTEPE (2012) data.

The perception that the pattern is the same as the one previously seen in GDP growth is quite appropriate, with two caveats: (i) the effect of the financial crisis influenced 2009 ICMS revenue due to the lag between production decrease and the respective tax payment and (ii) Paraná has apparently regained its growing pace throughout 2011, increasing the difference between its revenue growth and the country's aggregated ICMS revenue growth.

Notwithstanding the fact that the indexes reflect different time periods (GDP from 1995 to 2009 and ICMS revenue from 1997 to 2011), it is fairly easy to notice that ICMS revenue grew at a much faster pace than GDP. It means the states profited more in tax revenue than the outcome of economic growth could have produced.

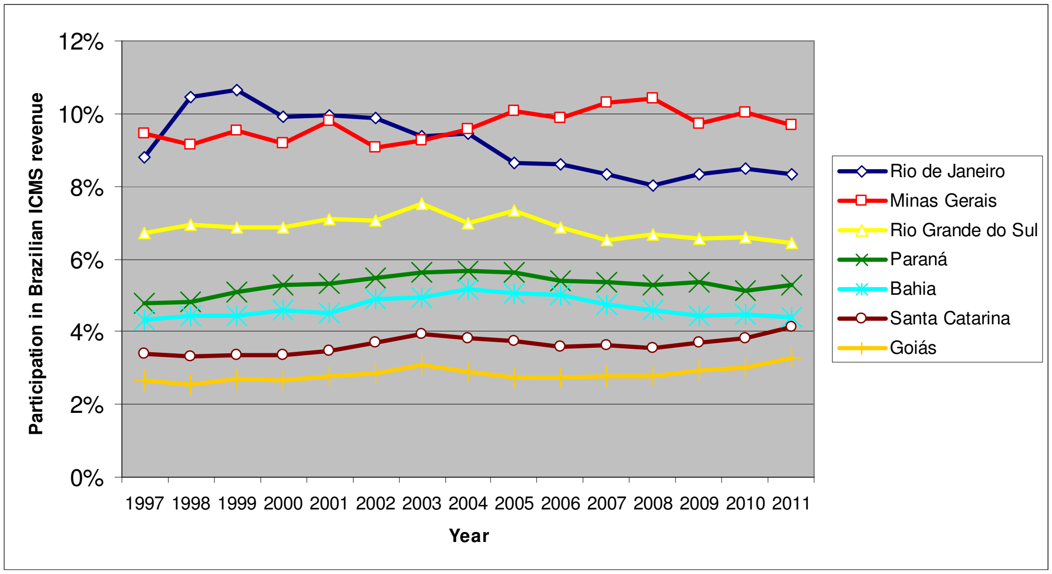
It is possible to argue that both indexes should follow the same tendency. Further investigation shows that the divergence is due to several tax legislation changes the states implement to manage increasing expenditures. It might signify the expansion of the government size or a decrease in the efficiency of the public sector.

The same states compared in section 5.1 will be analyzed under the focus of ICMS revenue aggregate growth. Before the evaluation of this index, it is worthwhile to verify what their participation in ICMS revenue in 2011 was: Minas Gerais (9.7%), Rio de Janeiro (8.3%), Rio Grande do Sul (6.5%), Bahia (4.4%), Santa Catarina (4.1%) and Goiás (3.3%) – the first three immediately above Paraná participation (5.3%) and the last three below Paraná performance.

An observation deserves to be made Pernambuco, also with a participation of 3.3% in aggregate Brazilian ICMS revenue but somewhat higher than Goiás would be the sixth state to be compared with Paraná if the same criteria of section 5.1 had been adopted. It was chosen to maintain the same states of the GDP comparison.

Figure 7 shows the evolution of selected states participation in Brazilian aggregate ICMS revenue.

Figure 7 – Participation in Brazilian ICMS revenue, selected states - 1997-2011
(basis 1995 = 100)



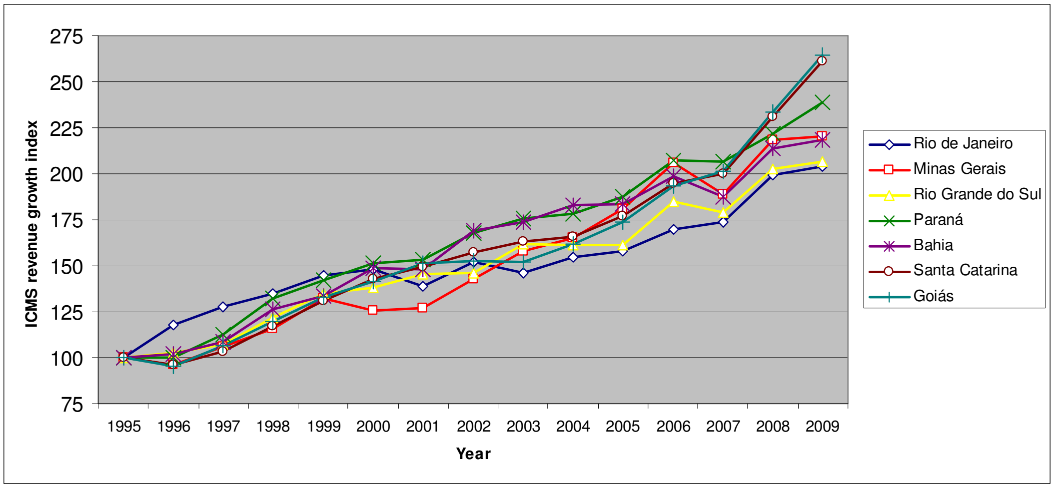
Source: Author's elaboration based on COTEPE (2012) data.

Two comments are deemed necessary about Figure 7. First, differently from Figure 4 that showed an almost steady participation in Brazilian GDP over time, in ICMS revenue states' participation presents a "dispute" between Rio de Janeiro and Minas Gerais. The result is that Minas Gerais has a higher participation in ICMS revenue than Rio de Janeiro, in spite of converse positions in GDP participation.

Besides that, it is noticeable that three states grew in participation in 2011 compared to 2010: Paraná, Santa Catarina and Goiás. Considering the fact this diagram only contemplates participation, there is not enough information to understand its behavior.

Figure 8 will provide a better understanding about the evolution of each state by presenting the aggregate ICMS revenue growth (basis 1995 = 100).

Figure 8 – ICMS revenue growth, selected states – 1997-2011 (basis 1995 = 100)



Source: Author's elaboration based on COTEPE (2012) data.

Figure 8 helps understand that the four states that lost participation in 2011 – Rio de Janeiro, Minas Gerais, Rio Grande do Sul and Bahia – had actually had an increase in ICMS revenues, though a less meaningful one than Paraná and, especially than Santa Catarina and Goiás.

With regard to Paraná's increase, it has already been mentioned that a possible cause of the increase in GDP, and perhaps in ICMS revenue, might be the current program to attract investments, "Paraná Competitivo".

The performance of Santa Catarina and Goiás certainly warrants them a deeper study, which unfortunately cannot be performed in this paper due to its focus on Paraná.

5.3. An analysis of expected outcome

As most government interventions in the economy, the incentive programs described are expected to increase the employment level of that government – specially these ones, who bring in their names the intention they pursue. In this section the unemployment indicators are shown and compared for the purpose of verifying the proper use of the tax revenue growth the Paraná has reached.

Firstly it is necessary to explain Brazilian unemployment research. There was a change in the estimation methodology in 2002, so the data presented is from 2003 on. The Brazilian unemployment estimate is derived from monthly researches conducted in six metropolitan regions – the capitals of each state: (*i*) Recife – Pernambuco, (*ii*) Salvador – Bahia, (*iii*) Belo Horizonte – Minas Gerais, (*iv*) Rio de Janeiro – Rio de Janeiro, (*v*) São Paulo – São Paulo, and (*vi*) Porto Alegre – Rio Grande do Sul.

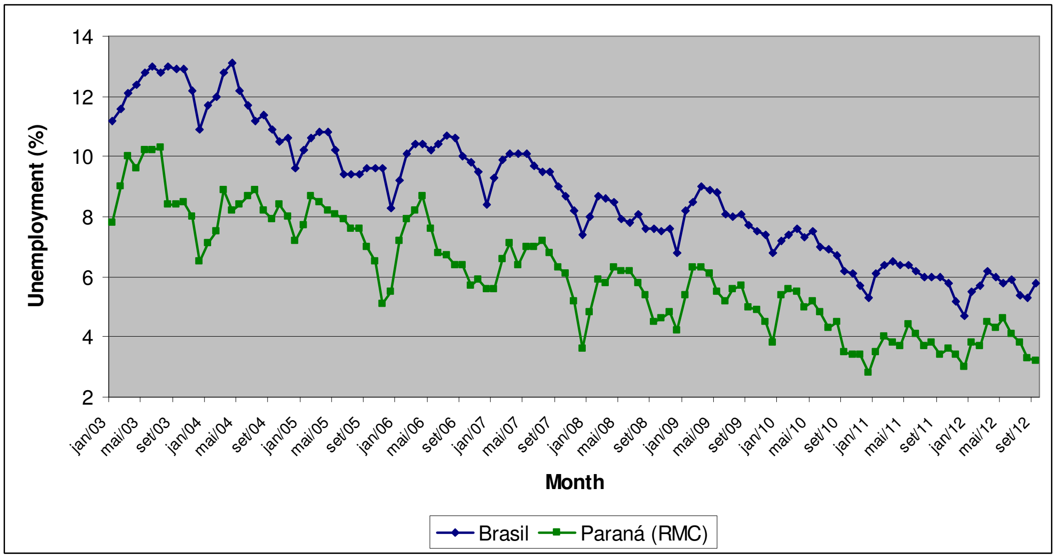
The organization responsible for the research is the "Instituto Brasileiro de Geografia e Estatística", better known by its acronym IBGE – Brazilian Institute of Geography and Statistics – that works with state level organizations to accomplish this task.

In Paraná, the "Instituto Paranaense de Desenvolvimento Econômico e Social", IPARDES – Paraná Institute for Economical and Social Development – partners with IBGE to deliver the demanded information, according to the methodology.

The research in Paraná reflects the unemployment level of the "Região Metropolitana de Curitiba" – RMC that stands for metropolitan region of Curitiba (the state's capital). The RMC pulls 29 municipalities together, and represented 70% of the state ICMS revenue in 2011.

The diagram in Figure 9 demonstrates that Paraná (represented by RMC) trailed its way to reduce unemployment levels and so did Brazil, having very similar trends towards the 10-year period analyzed.

Figure 9 – Monthly unemployment rate in Brazil and Paraná – 2003-2012



Source: Author's elaboration based on IBGE (2012b) and IPARDES (2012) data.

The peaks and troughs behavior of Brazil and Paraná curves are very similar throughout the diagram, but the last three months show a different trend. It might be an exception, but it is worth to take notice of this result and follow it up in the next months.

Considering full employment rate as the unemployment rate consistent with stable inflation (OECD, 2000), it is possible to make a comparison. McLaughlin (2012) wrote about the Federal Reserve forecasts for the US GDP growth and unemployment rates (estimated to be 6.4% by the end of 2015), and mentioned that the calculation assumed a 5.6% full employment rate.

Using the assumption of 5.6%, Brazil would have been near a full employment level for the past twelve months reaching a maximum unemployment rate of 6.2% in March 2012. The state of Paraná, in the same scenario, would have been above full employment level for the last time in August 2009.

A study driven by the "Instituto de Pesquisa Econômica Aplicada", IPEA (2012) – Institute for Applied Economic Research – agrees that Brazilian economy has important changes in course, and that unemployment rates have been falling consistently, but alerts that Brazil is still not close to its full employment level.

It does not seem possible to attribute the evolution of unemployment rates in Paraná to the fiscal benefit programs, especially because the decrease was similar to the country's performance. A caveat must be made on account of the restricted data (from 2003 to 2012), after all, six years - out of fifteen - of the GDP data analyzed could not be matched.

As for the opportunity cost the state incurred into, it is widely debatable. As previously seen, the programs are built on postponing tax payments. As these credits would not happen if companies decided not to invest, it is not clear whether the state has given up revenue as a means of attracting companies – otherwise there would not be revenue to postpone at all.

The detractors of this kind of program insist the government should have made better use of tax payers' money, instead of granting conditions for companies to establish themselves in the state. On the other hand, the defenders say that Paraná's GDP and employment would be shrinking if the programs had not taken place.

6. ECONOMIC THEORIES APPLIED TO THE CASE STUDY

After the exposition of federalism concepts and its relation to fiscal affairs and the information about the procedures subnational governments are putting in motion in Brazil, it is proper to analyze the tax incentive programs under the optic of the economic schools of thought.

6.1. Economic theories

Taking into consideration the divergences and the quantity of schools of thought existing in economics, it is necessary to narrow the scope for this analysis. Not disregarding the importance of the social economists like Max Weber, who Peukert exalts (2004) as "undoubtedly one of the most fascinating and important social scientists of the last century" – although Schumpeter (1920, *apud* Peukart, 2004) states that "he was an eminent sociologist and at best secondarily an economist" – the intention is not to cover the history of economics, but the main ideological work on which our society has been built on.

Having said that, the focus of this analysis will lie on Classical and Keynesian approaches to economic issues. A milestone for this discussion is Smith (1776) who proposed the division of work as a means to increase productivity and enrich the country. One of Smith's main ideas came to be synthesized years later by Say's Law: supply creates demand.

Particularly in the matter of international trade, Smith (1776) is explicit in noticing that a country should benefit from buying commodities wherever they were cheaper, even if it meant buying from another country.

This beginning of the capitalist thought lead countries to pursue increasing output in order to obtain net exports surplus. There are five reasons why countries want to trade, according to Suranovic (2010): (*i*) differences in technology, (*ii*) differences in resource endowments, (*iii*) differences in demand, (*iv*) the existence of economies of scale in production and, (*v*) the existence of government policies. To the case study under analysis, all those reasons can be applied, especially when a company is pondering where to invest in a new facility.

The evolution of classical economic thought continued until an opponent to the mainstream brought his discourse to place. John Maynard Keynes, although agreeing on many points with the classical economists, introduced the idea of wage and price rigidity (ABEL *et al.*, 2011).

The classical view of economics believes that, in the long run, markets will clear by rapidly adjusting wages and prices. So, in the case of a supply shock that reduces output, prices increase and, therefore, demand decreases. Whatever the cause might have been, an expected solution would come – a technological breakthrough – and the shock on the supply side would lead to the opposite direction of the first one. The repetition of this pattern explains the classical business cycle.

Most importantly, according to the classical economists, all these peaks and troughs in the economy of a country would occur naturally, what means the market should oscillate freely and eventually accept the business cycles outcome as a routine.

One of Keynes most famous remarks is “in the long run we are all dead” (Wapshott, 2011), in an attempt to defend his idea of the government intervening in the economy because of the immediate results it could generate.

This idea could be based on the concept of Adam Smith’s “invisible hand”. One possible interpretation to this concept is that there are regulations to be followed. Here, the separation between Keynes and the classical theory becomes clear: while the classical school believed the invisible hand was the power the markets had to self-regulate, Keynes saw the government as the invisible hand.

It is indispensable to notice that Keynes was not an interventionist by definition, but he considered almost mandatory that the government intervenes to stand up for the economic growth of the country, mainly by stimulating consumption – regardless of the debt that these measures could lead to. It is consistent with no concern at all to the long run.

Click (2012) explains that an optimal approach would merge these two schools of economic thought and produce a more appropriate approach to contemporary economic issues.

An option could be the implementation of the Keynesian thought in the short run, imposing a shock in the economy and after its effects start being noticed, gradually withdrawing, thus impeding the malefic side effects of intervention from reaching a prohibitive cost to the country.

The complete withdrawal of intervention should allow free markets to take over the economic growth in the long run. It would avoid the risks of government failure in driving the economy and becoming defaulting with its obligations.

6.2. Do economic theories justify the decisions taken by government to increase GDP and VAT revenues?

Remembering that the motivation for states to enter fiscal competition is generating jobs and guaranteeing economic growth, the economic schools of thought analyzed in the previous section are deemed adequate for supporting this study.

The case study of Paraná presented in Chapter 5 represents a clear interference of the state government in the market. The questions to be answered are: (*i*) why is the government granting the benefits, (*ii*) how does it affect the market, and (*iii*) how long do the benefits last.

Why is the government granting benefits? The reason is the interest of the community, because it allegedly guarantees a higher employment rate and sustained economic growth.

The results obtained in Chapter 5 do not support this hypothesis, but the data also demonstrates that the state of Paraná kept its growth at least at the same velocity of the country average, after having a jump start – the state was amongst the first ones to offer structured programs to attract companies.

According to the classical school the programs should never have been launched, since they deviate the natural course of choice for investments. It means the company is losing because it has given up the optimal location for a new facility in favor of fiscal benefits. The government is losing because it is providing money for an activity that apparently is not one in which the state has a comparative advantage – otherwise no benefits would be necessary. The tax payers are losing because their money might have been misused if the government is not making the best decisions on how to spend it.

From a classical stand point, the arguments against benefit programs are: (*i*) the commitment of the company is not with the state, but with the fiscal benefit, i.e., it lasts as long as the program, (*ii*) the company is likely to become recurrent in its pledges for more benefits – even threatening to remove its facilities from the state, and (*iii*) the cost to sustain such benefits shares the same revenue existent to provide public goods and services, so either the government diminishes its expenditures – resulting in worse conditions for the community – or it increases the debt in the long run, which can turn into an even worse problem than facing the natural ups and downs of the economy.

Keynesians in their turn would defend the programs based on the follow arguments: (*i*) if no action had been taken, the indicators obtained by the state would have been worse off – the indicators are actually above national average, and (*ii*) there is no real cost for the state, because it is simply postponing a revenue it would not have if the program had not taken place.

Furthermore, Keynesians would likely recommend the increase of benefit programs to stimulate economic activity that could maintain a full employment rate and further increase economic growth.

How do benefits affect the market? Considering the market simply as the place where buyers and sellers meet to make business, whenever a third party takes actions to drive it – an externality – there will be winners and losers.

If this is a positive externality (i.e., social benefits are greater than social costs) the community will be better off. As seen in the analysis so far, the beneficiaries of the programs are the companies which enter the programs, leaving for society the cost of its maintenance. So it is definitely a negative externality.

This distortion would be condemned by the classical economists because it interrupts free market trade favoring a particular economic group. They believe companies that cannot compete in the market should be shut down, and the resources – labor, capital and land – must be reallocated to an industry in which the state has a comparative advantage.

Keynesians could understand this negative externality as a trade-off – if the economy had not had the incentive with the programs, workers would lose their jobs and would not have either public goods or income to spend, slowing down growth and eventually falling into a recession. So, a better scenario is presented with the incentive programs.

How long do the benefits last? Depending on the program, the usual period of fruition is from four to eight years. Some exceptions might go over this period, mainly due to the pressure companies exert to have more and more time to enjoy the benefits. The programs do not always prevent companies that are already in an old program from entering a new one – they may even assure that a company can transfer from the prior program to the new one, granting them a new deadline for the benefits.

Once again, the classical economists would be concerned about the results in the long run, and Keynesians on the other hand would applaud this government initiative. The discussion that follows is based on the same arguments already presented.

It is pertinent to remember the concept introduced in this chapter of pursuing a different approach to this subject that would merge the Classical School concerns with the long run with the Keynesian interventions applied only in the short run. This approach could become both budget efficient and beneficial for the community.

The analysis provided arguments that lead to the conclusion that classical economists would not approve the incentive programs Paraná has been putting in action for the past 20 years. Keynesians would praise it as the reason why Paraná held its position and its share in GDP participation.

7. CONCLUSION

This paper has reached its main goal by bringing to a wide open discussion the merits of fiscal incentives of postponing tax revenue as a means to attract companies to the state of Paraná, in a context where fiscal competition among Brazilian states gets stronger every day. The arguments have been presented in Chapters 4, 5 and 6. The secondary goals – data comparison on GDP, ICMS revenue and unemployment rates – were discussed in Chapter 5.

Classical economists' analysis presented in Chapter 6 about fiscal incentive programs assumes that they would stand against the fiscal incentive program because it represents an intervention in the market. Nevertheless, some modern Classicals can see the fiscal competition among the states as a good thing, as long as it does not bring previously unnoticed distortions to the market. In the Brazilian case it is difficult to determine the current distortions origin due to the scenario of complex legislation regarding fiscal issues.

7.1. Final considerations

The study showed that it is possible to analyze fiscal incentives in different ways such as the economical, budgetary, and social standpoints.

Although the information brought here covers only a specific kind of incentive, it paves the way to further analysis of the fiscal benefits given by states in order to enhance their economies, basically aiming at GDP growth and a full employment rate.

Paraná, given the numbers presented in Chapter 5, is doing a little above the average. It grew faster than Brazil in the late 1990's, faced a decrease in the economic acceleration in the middle of the 2000's and has been keeping a similar pace ever since. As previously mentioned, the absence of the incentive programs could have decreased its participation in Brazilian GDP and its employment rate.

In comparison to other states, Paraná had an average result in GDP growth, because some states with similar or larger economy size managed to achieve better results.

As for the ICMS growth, Paraná had a good outcome, behind Santa Catarina and Goiás, the smaller states present in this study. Part of this result demonstrates the increasing efficiency of the State Revenue Coordination in preventing tax evasion, as the GDP growth had not presented results to support the ICMS revenue growth.

The unemployment rate comparison faced a restriction due to the period of data gathering – from 2003 on with the current methodology. It prevents a comparison based on the period the incentive programs began to be granted. Nevertheless, the period evaluated showed that Paraná and Brazil are sharing the same trend – decreasing unemployment rates. The state of Paraná managed to maintain an average unemployment rate 2.7% smaller than Brazil along the years.

The results presented here allow the assumption that fiscal incentives might be good for states that do not put the fulfillment of their budgets at stake by taking part on the fiscal competition. In the case of some Brazilian states, the decision of conceding the fiscal benefits discussed might lead them to the race to the bottom described in Chapter 3, and therefore the fiscal incentives programs can be considered bad politics. However, the state of Paraná has been particularly successful in reaching the incentive programs objectives, i.e., economic growth and low unemployment rate.

The current incentive program, “Paraná Competitivo”, has yet to be evaluated and it is worth keeping in mind the amount of money companies invested in the first year – more than they did in the previous eight years. This might be a milestone in Paraná’s economy if the desired outcomes come to fruition in the near future.

The structure of Paraná’s Finance State Secretariat seen in Chapter 4 is settled to provide dynamic and optimized information for the head of the Secretariat, but considering the federalism and fiscal federalism concepts brought to discussion, it is necessary to highlight the importance of the political actors in state level actions.

The decisions about tax policy come from the Governor assisted by the Finance State Minister, therefore robust and reliable information must be provided for public decision making.

A warning that seems suitable to people who sit in a public decision making position, especially those whose decisions affect the economy, is given by Keynes (1936):

> “The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.”

Considering that the economic thought has been evolving continuously ever since Adam Smith, the advice quoted above is deemed particularly appropriate to government officials that must be open minded for new ideas and should also continue studying throughout their career to improve public service.

7.2. Future papers suggestions

The subject certainly deserves further investigation as a means to achieve a deeper understanding on the effects state tax policy have on GDP and tax revenue. A line of work could analyze tax reduction and/or presumptive credit in the state of Paraná. The main issue the researcher will face is the difficulty of gathering precise information from other states to make the comparisons, but the result would be worth reading.

A second line of work could be to improve this paper in relation to the social indicator. Census can become a good source to support this analysis, because it guarantees the same methodology and indicators to all states. Census 2010 education results will be delivered in December 2012, so comparisons can be drawn against the census 2000 results.

A third line of work could present similar comparisons to the ones produced in this paper focusing on other state of the Brazilian Federation.

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