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**Are Latin-American Countries  
Decentralized?**

**Daniel Artana\***  
**FIEL**



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AV. CORDOBA 637-4° PISO- (C1054AAF) BUENOS AIRES-ARGENTINA

TEL. (5411) 4314-1990-FAX (5411) 4314-8648

postmaster@fiel.org.ar

www.fiel.org

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## INTRODUCTION

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Latin-American countries have 100 state governments of very diverse characteristics and about 14.000 municipalities. About 30% of these municipalities have less than 5000 inhabitants and 90% have less than 50.000 inhabitants. There are also several mega cities in the region.<sup>1</sup> In fact, more than 75% of the population lives in urban areas, making Latin America one of the most urbanized regions in the world.

Decentralization has been increasing in Latin America at the same time that countries have become more democratic. In a very influential study (IADB, 1997) it is shown that in the decade that goes from 1985 to 1995 the share of state (provincial) and municipal government expenditures in total government expenditures increased by about 5 percentage points. In spite of this, the region appeared to be more centralized than developed countries. The simple average of expenditure decentralization in Latin America was 15% compared to 35% in OECD countries.

Ahmad et al (2005) mention that in the last 25 years over 75 countries have attempted to transfer responsibilities of the state to lower levels of government. As most local governments are now elected, decentralization has not just been a fiscal decision but a political one as well. The rationale has been different: in Russia was a part of the political and economical transformation, in Latin America to reinforce the transition to democracy, in South Africa, Indonesia and Sri Lanka a response to ethnic or regional conflicts and in Chile, Uganda and Cote D'Ivoire to improve the delivery of basic services. But improving service delivery has been implicit in most cases because basic services are failing poor people.

The pros and cons of fiscal decentralization have been debated extensively in the literature. In this paper I will try to provide a (partial) survey of the literature and my own views on the following questions:

- ★ Is it relevant to measure fiscal decentralization? (Section 2);
- ★ Are Latin-American countries more centralized than industrialized countries? (Section 3);
- ★ What forces may influence fiscal decentralization? What are the variables that can explain the past and future trends in fiscal decentralization? (Section 4);
- ★ What do we know about the impact of fiscal decentralization on government performance? (Section 5).

I include some comments on measurement problems in Section 1. Finally, Section 6 summarizes the conclusions.

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<sup>1</sup> IADB (2002). *Most of the smallest municipalities are rural. This study also mentions that the average size of a Latin-American municipality, if one excludes Uruguay and Jamaica, is 36.000 inhabitants, about three times larger than in Europe.*

## 1. MEASUREMENT PROBLEMS

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Measurement problems are pervasive in fiscal accounts. The most comprehensive and consistent database is the Government Financial Statistics published by the IMF but it does not have complete information available on Revenues and Expenses for all levels of government, even for many developed economies.

Using National Accounts data is problematic because not all countries use the same methodology to classify revenues and expenditures. Cerniglia (2003) mentions that OECD National Accounts have different accounting practices across countries: for example some report separately social security funds.

*Revenues.* Estimates of decentralization using revenues are rough indicators because they mix together local shares of national revenues where local autonomy is often nil and “true” own taxes where locals have at least some room in determining tax bases and/or tax rates (Bordignon and Ambrosiano, 2006).

The empirical studies do not correct for this measurement problem, and the error is important. For example, Joumard and Kongsrud (2003) use information for 19 countries obtained from an OECD survey for year 1995 to calculate the revenues of governments for which they have autonomy over the tax rate. After the adjustments, the average tax burden is reduced from the 6.66% of the GDP reported using National Accounts Data to 4.34% of the GDP. This reveals that the true vertical imbalance is higher than the one usually reported in many empirical studies that use National Accounts data or GFS data. In some countries the adjustment is substantial. It is higher than 80% in Austria, Czech Republic, Germany, Mexico and Norway and 42% in Belgium, 53% in Poland, 67% in Portugal and 34% in Spain.<sup>2</sup>

Another example is Argentina where the Federal Government collects VAT, Income taxes, Excises and other less important taxes and shares their proceeds with the provinces according to what it is established in the Tax Sharing Law. This shared tax base is rooted in the Argentine Constitution but only the Federal Congress decides about the tax rates and tax bases of those taxes. However, the GFS database includes as provincial own source revenues what they obtained through the Tax Sharing Law (see Box No. 1 in the next section).<sup>3</sup> Most (if not all) Argentine

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<sup>2</sup>The countries that have governments with important autonomous taxing powers after the adjustments are the Nordic countries (with the exception of Norway), Switzerland and Belgium. In most of these cases, user fees account for a large fraction of own source revenues. Fjeldstad (2001) argues that the European countries with the largest fiscal decentralization are those where income redistribution is done at the subnational level (even at the municipal level in unitary countries).

<sup>3</sup> The GFS Manual (2001) paragraph 5.24 indicates, "Depending on the arrangement, the taxes passed on to the second government unit may be reassigned as tax revenue of that unit or they can be recorded as tax revenue of the collecting unit and a grant from that unit to the second government unit." Paragraph 5.25 indicates, "In general, a tax is attributed to the government unit that (a) exercises the authority to impose the tax (either as a principal or through the delegated authority of the principal), (b) has final discretion to set and vary the rate of the tax, and (c) has final discretion over the use of the funds". Based on these two paragraphs, the manual provides guidance to compilers as to which institutional sub sector of the general government these taxes should be assigned. But the national compilers take the final decision. I suppose that the Argentine authorities have classified the Tax Sharing as Own Source Provincial taxes either because the shared tax base is a Constitutional mandate, or because the

economists and many international experts would classify the transfers from the Federal Government to the Provincial governments as grants.<sup>4</sup>

Other problems appear when the legal definition of government revenue differs from its economic interpretation. For example, in the case of the Argentine municipal governments they are legally restricted to charge user fees. But their most important user fees are de facto taxes. This is the case of the Tasa de Seguridad e Higiene in the municipal governments of the province of Buenos Aires, with a base similar to the cascade provincial sales tax, and of the Tasa de Alumbrado y Limpieza with a base similar to the provincial property tax.<sup>5</sup> In the GFS the revenues obtained from these “user fees” are listed as Other Revenue and not as Taxes. This does not distort the estimate of the vertical fiscal imbalance, but it underestimates the tax burden of the Consolidated Government.

*Expenditures.* Information about expenditures of all levels of governments is not always available. Some notorious examples in the GFS data for Latin America are Argentina with information on local governments available only after 2001, Brazil with sparsely data until 1998 or Colombia with data for the three levels of government only since 2003.

Even for OECD countries the information is incomplete. In the period 1990-2004 the GFS March 2006 CD Rom contains no information about expenditures for Japan and Turkey, only three years for New Zealand (2002-2004) and Greece (1998-2000), there is no separate information for state and local governments for the US in 2002-2004, Italy has complete information only for 1995-2003, Ireland only until 1998, and Portugal and Switzerland until 2002.

The GFS used to report data on expenditures on a cash basis and they decided to move to accrual basis in the 2001 Manual. Unfortunately it is not possible to have a linked series (either on accrual or on cash basis).

Mandated expenditures that governments execute may also lead to distorted measures of fiscal decentralization. It is debatable whether they should be included at the central government level or at the subnational level.

The IADB (1997) mentions that more than half of the countries in Latin America have special funds not included in the budget. In some countries these special funds are quite substantial (e.g. El Salvador and Uruguay) and are channeled to decentralized agencies.<sup>6</sup> This affects the estimate of decentralization, especially when cross-country comparisons are made only for isolated years.

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*distribution is automatic or because there is no federal mandate on the provinces on how they can use the money. It is interesting to mention that the Argentine authorities (and the GFS) follow different criteria when dealing with the transfers from the Argentine provinces to the municipalities. They are included as Grants in spite of being automatic and being integrated by a fraction of what each province obtained from the Federal Tax Sharing Law or from the collection of their own source Provincial taxes.*

<sup>4</sup> Bird (2002) mentions that the Argentine tax sharing is better classified as Central Government Taxes that are shared with the provinces because there is little connection between the amount of revenues generated from the provincial tax bases and what the province actually receives from the tax sharing. Bordignon and Ambrosiano (2006) argue that tax sharing is better seen as a grant.

<sup>5</sup> See López Murphy and Moskovits (1998).

<sup>6</sup> Special funds not included in the budget reduce the transparency of the budget process and they create an underestimation of the size of government with no obvious impact on the degree of decentralization.

Another source of bias is skeletons. “Skeletons” are defined as government outlays that were not registered properly in the past and show into the expenditures of a later year. They were important during the 1990’s in Argentina and Brazil (averaging about 1% of the GDP per annum). One example is the non-compliance with the pensions guaranteed in the public pay as you go system in Argentina in the 1980’s which was partially normalized in the early 1990’s. Therefore, Central Government expenditures were biased downwards for a period of time, and upwards later on, both because of the higher expenditures in pensions and the higher interest on the debt issued to regularize the non-compliance. Besides pensions, there were many examples of judicial decisions that were not properly accounted as contingent liabilities in the budgets of some years and appear later on.<sup>7</sup> Therefore, in cross-country studies and depending on the year used in the estimation, the share of some level of government (more likely the Central Government in Latin America) will be biased.

Box No. 1 illustrates the case of Argentina. Estimates of fiscal decentralization depend on the source of information used.

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<sup>7</sup> *Both the IMF and the OECD Manuals on Fiscal Transparency have clear definitions on how to account for contingent liabilities, but many countries ignore them.*



**Box 1: Different estimates of fiscal decentralization in Argentina**

Table No. 1 shows a comparison for Argentina for year 2004 between the GFS data and the Argentine Government data. The GFS has a much higher estimate of interest payments for the Central Government than the Argentine government and this is explained by the inclusion of the arrears on interest payments because the Argentine debt was on default at that time (the Argentine government includes only the interest paid in cash). After the haircut in debt payments accepted by the creditors of Argentina in 2005, the “true” figures got closer to those shown by the Argentine government.

Table No. 1 Argentina: Comparison of Different Decentralization Estimates for 2004  
GFS, Argentine Government Figures and Own Estimates

	Government Financial Statistics			Argentine Government			Own estimates 1/		
	Central Government	Provinces	Municipalities	Central Government	Provinces	Municipalities	Central Government	Provinces	Municipalities
Total Revenues	54,8%	37,8%	7,4%	61,1%	31,3%	7,6%	75,6%	16,8%	7,6%
Taxes and SS Contributions	66,4%	33,4%	0,2%	64,2%	31,4%	4,4%	80,8%	14,7%	4,4%
Total Expenditures	57,3%	35,2%	7,5%	50,4%	40,3%	9,3%	50,4%	40,3%	9,3%
Primary Expenditures	50,6%	40,6%	8,8%	48,5%	41,6%	9,9%	48,5%	41,6%	9,9%

1/ Only own source tax revenues for provincial governments

Sources: Own estimates based on GFS, March 2006 Cd-ron and National Budget Office Ministry of Economy. Argentina.

The GFS data for 2004 will show that expenditure decentralization was 42.7% when in fact it was closer to 49.6%. Even at the level of primary expenditures the GFS data still shows lower decentralization (49.4% compared to 51.5%).

Both the GFS and the Argentine government show misleading information about revenue shares because they include the money transferred to the provincial governments through the tax-sharing regime as provincial own source revenues. In the third part of the Table it is shown that provincial tax revenues are 14.7% of total tax revenues, much lower than the 31.4% and 33.4% shown by the Government and the GFS.

But the GFS does not follow the same criteria for transfers from provincial governments to municipal governments, and municipal taxes (named “user fees”) are not counted as taxes following the legal definition. Therefore, municipal governments account for only 0.2% of total tax revenues in the GFS data. It is not possible to make the necessary corrections to the Government figures to show municipal own taxes, but it is around 4.4% of the total.<sup>8</sup>

<sup>8</sup> One should deduct transfers received from provincial governments and add those “non-tax revenues” that are taxes. However, municipal taxes are around 1% of the country’s GDP and this figure is about 4.4% of total tax revenues.

## 2. IS IT RELEVANT TO MEASURE FISCAL DECENTRALIZATION?

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Fiscal decentralization is one among many instruments of economic policy that might be used to achieve the society's goals of efficiency and equity.

Tanzi (2000 and 2006) mentions that decentralization is an option to privatization to deliver services to the consumers. He suggests that the choice between privatization and decentralization should depend on whether a country has state failures or market failures. He argues that in developing countries you have both.

It follows from this analysis that the size of government and the relative importance of each level of government might differ from one country to another depending on how the government intervention is organized. For example, one country can opt to provide health services directly through public hospitals (and raise higher taxes to finance them), while another can opt to use private providers (with lower taxes). Another example is tax expenditures compared to an alternative with no tax breaks and government subsidies to favor some activities. In the first case, both revenues and expenditures will be lower than in the second case, although the economic consequences might be similar. Therefore, the estimate of government intervention should be more comprehensive including government spending (including tax expenditures) taxes and regulations, but this is rarely done.<sup>9</sup> As it is possible that different levels of government differ in the policy instruments used to achieve political goals the estimate of decentralization might be biased, but it is not clear in which direction.

One important reform in Latin America has been the privatization of pension programs that were administered by the Central Governments in most countries of the region.<sup>10</sup> In some cases, the reform has closed the public system completely (Chile) while in others workers could opt to continue in the public pay as you go (Argentina). Cross-country comparisons of fiscal decentralization will be biased by the way the pension system is organized, and this is relevant given the importance of pensions in the total budget of many Latin-American countries and in all OECD countries.<sup>11</sup>

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<sup>9</sup> Cerniglia (2003) mentions that Smith (1980) uses more than 10 different definitions of decentralization, but in the empirical work one ends using the share in revenues and expenditures. See also Martinez-Vazquez and Mc Nab (2001) for an argument about the multi-dimensions of fiscal decentralization.

<sup>10</sup> One exception is Argentina because provincial and municipal public employees contributed to provincial pay as you go systems. In the 1990's about half of the provincial pension systems were transferred to the federal system and workers could opt to contribute to a private pension fund.

<sup>11</sup> It follows that the privatization of public enterprises that were so pervasive in Latin America and mostly run by the Central Government might also affect government size and some estimates of decentralization. However, this is not a problem in the GFS database because it only includes data for institutions, and public firms are listed separately.

In any case, what is relevant for any country in Latin America is to find the most efficient ways to achieve growth and improvements in income distribution. And this will vary from one country to another. It will depend on the institutional background of each country, on external shocks and the flexibility of each country to adapt to those shocks, on the country's endowments of physical and human capital and labor, and so on and so forth. There are agency problems both inside the government and in the relationship between the state and the private sector and there are different transaction costs that shape contractual relations between the different relevant actors.<sup>12</sup> More or less observed fiscal decentralization seems to be of second order of importance.<sup>13</sup>

Bordignon and Ambrosiano (2006) argue that the formal allocation of tasks captured in the traditional measures of expenditure decentralization may have little to do with where the effective power lies. In most countries there are overlapping responsibilities and a large part of subnational expenditures is mandated or somewhat controlled by the central government. Furthermore, by reviewing revenue assignment in OECD countries they also conclude that, contrary to normative theory, few taxes and expenditures are everywhere assigned to the same level of government. History and tradition seem to matter more.

Moreover, tax and expenditure assignments in theory depend on economies of scale, spillovers effects, the cost of administering taxes, tax efficiency and equity. In practice, political realities and historical legacies often determine the choices and give rise to mismatches (Ahmad et al, 2006). Bird (2002) argues that the relevant question for expenditure assignment is not who does what but what is done and how well is done.

Mc Lure (2007) suggests a useful taxonomy to assign revenue and expenditure responsibilities that take into consideration the autonomy of subnational governments to control how revenues are raised and how they are spent. His analysis shows that *“it is extremely difficult to know precisely the extent of decentralization in a given country. Since much depends on both the sources of revenues of subnational governments use to finance spending and the level (s) of government that controls such spending, painstaking research into the nature of the tax system, provision of grant programs, and the existence and nature of mandates is likely to be needed to untangle the centralization-decentralization web for that country. Of course producing estimates of the degree of decentralization that are comparable across countries is doubly difficult and it may be nearly impossible.”*

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<sup>12</sup> In fact, Ahmad et al (2006) have argued that in private markets the service provider is accountable to the consumer while in the delivery of public services there are two relationships of accountability: citizens to hold policymakers accountable for the allocation of money to these services and policymakers who need to maintain the service providers accountable for delivering the service.

<sup>13</sup> There are no well-accepted theories of why fiscal decentralization varies among countries (Letelier (2005)). Voters' preferences will be shaped by various factors (demographic, social and ethnic), and there are restrictions like the costs of fiscal decentralization and the political framework of each country which may not allow the median voter to express freely. If one controls for the effects of these variables, fiscal decentralization should depend on measures of size (population, population density, land area, income), urbanization, grants (if there is a fly paper effect, more grants will lead to a larger figure for expenditure decentralization) and military and trade orientation (as expenditures in defense are a federal responsibility, countries that spend more in this item will show less decentralization; trade taxes are also collected and spent by the federal government).

It follows from the discussion in sections 1 and 2 that: a) cross-country comparisons of fiscal decentralization are exposed to serious measurement problems that would bias the estimates, b) the traditional estimates of decentralization (share of governments in total revenues or total outlays) do not provide an accurate estimate of the autonomy of governments, and c) fiscal decentralization is only one, among many factors, that may influence service delivery. In spite of these problems, traditional estimates of fiscal decentralization have been used in several studies.

### 3. ARE LATIN-AMERICAN COUNTRIES MORE CENTRALIZED THAN DEVELOPED COUNTRIES?

In a very influential study done by the IADB in 1997 it is argued that “*the Latin American tradition of centralization dates to the period of colonial administration and remained in place after the independence movement, partly due to the inherited colonial structures, and partly to the need that countries had to keep their distant provinces together under one power. Even today, in spite of recent trends toward decentralization in several countries, the region remains highly centralized... While, on average, subnational levels of government are responsible for 35% of expenditures in industrialized countries, they execute less than 15% in Latin America*”.<sup>14</sup>

But the study shows that there are different degrees of decentralization in Latin America, from zero percent in Bahamas and Barbados to 39% in Colombia, 46% in Brazil and 49% in Argentina (data as of 1995). Therefore, the estimate of a simple average to compare with the average of industrialized countries may induce the reader to wrong conclusions.

The IADB study analyzes some reasons that might explain the difference in fiscal decentralization in Latin America. For example, country size (measured by population, land area and GDP) is positively associated with decentralization, but Latin America “*is highly centralized even after accounting for country size*”.

	<b>Lat Am</b>	<b>OECD</b>
<b>Unweighted average of decentralization</b>	<b>14,6%</b>	<b>34,9%</b>
<b>Weighted average of decentralization</b>		
<b>by population</b>	<b>32,0%</b>	<b>37,5%</b>
<b>by PPP GDP</b>	<b>34,2%</b>	<b>38,5%</b>
<b>by land area</b>	<b>35,3%</b>	<b>45,1%</b>

1/ Share of Subnational Governments in Total Government Outlays  
Source: Own estimates based on IADB (1997) Figures 3.3 and 3.4

However it is remarkable that the difference in decentralization between Latin America and the OECD countries virtually disappears when one calculates weighted averages (see Table No. 2). The figures for the Table were calculated using the same estimates of fiscal decentralization for

<sup>14</sup> In Figure 3.5 of the IADB study it is shown that no country has advanced to further centralization between 1985 and 1995 and that Argentina, Chile, Colombia, Mexico and Peru have decentralized in a significant way during that decade.

each country that the IADB used for their 1997 study.<sup>15</sup> The unweighted averages are the same as reported in Figure 3.3. of the IADB study (the 15% and 35% quoted in several studies). But when the IADB's estimate for each country is weighted using the 1995 population of each country both averages increase (as expected) but the Latin American average comes very close to the OECD average. The same happens when the 1995 GDPs (measured in dollars, PPP adjusted) or the land areas of each country are used as weights.<sup>16</sup>

Therefore, what is left to explain for other explanatory variables different from those that approximate size or income is not very important. The intuition for this result is straightforward (and is even suggested in the IADB study): larger countries in Latin America are not much different than some European countries in demography and other factors that may explain differences in fiscal decentralization.

Unfortunately, the IADB (1997) study has not been updated and consistent data in the GFS are only available for a reduced number of countries.<sup>17</sup> Table No. 3 shows fiscal decentralization averages (both unweighted and weighted) for 7 Latin American countries and 19 OECD countries with available data on the GFS for 1990, 1995 and 2004.<sup>18 19</sup>

After being relatively constant between 1990 and 1995, fiscal decentralization increased in OECD countries between 1995 and 2004 (7.5 points using unweighted averages and between 4.3 and 8.2 points using different weights). This is also evident by looking at the number of countries which showed more decentralization in each period (8 between 1990 and 1995 and 17 between 1995 and 2004).<sup>20</sup>

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<sup>15</sup> There are 20 Latin-American countries and 19 OECD countries with estimates of fiscal decentralization (Figures 3.3 and 3.4 of the IADB study).

<sup>16</sup> Richard Bird has suggested me that looking at weighted averages in Latin America and the OECD would bias the results to the figures of the biggest countries (Brazil and the US in each case). The figures for decentralization in these countries in the IADB study were 45.6% and 45%. In any case, any average has a problem on itself. Unweighted averages, for example, pool together Barbados and Brazil. Therefore, I believe it is better to look at trends on each country, and different averages as it is done in Table 3 and Figures 1 and 2.

<sup>17</sup> The IADB (1997) attempted to fill the information gap using a survey on public officials of Latin American countries, that together with IMF data, provided comparable figures but only for the period 1985-1995. They used GFS data for OECD countries.

<sup>18</sup> The relatively small number of Latin-American countries with complete information for years 1990, 1995 and 2004 reduces the reliability of the estimates.

<sup>19</sup> In those cases where one of these years is missing we assigned the value of the closest year. For Argentina we used the estimates of the Argentine Ministry of Economy because the GFS data do not include outlays for municipal governments before 2002.

<sup>20</sup> For year 1995 there are two additional columns with the averages for each case that are obtained using the fiscal decentralization estimates of the IADB 1997 study, but only for the countries included in Table No. 3. The two columns show that the GFS data of the March 2006 CD Rom is different than the data used by the IADB team in their study for OECD countries, although the difference is much smaller when the unweighted averages are calculated. The differences between the GFS 2006 data and the IADB (1997) data are not very important for Latin America.

**Table No. 3. Decentralization trends. Total Expenditures**  
**Sub national governments share in total public outlays (%)**

Source of Information	1990		1995				2004	
	LatAm 1/	OECD 2/	LatAm	OECD	LatAm	OECD	LatAm	OECD
	GFS 2006		GFS 2006		IADB 1997 3/		GFS 2006	
<b>Unweighted average of decentralization</b>	11,46	28,73	16,14	28,22	15,98	34,08	20,14	35,79
<b>Weighted average of decentralization</b>								
<b>by population</b>	16,54	32,77	23,81	34,19	26,04	37,42	25,16	40,99
<b>by PPP GDP</b>	18,86	34,08	27,01	35,65	29,43	38,55	26,35	43,83
<b>by size</b>	19,99	46,27	27,45	46,42	29,77	45,11	31,64	50,64
<b>Number of countries that increased decentralization</b>			6	8			5	17

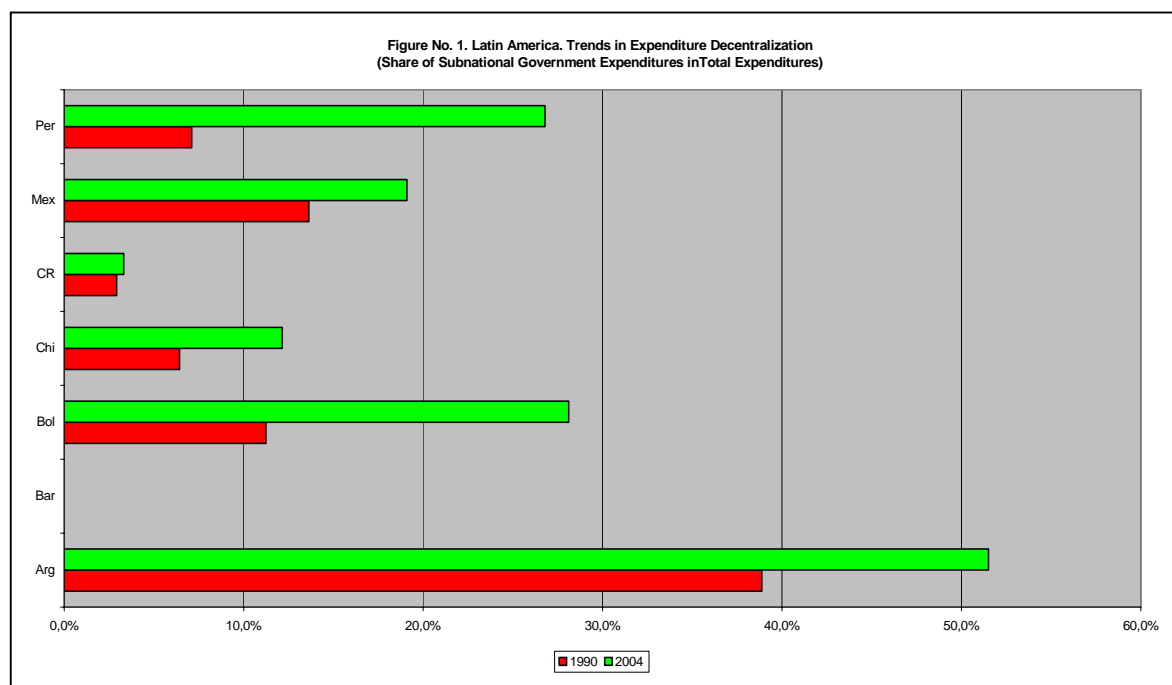
1/ Latin America: Argentina, Barbados, Bolivia, Chile, Costa Rica, Mexico, and Peru

2/ OECD: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Holland, Hungary, Iceland, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States.

3/ For Hungary, Luxembourg and Switzerland we assigned the value obtained from the GFS March 2006.

Source: Own estimates based on GFS CD Rom March 2006 and IADB (1997) Figures 3.3 and 3.4.

In the case of the Latin American countries, fiscal decentralization increased between 1990 and 1995, but the evidence is not as conclusive between 1995 and 2004, especially when using weighted averages. But this is a consequence of the reduced sample size (a modest increase in Argentina and a modest reduction in Mexico, the two largest countries according to GDP, explain the difference). In fact in both periods decentralization increased in most countries (6 out of 7 and 5 out of 7). Figures 1 and 2 show that expenditure decentralization increased in 22 countries from 1990 to 2004, in 6 the increase was substantial (Belgium, Bolivia, Chile, Peru, Portugal and Spain), and it declined only in 4 cases (Australia, Finland, Luxembourg and Norway).<sup>21</sup>



<sup>21</sup> In Barbados, fiscal decentralization is zero.

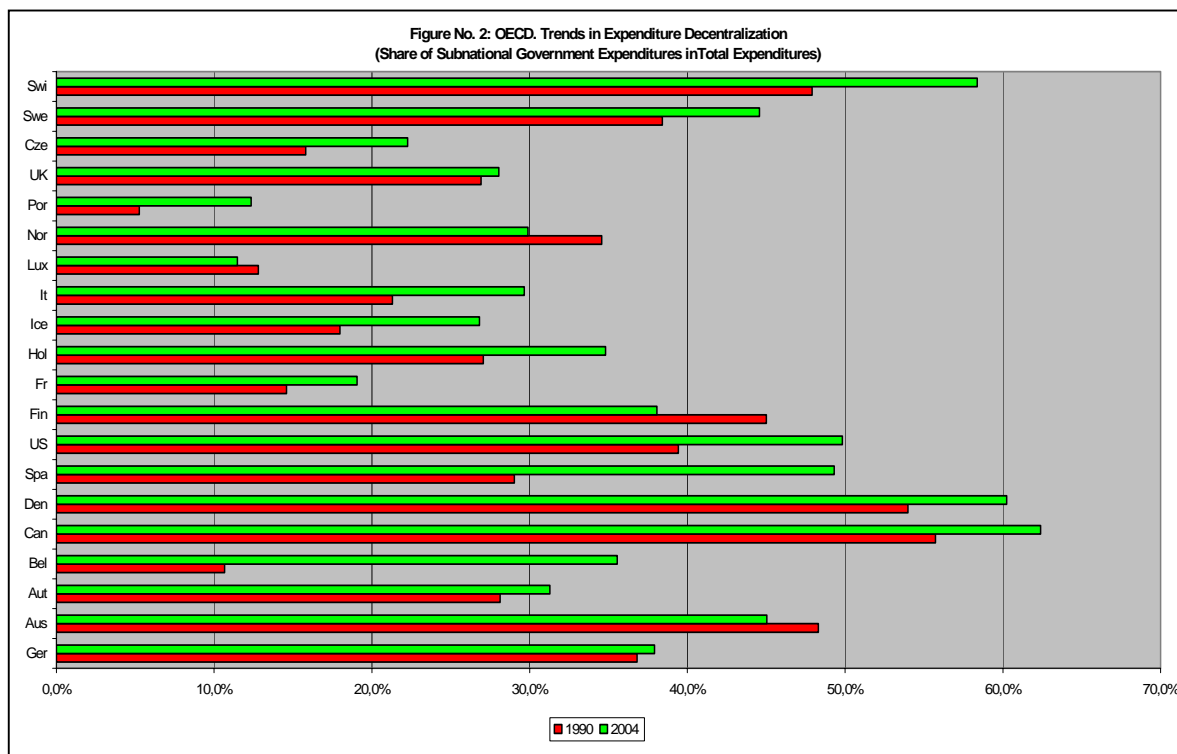


Table No. 4 shows the same estimates but based on primary expenditures. The exclusion of interest payments makes both regions more decentralized, but the effect is more important for Latin America in 1990 and 1995.

**Table No. 4 Decentralization trends. Primary expenditures**  
Sub national governments share in total public outlays (%)

	1990		1995		2004	
	LatAm 1/	OECD 2/	LatAm	OECD	LatAm	OECD
<b>Unweighted average of decentralization</b>	13,90	29,97	18,03	29,86	21,58	36,87
<b>Weighted average of decentralization</b>						
by population	22,43	34,60	26,93	36,35	26,92	43,58
by PPP GDP	25,06	35,98	30,09	37,92	28,02	46,84
by size	23,80	48,69	30,29	48,41	33,51	52,46
<b>Number of countries that increased decentralization</b>			5	6	5	16

1/ Latin America: Argentina, Barbados, Bolivia, Chile, Costa Rica, Mexico, and Peru  
2/ OECD: Australia, Austria, Belgium, Canada, Czek Republic, Denmark, Finland, France, Germany, Holland, Hungary, Iceland, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States.  
Source: Own estimates based on GFS CD Rom March 2006



*Evidence from developed countries*

Joumard and Kongsrud (2003) use National Accounts Data for the OECD to show that decentralization increased in the period 1985-2001. The share of subnational governments in total outlays for the average of all countries in their sample increased from 29.8% to 32.2% and for a sub-sample of federal countries from 32.6% to 40%. There is a great dispersion among countries and in all countries expenditures are more decentralized than revenues. The authors attribute the higher decentralization to efforts to include governments in the fiscal consolidation imposed by the Maastricht Treaty and to distribute the burden of an ageing population.<sup>22</sup> At the same time, globalization probably has centralized tax collection. For example, some countries replaced their turnover sales taxes by VAT worried by reducing costs to industry (Australia and Switzerland).

Cerniglia (2003) surveys the empirical literature on decentralization in OECD countries and makes her own estimates using data from 1977 to 1994 for a sample of developed countries to test different hypothesis about the drivers of decentralization. She provides estimates both for expenditure and revenue decentralization, but as measurement errors are more serious in the latter I believe it is better only to look at her results for the former. Although her empirical results do not look very robust, the conclusions are in line with previous studies. Land area, population, degree of urbanization, income per capita increase decentralization in most regressions. She also uses variables to capture the impact of language, religion and income inequality because it is reasonable to expect that more heterogeneity in these variables should lead to more decentralization. But the coefficients of these variables are not significant and in some cases show the wrong sign.

*Evidence from developing and developed countries*

Letelier (2005) surveys previous empirical literature for both expenditure and revenue decentralization. When using as dependent variable expenditure decentralization per capita income has a positive effect in fiscal decentralization in 8 out of 9 studies. Population and population density have a positive effect in 5 studies. Urbanization has also a positive effect in 3 studies. Government expenditures on defense, trade openness and income inequality have a negative effect in one study. Grants to governments have a positive impact in one study. Ethnic heterogeneity is not significant in one study. The only study that attempts to measure the impact of history (using lagged dependent variables) is Panizza (1999). His conclusion is that historical episodes matter a lot.

Letelier makes his own estimates using a sample of 64 countries with data for state or local governments for the period 1977-1997 based on GFS data.<sup>23 24</sup> He performs an estimation in two

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<sup>22</sup> They mention that some countries have transferred expenditure responsibilities to governments without transferring equivalent revenues. For example the United States during the 1990's tightened the grip on transfers to the states and in Canada large cuts in Federal outlays included substantial cuts in transfers to the provinces. Other countries signed Stability and Growth Pacts with their subnational governments (Austria, Germany, Italy, Portugal and Spain), and, in some cases, with sanctions for non-compliance.

<sup>23</sup> Even though the GFS based proxies to fiscal decentralization have been argued to be potentially misleading he thinks that there is no evidence of systematic errors and therefore the regressors will not be much affected if the sample is big enough. I believe that Letelier is too optimistic on this point for the reasons mentioned in Sections 1

stages (only in the second stage he allows for cross country particular effects). As the regressions explain only from 7% to 27% of the residuals, he analyzes the residuals and finds clusters of countries with similar origins, a factor that is preliminary evidence that history matters. His conclusions can be summarized as:

- ★ Similarly to previous studies, he finds that income, population density and government grants have a positive effect on fiscal decentralization.
- ★ Contrary to what was found in previous studies, urbanization has a negative impact on fiscal decentralization.
- ★ Federal and democratic countries have more fiscal decentralization.
- ★ Neither population diversity nor income distribution has an effect on fiscal decentralization.
- ★ Income has a larger effect in high-income countries (therefore there seems to be a threshold).
- ★ Clusters of residuals suggest that there are “homogeneous” countries either because there are some unobserved political characteristics, or history matters or because the regressions do not consider the dynamics of fiscal decentralization over time.<sup>25</sup>

Summing up, cross-country studies are exposed to large measurement errors that bias the traditional estimates of fiscal decentralization even when then most reliable source of information is used. Moreover, proxies of fiscal decentralization that take into account the autonomy of decision of subnational governments are rarely available for a single country and less so for cross-country comparisons. With all these caveats in mind there seems to be some evidence that suggests that fiscal decentralization augmented in the last decade and a half, both in Latin America and in the OECD.

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*and 2, but there is no simple alternative. National accounts (even in OECD countries) do not ensure consistency either.*

<sup>24</sup>*For many developing countries data on municipal governments are not available in the GFS. Therefore it is likely that the values he used for his dependent variable is biased downwards for these countries. For example, Argentina is included in his study and the GFS only has information for municipal outlays since 2002.*

<sup>25</sup>*In Letelier (2005)'s paper the positive value for the residuals of most Latin American countries shows that the predicted value for fiscal decentralization was lower than the observed value. That is, countries in Latin America are more decentralized than other countries (including OECD) after the impact of other explanatory variables is considered. This is contrary to what has been derived from the introductory remarks of IADB (1997) that compared fiscal decentralization in Latin America and the OECD.*

## 4. WHAT OTHER FORCES MAY INFLUENCE FISCAL DECENTRALIZATION?

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### 4.1 What influences fiscal decentralization

There are several forces that influence fiscal decentralization (restrictions for subnational government taxation, political and historical reasons, temporary phenomena, shocks, etcetera). In this section I summarize some of these factors underlining, whenever possible, those that might affect the degree of fiscal decentralization in Latin-American countries.

#### *Factors that may explain less fiscal decentralization in Latin America*

*Development strategy with more state intervention.* Public investment is more important in developing than in developed countries and given that the responsibility of public investment seems to be more concentrated in the Central Government this would be an explanation for a lower degree of decentralization.<sup>26</sup> Govinda Rao (2006) mentions that the adoption of a development planning strategy in India and Pakistan called for a high degree of centralization, in spite of the size and diversity of both countries that required a significant fiscal decentralization. And although the economic liberalization of recent years has loosened the grip of planning, the legacies of past policies and the structure of institutions continue to impact the operation of the fiscal system. In the 1960's and 1970's, many countries in Latin America adopted development planning strategies that might have imposed historical and institutional constraints in the decentralization of the 1990's. Some countries like Bolivia and Venezuela are returning to that strategy.

*Public debt services.* It is reasonable to expect a larger concentration of debt service at the Central Government in Latin America than in industrialized countries, given that many subnational governments cannot access credit markets and that lending from multilateral agencies is mostly contracted by the Central Government. Tables No. 3 and 4 show that expenditure decentralization increases more in Latin America than in the OECD when it is estimated using primary outlays instead of total outlays.

*Restrictions on tax bases.* As high vertical imbalances create problems, decentralization will face limits when tax bases are limited. The traditional literature on tax assignments suggests that taxes on mobile factors, taxes most suited for redistribution, taxes that fall on tax bases unevenly distributed, taxes that are subject to economies of scale or to tax exporting should be centralized. This recommendation is reinforced if tax administration is weaker at the local level.

Artana et al (2003) and Lledo et al (2004) mention that the higher informality and income inequality in Latin America restrict the ability that the government has to raise income taxes and

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<sup>26</sup> IADB (1997) shows that public investment is more important in Latin America than in industrialized countries even after accounting for the privatization wave of the 1990's. Doubts about the credibility of the policy framework are one possible explanation; poorer consumers are another, given the political pressures to subsidize infrastructure services.

social security contributions and put a limit on the overall tax burden. However, it is not clear whether this will limit more subnational tax powers, because informality also affects the collections of property and sales taxes.<sup>27</sup>

To offset these restrictions developing countries tax more heavily consumption (with VAT) and foreign trade, and use the inflation tax (Keen and Simone, 2004). As VAT, taxes on trade and the inflation tax are typically collected by the Federal government, there is a potential constraint on the size of subnational governments.

Govinda Rao (2006) argues that many poor countries lack clear property rights and this reduces the potential revenues of the “prime candidate” for subnational taxation.<sup>28</sup> Surcharges on federal taxes are a potential candidate for own source taxation at the state level to reduce vertical imbalances, but they would aggravate horizontal imbalances (Bird, 2002).

Latin-American countries are rich in natural resources. If one accepts the theoretical recommendation that taxes on natural resources should be centralized,<sup>29</sup> there is an argument either for more vertical and horizontal imbalances (and more problems) or more centralization.<sup>30</sup> This may explain the high relative centralization of Venezuela (even though it is a federal country) and Ecuador.<sup>31</sup>

*Centralized unions.* Most countries in Latin America have relatively rigid labor laws and centralized unions.<sup>32</sup> Decentralization of education and health services to municipalities or small state governments that will face powerful union leaders may jeopardize the efficient delivery of these basic services. This may call for more centralization.

*Temporary phenomena.* Even if one accepts that Latin-American countries are less decentralized, this may only reflect a temporary phenomenon. Subnational governments lacked political autonomy before the 1980’s. With democratization this has changed. Many studies suggest that military governments will produce more centralized governments. And the positive impact of democracy on decentralization may need some time to be reflected in the data.

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<sup>27</sup> Gordon and Li (2005) argue that the reward for being formal is the access to bank loans and the protection of the legal system to contracts. In many developing countries credit is scarce anyway because the deposit base has been eroded by inflation or by bank crisis, and contracts are not always enforced. Therefore, there are not many incentives for becoming formal, although it is not clear if this will affect more one level of government than others.

<sup>28</sup> Even some provinces in middle-income Argentina face this problem. One example is public housing for the poor: property titles take years to formalize and in the meantime the owners usually do not pay property taxes. More common in Latin America is the fact that cadastres are not periodically updated according to the evolution of housing prices or inflation.

<sup>29</sup> See for example Mc Lure (2003).

<sup>30</sup> According to the IADB (1997) only two countries in the region allowed their subnational governments to tax natural resources, compared to 16 with property taxes, 13 with taxes on vehicles, 8 with stamp taxes and 5 with taxes on industry and trade and only 3 with taxes on sales, value added or turnover.

<sup>31</sup> IADB (2002) mentions that the large political and fiscal autonomy of Argentine provinces is noteworthy, and at the other extreme is Venezuela with a high degree of centralization in spite of being a federal country.

<sup>32</sup> Stein et al (2006) argue that in most of Latin America teachers have job stability, rules on hiring, promotion and retirement are difficult to change and unions are national. The only exceptions are Brazil, where unions are provincial, and Chile with somewhat more flexibility.

There is also some evidence for Latin American countries that higher political autonomy and participation at lower levels of government is associated with more expenditure decentralization, but causality can run both ways: more political autonomy in subnational governments increases the demand for decentralization because the voters perceive that there will be more accountability, and vice versa, more decentralization increases the interest in participating in the political process at the local level (IADB, 1997).

*Factors that may explain more fiscal decentralization in Latin America*

*Demography.* Younger populations and higher informality in Latin America reduce the relative importance of pension systems and as these are typically administered by the Central Government this would be reflected in a lower share of the central government in total expenditures in less developed countries.

*High vertical imbalances.* The relatively high vertical imbalance that is typical of Latin-American governments may have generated incentives for a greater demand for state and local government programs and lead to overspending and a higher observed decentralization.<sup>33</sup> High vertical imbalances increase the odds of a central government bail-out. For example, Eichengreen and Von Hagen (1996) have argued that higher vertical imbalances make very costly for subnational governments to resolve a deficit by adjusting its own source revenues. The central government will find difficult to make a credible commitment of not bailing out the subnational government when this has not sufficient resources of its own to take care of unexpected events.<sup>34</sup>

*Factors that may influence fiscal decentralization in both directions*

*Historical reasons.* Congleton (2006) argues that decentralization is endogenous because it is the result of ongoing negotiations over the distribution of policy-making authority among central and subnational governments. The initial endowments allow different equilibriums. For example, if the economy starts from a relatively centralized case, the central government can “charge” for the price of autonomy, while if the economy starts from a decentralized case, the price of autonomy is free. Therefore, in gradually centralizing states there should be more decentralization than in gradually decentralizing states.<sup>35</sup> This argument offers a rationale for the conclusion “that history matters”. It is not surprising that Argentina, where provinces created the Federal government, is the highest decentralized country in the region.<sup>36</sup>

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<sup>33</sup> IADB (1997) shows that the average vertical imbalance in Latin America is 52% compared to 42% in OECD, but it varies from 5% in Peru to 92% in Trinidad and Tobago.

<sup>34</sup> Fiscal institutions in Argentina, a country with high vertical fiscal imbalances, were characterized by soft budget constraints and rules that were not respected both by the Federal and Provincial governments (FIEL, 2003). Nicolini et al (2002) show that in Argentina in the 1990's there were several episodes of bail out in spite of the harder budget constraint that the Convertibility Law demanded. Bordignon and Ambrosiano (2006) mention that there is robust empirical evidence that suggests that subnational governments with higher own source revenues are less prone to soft budget constraints problems.

<sup>35</sup> This is an example of Coase's theorem when there are transaction costs. In this case the initial allocation of endowments does influence the final outcome.

<sup>36</sup> The IADB (2002) mentions that certain functions have belonged to subnational governments in Latin America since colonial times. For example, municipalities always controlled markets, abattoirs or cemeteries. And the superposition of different levels of government to provide the same service many times can only be explained by history.

Sokoloff and Zolt (2006) argue that historical reasons explain why the tax structures of Latin-American countries are different from other developing economies. The political elites were able to resist paying higher taxes on income and property to finance the expansion of public expenditures (e.g. education) that they could provide privately to their families. Control over voting rules assured the elites greatly disproportionate political representation.

## 4.2. Trends in decentralization

How can fiscal decentralization be expected to evolve over time? We cannot expect fiscal decentralization to be constant through time. There are different shocks or changes in world and regional environments that might justify a reshuffling of government tax and expenditure responsibilities and there are changes in relative prices that may affect the relative importance of the different levels of government. Some examples are the following:

*Changes in relative prices.* As less developed countries progress one should expect that the price of labor would increase relative to the price of capital. Country-risk premium are likely to decline and real wages may increase according to the increase in productivity gains.

Some central government responsibilities appear to be more capital intensive than those of state and local governments. For example, expenditures on Defense that are a typical responsibility of central governments are more intensive in the use of capital than expenditures in education or public health that in many countries in the region are run by the state governments.<sup>37</sup> Therefore, growing real wages will lead to more fiscal decentralization in public outlays even though the expenditure assignment is kept unchanged.<sup>38</sup>

*Globalization.* More integrated financial markets had an impact on the ability of governments to raise taxes on income, especially from corporations. Although there is no agreement in the literature about the convergence of tax rates, there seems to be a reaction of governments in developed and developing nations to the threats of relocation of firms. This introduces some limits to a tax base that is usually reserved to the central government.

Aizenman and Jinjark (2006) concluded that deeper financial and trade integration forced some developing countries to change their tax mix, abandoning easy-to-collect taxes (like the inflation tax and taxes on foreign trade) for more traditional taxes like the VAT and income taxes. As these taxes are more difficult to control by the typical tax agency of developing countries this has put a limit on government size. Although these authors do not analyze the impact on fiscal decentralization, it is evident that the process they describe puts a tighter limit on central government finances that typically collect the inflation tax and taxes on foreign trade. The next step would be for central governments to shift expenditures responsibilities to subnational levels

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<sup>37</sup> *The share of subnational governments in total public employment is much larger than their share in total outlays even in developed countries. Cerniglia (2003) shows some data for developed countries. For example in the US the Federal Government accounted for 55% of total government expenditure and only employed 17% of total public employment. In Italy, the figures are 72% and 63%, in France 83% and about 50%, in Canada 42% and 17%.*

<sup>38</sup> *Porto et al (2004) have named the impact of changes in relative prices on decentralization "the Baumol effect".*

if there is no political agreement to reduce the size of government. What is not obvious is from which tax bases subnational governments would finance more expenditure responsibilities.

*A change in the composition of government expenditures.* Tanzi (2006) argues that the Federal government in the US had a small share in total public outlays in the 1920's and 1930's. Most government services were provided by the states. This has changed because the government became more involved in pensions and public health and the Federal government was in a better position to handle these responsibilities.<sup>39</sup>

*The effects of shocks.* On the one hand, Oates (1978) provided some evidence that in deep crisis there is a tendency to centralize government responsibilities.<sup>40 41</sup> On the other hand, although there are good reasons to centralize windfall government revenues from natural resources,<sup>42</sup> some countries opted to transfer tax responsibilities or shared taxes with the producing regions to placate secessionist forces.<sup>43</sup>

Argentina in the 2001/2002 crises and Bolivia after 2004 are two examples that prove this rule. In the first case, one of the most severe economic and social crisis of the country led to more centralization in revenues, and in the case of Bolivia the increase in about 200% in the price of exported natural gas to Argentina and Brazil encouraged a process of fiscal decentralization of revenues and is behind the actual turmoil where some provinces are facing the radicalization of secessionist forces.<sup>44</sup>

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<sup>39</sup> *Pensions and public health involve risk spreading and income redistribution.*

<sup>40</sup> *Deep crisis can a consequence of bad macroeconomic policies or natural catastrophes that are so frequent in many countries in the region.*

<sup>41</sup> *If intergovernmental relations are seen as an incomplete contract between different levels of government as in Tommasi (2002) a deep crisis creates an opportunity for opportunistic behavior. Tommasi (2002), in fact, mentions that in Argentina the combination of weak national legislators and powerful governors, provinces heavily dependent on Federal transfers and a political making process that is unable to strike and enforce intertemporal agreements lead to either volatile policies (opportunistic), or too much rigidity. Hence, in his analysis opportunistic behavior is not constrained only to periods of crisis.*

<sup>42</sup> *Mc Lure (2003) argues that there are good economic reasons for oil revenues to be centralized: the tax base is volatile and usually concentrated in a few regions of the country, there might be a temptation to reduce other local taxes or to undertake unprofitable public investment, and the compensation of losses for dry holes is not easy at the local level.*

<sup>43</sup> *Mc Lure (2003) mentions Russia as an example. Ross (2006) mentions that there is a trend towards decentralization of oil revenues for political reasons, although this is wrong from an economic point of view. Tanzi (2006) comments that when a diverse region has exportable natural resources the pressures for decentralization become very intense.*

<sup>44</sup> *Argentina is a middle-income economy with a federal organization (in fact provinces preceded the Federal Government). The economy is rich in natural resources but relatively diversified (soft commodities, oil and, more recently, copper). Bolivia is one of the poorest countries in South America, rich in natural gas and mining. It was a unitary country until 1995 when provincial governments were created. In the last election in 2005, governors were elected by the people instead of being appointed by the president. Both countries have wide regional disparities in per capita GDP, although there are grants and transfers (both public and private) that reduce the disparity in per capita income.*

*Shocks in Argentina and Bolivia affected decentralization*

- Argentina

From 1998 to 2001 Argentina attempted a failed deflationary adjustment with GDP contracting 5% in real terms. In the middle of severe political problems, in 2001/2002 Argentina had a currency, financial and debt crisis that reduced economic activity an additional 15%.<sup>45</sup> The country abandoned a currency board, deposits were frozen, dollar-denominated loans were converted into pesos at the 1:1 parity with the US Dollar that was legally established in the Convertibility Law in spite of a depreciation on the currency to 4:1 (later 3:1), and the federal government and most provincial governments defaulted on their debts. The financial crisis forced the government to issue public debt to partially compensate the banks for the asymmetric pesification of contracts. President De la Rúa resigned at the end of 2001 and during the political transition (elections were held in may 2003) the federal government renegotiated the debt that many provinces owed to it (e.g. because they have printed bonds that circulated as currency), offering the pesification of loans, an extension on the maturity and a relatively low real interest rate on the new indexed bonds of 2% per annum.

During the 2001-2002 crisis the government finances improved because inflation reduced public wages and pensions in real terms and because new taxes were introduced to improve the fiscal position. Taxes on exports that were abolished in the early 1990's were easily reinstated with the political excuse to moderate the impact on domestic prices of the depreciation of the currency and a tax on financial transactions that was reinstated in 2001 was increased to a rate of 120 basic points, the highest in the region by far.<sup>46</sup> And in spite of high inflation the income tax (both for individuals and corporations) was not indexed also favoring the government given that investment is mostly financed from retained earnings even today.

Revenues from income taxes are shared with the provinces but, according to the Argentine Constitution, export taxes belong to the Federal Government, and from the tax on financial transactions the provinces receive only 17% compared with the general 57% that they receive from other taxes.<sup>47</sup>

Table No. 5 shows the increase in the tax burden that took place in Argentina between 1998 (the previous peak of economic activity) and 2005,<sup>48</sup> and how this increase was shared between the Federal government and the provinces. The tax burden increased 5.80 points of the GDP (5.6 points explained by taxes collected by the Federal government and 0.2 points by taxes collected directly by the provinces). Higher revenues in the tax on financial transactions, in the income tax and on taxes on exports account for more than 100% of the extra tax revenues. The second part of the Table shows how the increase in revenues was shared between the Federal Government and the provinces. There are several tax sharing regimes working in Argentina. The most important is the so-called Coparticipación Federal de Impuestos (Tax Sharing in the Table), but there are

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<sup>45</sup> From the mid-1998 peak to the mid-2002 through economic activity declined about 20%.

<sup>46</sup> For example, the Brazilian tax on financial transactions has a rate of 38 basic points.

<sup>47</sup> Different fiscal agreements between the Federal and provincial governments during the 1990's allocated a fraction of some taxes to the federal social security system. But in any case, the provinces' 17% share on the tax on financial transactions is the lowest of any tax included in the tax sharing agreement.

<sup>48</sup> GDP in 2005 was only 5% higher than in 1998.



special regimes (e.g. of the tax on fuels). The provinces increased their revenues by 1.16% of the GDP out of the Tax Sharing but lost 0.27% of the GDP in other tax sharing schemes, mostly explained by a reduction in taxes on fuels.<sup>49</sup> But Discretionary Grants from the Federal Government to the provinces increased by the equivalent of 0.83% of the GDP. On a net basis the Federal government improved its revenues in 3.9% of the GDP, i.e. 67% of the combined increase in revenues that favored the two levels of government, and the 24 provinces obtained the remaining 33% for the equivalent of 1.91% of the GDP.

Higher tax revenues are the only explanation for the drastic improvement in the Primary Surplus of the Federal government that increased from 0.5% of the GDP in 1998 to 3.7% in 2005. In the same period the provinces improved their primary position from a deficit of 0.3% of the GDP to a surplus of 0.7% of the GDP.<sup>50</sup>

<b>Table No. 5</b>		
<b>Argentina: Sources of Higher Tax Burden 2005 vs. 1998</b>		
<b>% of GDP</b>		
<b>Central Government</b>	<b>5,61%</b>	<b>97%</b>
Taxes on Exports	2,31%	40%
Income Tax	2,10%	36%
Tax on Financial Transactions	1,77%	31%
VAT	-0,05%	-1%
Social Security Contributions	-0,41%	-7%
Other Taxes	-0,11%	-2%
<b>Provincial Governments</b>	<b>0,20%</b>	<b>3%</b>
Turnover Sales Tax	0,51%	9%
Property Taxes	-0,27%	-5%
Other Taxes	-0,04%	-1%
<b>Total</b>	<b>5,80%</b>	<b>100%</b>
<b>Distribution of the Higher Tax Burden 1998 vs. 2005</b>		
<b>Provincial Governments</b>	<b>1,91%</b>	<b>33%</b>
<b>Own Source Taxes</b>	<b>0,20%</b>	<b>3%</b>
<b>From Federal Government</b>	<b>1,71%</b>	<b>29%</b>
Tax Sharing	1,16%	20%
Other Tax Sharing (Special Laws)	-0,27%	-5%
Discretionary Current Transfers	0,51%	9%
Discretionary Capital Transfers	0,32%	5%
<b>Central Government Net of Transfers</b>	<b>3,90%</b>	<b>67%</b>

Source: Own estimates based on figures of the Argentine Ministry of Economy

Although some Argentine analysts believe that the renegotiation of the provincial debt turned to be unfavorable for the provinces because it is being indexed by inflation, it was not at all clear

<sup>49</sup> The consumption of fuels shifted to the much cheaper compressed natural gas due to the freezing of natural gas prices. Taxes on compressed natural gas are lower than taxes on gasoline and diesel.

<sup>50</sup> The Federal Government increased its primary surplus with 82% of the additional revenues while the provinces improved their fiscal position with 52% of their additional revenues (own taxes, shared taxes and discretionary transfers). The rest was spent.

that the Federal government would be able to improve its fiscal balance in a substantial way when those negotiations were completed in 2002. At that time it was not clear how onerous the renegotiation of the federal defaulted debt would be,<sup>51</sup> and world prices of soft commodities were relatively low. In fact, the international environment relevant for Argentina improved substantially after 2002. As Table No. 6 shows the terms of trade improved about 10% in 2003 compared to the average of 2001 and 2002, and the GDP measured in US dollars of other Latin-American countries increased due to growth and the appreciation of the domestic currencies in real terms, providing a great opportunity for exports of Argentine manufactures that are mostly sent to neighboring countries.

**Table No.6. Argentina. Some relevant external variables**

		2001-2002	2003	2004	2005	2006
<b>Terms of Trade</b>	1993=100	105,4	114,9	116,7	113,9	121,0
<b>Brazil GDP</b>	US\$ Billion	485	493	605	790	945
<b>Chile GDP</b>	US\$ Billion	68	74	95	116	131
<b>Latam (ex. Arg.) GDP</b>	US\$ Billion	1471	1469	1705	2070	2328

Source: Own estimates based on INDEC and Credit Suisse First Boston

Moreover, in 2001 it was clear that the Federal government was under more financial strain than provincial governments. For example, the ratio of interest payments to own source revenues (including transfers in the case of the provinces) was 30% for the Federal government compared to only 11% for the 24 provinces.<sup>52</sup>

And the dramatic increase in poverty justified the introduction of a federal program (cash transfers to the poor) that was supposed to be financed out of the revenues obtained from taxes on exports.

Decentralization of expenditures was not much affected by the crisis revealing that the Federal Government was only able to improve its relative position due to the change in revenues shown in Table 5.<sup>53</sup> Discretionality in intergovernmental relations increased at the same time that transparency declined. For example, grants for capital expenditures are not subject to a rigorous process of social cost-benefit analysis and, therefore they are exposed to political manipulation.<sup>54</sup>

<sup>51</sup> In 2005, Argentina agreed with 74% of its private debt holders a haircut of about 70% in net present value. As Argentina's debt was very high, the country had no assets to attach and showed no urgency to come to an agreement and debtors were numerous, with difficulties to coordinate their actions to reduce free riding, it was clear that the haircut was going to be high. But this turn into reality only after it became clear that the political influence from the governments of developed countries was not going to be strong enough to force Argentina into accepting a lower haircut.

<sup>52</sup> The ratio of interest to total public outlays was also much higher for the Federal government (26% compared with 7% for the provinces).

<sup>53</sup> The share of subnational governments in total government outlays decreased from 50% in 2002 to 48% in 2003 but it was 51% in 2004 and 2005, measured by the most comprehensive estimate of government expenditures that is done by the Argentine Federal Government.

<sup>54</sup> Tommasi (2002) mentions that in the hyperinflation crisis of 1989/1990 there was a delegation of special powers to the president and the same happened during the 2001/2002 crisis. In the second episode the president gained extra discretionality (for example, it is much difficult for the Congress to derogate an Emergency Decree that works as a de facto law in the meantime).

Summing up, during the 2001/2002 crisis revenues were centralized in Argentina with no important changes in the allocation of expenditures. Part of the additional revenues was used to improve the primary balance of the Federal government after the default on its public debt. Later events improved further the relative position of the central government: export prices increased and this eased the collection of higher taxes on exports and the recovery of the economy, and the haircut inflicted on creditors was larger than expected as of 2002 when the provincial debt was renegotiated by the Federal government. As of today, provinces are running budget deficits but the central government has been able to maintain its surplus and a lot of discretion in the administration of the extra tax revenues.

- Bolivia

In 1994 Bolivia made a substantial move towards decentralization to municipal governments. This trend was reinforced by the creation of an intermediate level of government that gained more autonomy in 2006, when governors were elected directly by the population instead of being appointed by the president of the country.

In 2005 and in the middle of a sharp increase in the price of exported natural gas the Congress voted a new Hydrocarbons Law that transferred to subnational units (municipalities, states and universities) most of the windfall in government revenues without their assuming new expenditure responsibilities. The World Bank (2006) mentions that *“The driving force behind Bolivia’s new decentralization effort are not its needs for service delivery improvements, reduction of regional inequalities or greater fiscal responsibility, despite their importance. They are instead competing pressures for control and distribution of revenues originating from the country’s natural resources... The issue is particularly strong in the resource-rich regions, who want to keep control over and decision-making about these resources for themselves as much as possible through the decentralization of responsibilities. Conversely, the less endowed regions are likely to want these decisions to be centralized, from which they would expect more equally distributed revenues.”* (Page 9).

When president Morales took office at the beginning of 2006 he renegotiated the export price of natural gas to Argentina and is trying to repeat the same process with Brazil, to further increase natural gas revenues.<sup>55</sup>

The windfall for the government was substantial. Taxes on upstream activities increased from 2.5% of the GDP in 2000 to 6.7% in 2005 and to 9.6% for 2006.<sup>56</sup> Table No. 7 shows the substantial increase of projected oil revenues for year 2006 (almost 100% increase) because of the impact of the new Hydrocarbons Law of 2005. The Central Government will get only 4% of

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<sup>55</sup> In year 2000 the average government share (on new and old fields) was about 36% of a wellhead price of natural gas of US\$ 1,34 per million BTU. In 2005 the Hydrocarbons Law increased the government share to 50% and, at the same time, the wellhead price increased to US\$ 2.18 per million BTU. The new rules introduced in 2006 increased the government take to 66% and the negotiations with Argentina raised the wellhead price to US\$ 3,50 per million BTU. Therefore, government income measured in US dollars per unit of output increased almost five times. See Navajas et al (2006).

<sup>56</sup> Navajas et al (2005) and (2006).

the additional oil revenues. State and Local governments will get 83%, universities, 6% and the remaining 6% is earmarked to special funds that are administered by the Central Government.<sup>57</sup>

**Table No. 7.: Distribution of Oil Revenues in Bolivia. 2006**

Million of US\$	Old Regime	New Regime	Additional Oil Revenues	Shares on Additional Oil Revenues
Central Government	184	199	15	4%
State Governments	166	359	193	57%
Municipal Governments		88	88	26%
Universities		22	22	6%
Other Earmarked Funds		22	22	6%
<b>Total</b>	<b>350</b>	<b>690</b>	<b>340</b>	<b>100%</b>

Source: Navajas et al (2005) Chart 3.1.

As no expenditure responsibilities were transferred to subnational governments this has created: a) a temporary surplus for subnational governments; b) an urgency on subnational governments to spend the resources (e.g. in public investment) to reduce the temptation for the Central Government to grab the money;<sup>58</sup> c) proposals at the Central Government to intervene in the administration of these resources; d) an increase in the vertical fiscal imbalance both for municipal governments (from 68% to 74%) and for state governments (from 97% to 99%).<sup>59</sup>

Ethnic differences in Bolivia may have exacerbated the separatist pressures even before president Morales took office at the beginning of 2006. And with the new government the pressures augmented. The nationalization of gas fields, the proposal to extend this to mining and the proposals to undertake a land reform surely raised doubts about property rights especially in the relative prosperous Santa Cruz and Tarija regions that are the largest producers of natural gas (they account for 23% and 59% of the total respectively); they are also the producers of soybeans that might be under threat if a radical land reform takes place.<sup>60</sup>

One difference with Argentina is that the Central Government of Bolivia, although responsible for most of the public debt, was in an orderly process of debt reduction under the Multilateral Debt Reduction Initiative. In fact the interest burden fluctuated between 2.3% of the GDP and 3.1% of the GDP in the period 2000-2005, with interest on domestic debt accounting for 60% of the total.

<sup>57</sup> The share of the central government is net of compensations that the Hydrocarbons Law ensures to other government units that reduce by 43% the amount that the first distribution in the Law establishes.

<sup>58</sup> This is a typical example of the "dynamics common problem". Instead of saving the windfall, extra resources are spent creating a Dutch disease problem.

<sup>59</sup> World Bank (2006) Table 7.

<sup>60</sup> As of January 2007 the most severe riots and disputes about regional autonomy started in Cochabamba which is the third state producer of oil with 12% of the country's production. Cochabamba is one of the regions in the hills together with La Paz. Santa Cruz and Tarija are in the lowlands and the poorest Bolivia, where most Indian population supports president Morales, is located in the highlands.

Summing up, Bolivia suffered from separatist forces even before president Morales took office. Large interregional disparities and a windfall gain in natural gas prices led to a distribution of the windfall mostly to subnational units. Some radical ideas of the new government that increase the uncertainty about property rights may have exacerbated the separatist forces. The Central and subnational governments appear to be in a race to grab the extra resources and spend them without major respect for efficiency or equity.

## 5. THE IMPACT OF DECENTRALIZATION

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*Government size and deficits.* The impact of decentralization on government size is ambiguous. A better match with local preferences may raise government size, but decentralization might also control the Leviathan through tax competition, although tax competition is more relevant if the vertical imbalance is not very high. And a high vertical imbalance may encourage governments to overborrow and overspend if central governments cannot make credible commitments of no bailouts. Similarly, in theory, decentralization can reduce agency problems and allow a tighter control of citizens on the bureaucracy, but in practice, as Tanzi (2000) has argued; it might increase incentive problems if local policymakers are an easy target for interest groups.<sup>61</sup>

The IADB (1997) explored the impact of decentralization on government size (consolidated) using a cross country of Latin-American and OECD countries. They found that decentralization has a strong positive impact on the size of government after accounting for the impact of other determinants, such as the proportion of the population over 65 years of age, the level of government debt and openness.<sup>62</sup> They include as explanatory variables measures of country size, political organization and vertical imbalance and some control variables.<sup>63</sup> They also found that decentralized countries in Latin America with large vertical imbalances and borrowing autonomy have larger governments. In the same study they found no impact of decentralization on governments deficits.

Sanguinetti et al (2001) found some evidence for Argentine municipal governments that political variables influence the size of government outlays. When political power is decentralized,<sup>64</sup> per capita municipal expenditures are lower; and expenditures are higher when the mayor belongs to the same political party than the governor.

López Murphy and Moskovits (1998) and Sanguinetti et al (2001) find some evidence of flypaper effect for the grants that Argentine provinces give to their municipalities.

*On efficient delivery of public services.* Decentralization may improve the efficient delivery of public services through several channels (increasing yardstick competition among local governments, reducing lobbying, increasing the electoral control over incumbents, creating a better match with individual preferences, etcetera). But the experience with decentralization is quite mixed (Ahmad et al, 2006). The most cited problems in case studies are the lack of capacity of subnational governments, political capture at local level, soft budget constraints (that led first

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<sup>61</sup> Stein (1998) summarizes the different potential impacts of decentralization on government size.

<sup>62</sup> An increase in the decentralization of 20 percentage points increases the size of government by about 4% of the GDP.

<sup>63</sup> In Stein (1998) it becomes clear that, unlike what they do for Latin-American countries, the IADB (1997) does not adjust the OECD data to include only own source revenues with autonomy over the tax base or the tax rate. This introduces a bias in their estimates (they underestimate the vertical imbalance of OECD countries). But they included the OECD to increase the degrees of freedom; when they run the regressions only for Latin America the results are even stronger.

<sup>64</sup> As Argentina's municipal governments show important differences in size, the political organization varies a lot. In Sanguinetti et al (2001) one example of decentralized political power is when there is a mayor and a local congress.

to overborrowing and later undermined service delivery) and misaligned responsibilities. This last problem often occurs because of political restrictions.<sup>65</sup> One example is decentralization of education with school teachers being employees of a higher level of government because of resistance from the unions, at the same time that lower levels of government take care of the service delivery. This confuses incentives, weakens accountability and creates conflicts of interest (Bolivia is one clear example, World Bank, 2006).<sup>66</sup> National and powerful unions together with low quality bureaucracies implied that unions have a de facto veto power on any reform on education. Therefore, education reforms have been focused on increasing the number of schools or more training to teachers rather than on policies able to improve the quality of education (Stein et al, 2006).<sup>67</sup>

Galiani and Schargrotsky (2002) show some evidence that decentralization improved the performance of Argentine students, but Tomassi (2002) argues that as the authors measure the performance of students in public schools relative to those in private schools it is not obvious that the improvement was achieved because the performance improved in public schools run by the provinces or because it deteriorated in private schools.<sup>68</sup> Barankay and Lockwood (2006) provide some evidence that decentralization leads to higher education attainment. They use data on educational inputs and outputs from Swiss Cantons for the period 1982-2000.<sup>69</sup>

Ahmad et al (2006) point out that in countries that started the devolution process with revenues there is no guarantee that the additional resources will be spent efficiently and this may also create macro imbalances. Similar problems may appear in the opposite case: unfunded mandates to subnational governments that have their budgets dominated by the wage bill may simply end in the abandonment of needed public infrastructure (Leipzig, 2006).

Ahmad et al (2006) use the case of Bolivia to illustrate a different point. Fiscal decentralization of the 1990's led to a better match between local preferences and budgetary allocations because centralization implied that some regions got completely unattended. A disproportionate amount

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<sup>65</sup> Ahmad et al (2006) argue that decentralization would improve service delivery if voters are informed and are likely to use that information in their voting decisions for local public expenditures, if political promises are more credible at the local level and if there is less polarization of preferences. This is not ensured, especially when state governments are large and in those services (education, health) where it is difficult for voters to assess the quality. Moreover, in developing countries the median voter is poor and many government policies are not targeted to those groups (e.g. free tertiary education).

<sup>66</sup> Stein et al (2006) also mention this problem in the decentralization of education in Argentina, where unions were able to "nationalize" salary disputes and forced the creation of a federal fund to increase their salaries, in spite of being provincial employees. Education accounts for about 25% of provincial expenditures.

<sup>67</sup> Even in Chile, that uses vouchers, their incentive power has been reduced when the central government agreed salaries with the teachers' union that for some municipalities were not affordable with their own source revenues.

<sup>68</sup> Tomassi (2002) mentions that Argentine provinces are not "optimal" school districts. He takes a relative radical opinion in qualifying the decentralization of Argentine secondary education in the early 1990's as an opportunistic decision of the Federal government. As it is mentioned in Joumard and Kongsrud (2003) many federal governments in developed countries "have looked for some help from subnational governments" to improve their fiscal position either by reducing transfers or by transferring more expenditure responsibilities without more resources. And this happened not only in European countries that had to comply with the targets of the Stabilization and Growth Pact but also in the US and Canada.

<sup>69</sup> By doing so they get rid of two problems: the measurement problems of GFS data that bias cross-country regressions and the risk of attributing a better performance to a more inefficient delivery of education. The authors control for the influence of inputs using variables such as educational expenditure per pupil and class size.

of the public resources was concentrated in the capital city and its surroundings prior to decentralization.

Bird (2002) and Ahmad et al (2006) point out the importance of consistent information, reporting and tracking (i.e. transparency is a key input to improve service delivery, but this is also a requirement for the central government).

Saiegh and Tomassi (1999) and Tomassi (2002) analyze the institutional pitfalls that led Argentina's federalism into two extremes: too much rigidity or too loose framework given the lack of incentives of the political actors to strike cooperative agreements and the inability of the Federal government to make credible commitments. Flawed federal institutions have encouraged subnational governments to focus on continuous bids for additional resources instead of focusing in developing managerial efforts. It follows from their analysis that the efficient delivery of public services will be undermined. Tanzi (2006) mentions that fiscal decentralization in the US evolved in spite of frictions, because the Constitution provides not only a rigid framework but also credible institutions (the Supreme Court) to introduce the necessary flexibility. Fiscal arrangements between different levels of governments are contracts that require a clear political process to set clear political rules that are necessary to make the needed changes efficiently and peacefully. Many developing nations have not such institutions and the outcome is chaos (Indonesia, Nigeria). Therefore the benefits of decentralization are not clear when institutions are weak or political capture is high at the local level (Tanzi 2000).

*On growth and income distribution.* Latin America needs to achieve high growth rates after the poor performance of the 1980's and the 1990's. And inequitable income distribution has been one chronic problem and is behind the recent wave of counter reforms that is taking place in some countries of the region.

There is not much empirical evidence to show a direct impact of fiscal decentralization on economic growth and income distribution. Martinez-Vazquez and McNab (2001) criticize the robustness of those studies that attempted to find a direct link between decentralization and growth.<sup>70</sup> So it is better to find indirect links. For example, will fiscal decentralization improve the quality of education? Will it increase investment and the quality of investment? There is not a theoretical agreement on these issues and empirical evidence is scarce.

Harberger (2005) shows that what makes the difference between successful growth stories and failures are Total Factor Productivity gains. And TFP depends on the existence of an adequate climate that encourages each businessman to achieve real cost reductions. Open economies, sound regulations, macro stability, adequate tax systems, and prices that reflect economic costs are the prime candidates to create such a climate. And by large, most depend on policies that are responsibility of central governments. In fact, as Harberger (1984) mentioned more than 20 years ago, one macro mistake might be decisive while in micro policies one needs to have "a good batting average". Adequate fiscal decentralization may help to create an adequate business

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<sup>70</sup> *The authors note: a) the general lack of robustness of empirical studies that try to identify the impact of diverse government policies on growth, b) there are measurement problems of fiscal decentralization because it is multidimensional, and c) spurious correlations are likely. Moreover, decentralization might improve consumer welfare and this will not show in GDP growth.*



climate; the two obvious candidates are sound taxes and regulation at subnational levels and good quality education.<sup>71</sup> But in any case the impact of fiscal decentralization on growth seems to be of second order of importance.

Achieving a higher social return on public expenditures every year might have an important effect on growth. The role for a professional evaluation of social costs and benefits is extremely important in this regard. However, there has been progress in other reforms like trade liberalization, reduction of distortions in prices and macroeconomic policies, but not much in project evaluation (Harberger, 2005). I have argued elsewhere (Artana, 2006) that project evaluation has no lobbies in its favor because its effect is diffuse (unlike tax reform or trade liberalization with taxpayers and exporters as potential winners), has low visibility and a relative small immediate macroeconomic impact (unlike tax reform, trade liberalization and privatization), it requires numerous high-qualified professional staff and is done on a “tedious” case by case approach and it has not been subject to constraints in multilateral agreements (that, for example, do impose constraints on tariffs on imports). It is unlikely that these constraints can be removed more easily at the subnational level.

The impact of fiscal decentralization on income inequality is not obvious either. Decentralization might increase inter-regional disparities but personal income inequality depends on other factors. Harberger (1998) and (2003) concludes that to improve income distribution and alleviate poverty: a) economic growth helps; b) it is necessary to avoid macro mistakes (populism, inflation, procyclical fiscal policies); c) redistribution is much more effective through government expenditures than through taxes because it needs to change endowments (e.g. education, health, infant nutrition). As mentioned above, fiscal decentralization may help to improve education, health and infant nutrition. But for that to happen it is necessary to have incentive-compatible frameworks and also adequate labor regulations because these are typically labor-intensive activities. And this has proved to be a difficult task for all levels of government in Latin America.

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<sup>71</sup> *Tanzi (2000) argues that governments that face constraints on raising tax revenues will find other instruments to achieve their objectives. Regulations are one example. As local governments are often much constrained in raising revenues than central governments, decentralization may lead to a regulatory burden that reduces the efficient allocation of resources. Moreover, decentralization often encourages a de facto fragmentation of the domestic market with negative impact on growth (e.g. through tax competition and regulations).*

## 6. CONCLUDING REMARKS

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Estimates of fiscal decentralization are exposed to measurement problems. Most estimates of revenue decentralization are biased because the most frequently used databases do not report own source taxes following economic criteria. Estimates of decentralization of expenditures, especially in Latin-American countries, suffer from the lack of time series and in many cases for unreliable or inexistent figures. They are also not adjusted to take into account whether or not subnational governments control the expenditure decisions.

Fiscal decentralization is only one instrument to improve the quality of public services; it competes with others, like privatization. It is not obvious which one is more efficient. Both require credible institutions that usually are lacking in developing countries.

It has been accepted that Latin America, on average, is more centralized than industrialized countries. But looking at unweighted averages is misleading because decentralization depends, among many factors, on the size and income of each country, their ethnic diversities, political factors and history. When weighted averages are used the difference in decentralization between Latin America and the OECD is reduced substantially.

There are other “non-traditional” factors that may explain different degrees of fiscal decentralization. For example, the “typical” Latin American country has more restrictions to raise taxes than developed economies and this has encouraged the use of inefficient taxes (e.g., on trade, inflation) that are collected by the central government. And younger populations would imply less observed fiscal decentralization, as pension systems are usually a national responsibility.

Decentralization is likely to change even if tax and expenditure assignments are not modified. For example, the typical responsibilities of subnational levels of government are more labor-intensive than those typical of central governments; therefore rising real wages will lead to more observed expenditure decentralization.

External shocks also have an impact on decentralization. Windfall gains in natural resources may encourage separatist forces if regions own the resource or more centralization if the federal government is the owner. And severe macroeconomic crisis, that in the region have been associated with the perception that the Federal government is “bankrupt”, would lead political leaders to accept more (may be transitory) centralization of revenues to improve the fiscal balance.

There is no clear evidence about the impact of fiscal decentralization on government performance, both at the macro and micro levels. More empirical research is needed in these areas.

With regard to the challenges that Latin America faces (sustained growth and fairer income distribution and poverty alleviation) fiscal decentralization has more potential as an instrument to improve the second: to rise the quality and quantity of education and health and to alleviate

poverty. Targeting is probably more efficient if it is done at the municipal level, especially in large and diversified countries. Decentralization of education and health may help improve their quality if they are accompanied by the needed flexibility in labor regulation. In any case, decentralized execution would need federal support because it is unlikely that any subnational government in the region would be able to finance those expenditures with own source revenues. And this will require hard budget constraints to ameliorate the problems of high vertical imbalances.

As in any policy decision, the conditions required for an “optimal” decentralization are never in place (Bird, 2002). These are: a) political (leaders responsible to their voters with hard budget constrains); b) economic (difficulties to shift costs to non-residents; accountability to local taxpayers, users of local services and taxpayers in general for the use of grants); and c) administrative (local budgeting, financial reporting, dispute settlement). And state failures are pervasive in all levels of government.

What is clear is that decentralization per se will not solve the institutional weakness of many developing countries and in some cases it might even worsen it. On the other hand, there is no evidence to believe either that decentralized countries performed more poorly than centralized ones.

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## **ESTAS EMPRESAS CREEN EN LA IMPORTANCIA DE LA INVESTIGACIÓN ECONÓMICA PRIVADA EN LA ARGENTINA**

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**ABA - Asoc. Bancos de la Argentina**  
**ACARA-Asoc. de Conces. de Autom. de la**  
**Rep. Arg.**  
**ACE Seguros S.A.**  
**ADECCO**  
**Aga S.A.**  
**Amarilla Gas S.A.**  
**American Express Argentina S.A.**  
**Aseg. de Caucciones S.A. Cía. Seg.**  
**Aseg. de Créditos y Garantías**  
**Asoc. Argentina de Cías. de Seguros**

**Banca Nazionale del Lavoro S.A.**  
**Banco CMF S.A.**  
**Banco COMAFI**  
**Banco del Chubut**  
**Banco Finansur S.A.**  
**Banco Galicia**  
**Banco Macro**  
**Banco Patagonia S.A.**  
**Banco Privado**  
**Banco Río**  
**Banco Sáenz S.A.**  
**BankBoston**  
**BBV Banco Francés**  
**BNP Paribas**  
**Bodegas Chandon S.A.**  
**Bolsa de Cereales de Buenos Aires**  
**Bolsa de Comercio de Bs.As.**  
**Booz Allen Hamilton de Arg. S.A.**  
**Bunge Argentina S.A.**

**C&A Argentina SCS**  
**Cabrales**  
**Caja de Seguro S.A.**  
**Cámara Argentina de Comercio**  
**Camuzzi Argentina**  
**Cargill S.A.C.I.**  
**Cencosud S.A.**  
**Central Puerto S.A.**  
**Cervecería y Maltería Quilmes**  
**Chep Argentina S.A.**  
**CIMET S.A.**  
**Citibank, N.A.**

**CMS Operating S.A.**  
**Coca Cola de Argentina S.A.**  
**Coca Cola FEMSA de Buenos Aires**  
**COPAL**  
**Corsiglia y Cía. Soc. de Bolsa S.A.**  
**Costa Galana**  
**CTI Compañía de Teléfonos del Interior**  
**S.A.**

**Daimler Chrysler**  
**Direct TV**  
**Droguería Del Sud**  
**Du Pont Argentina S.A.**

**Editorial Atlántida S.A.**  
**Esso S.A. Petrolera Argentina**

**F.V.S.A.**  
**Falabella S.A.**  
**FASTA**  
**Farmanet S.A.**  
**Ford Argentina S.A.**  
**Fratelli Branca Dest. S.A.**  
**FPT - Fundación para la Formación**  
**Profesional en el Transporte**

**Gas Natural Ban S.A.**  
**Grupo Danone**  
**Grimoldi S.A.**

**Hewlett Packard Argentina S.A.**

**IBM Argentina S.A.**  
**INFUPA S.A.**  
**Internet Securities Argentina SRL.**  
**IRSA**

**Javicho S.A.**  
**Johnson Diversey de Argentina S.A.**  
**José Cartellone Const. Civiles S.A.**  
**JP Morgan Chase**

**La Holando Sudamericana**  
**Loma Negra C.I.A.S.A.**  
**Los Gallegos Shopping**

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## **ESTAS EMPRESAS CREEN EN LA IMPORTANCIA DE LA INVESTIGACIÓN ECONÓMICA PRIVADA EN LA ARGENTINA**

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**L'Oreal Argentina  
Luncheon Tickets S.A.  
Louis Dreyfus Commodities**

**Magic Software Argentina A.A.  
Marby S.A.  
Massalin Particulares S.A.  
Mastellone Hnos. S..  
Medicus A. de Asistencia Médica y  
Científica  
Mercado Abierto Electrónico S.A.  
Mercado de Valores de Bs. As.  
Merchant Bankers Asociados  
Metrogas S.A.  
Metropolitan Life  
Murchison S.A. Estib. y Cargas**

**Neumáticos Goodyear SRL.  
Nike Argentina S.A.  
Nobleza Piccardo S.A.I.C.F.  
Novartis**

**OCA S.A.  
Organización Techint  
Orígenes AFJP S.A.  
Orlando y Cía. Sociedad de Bolsa**

**Pan American Energy LLC  
PBBPolisur S.A.  
Petrobras Energía S.A.  
Philips Argentina S.A.  
Pirelli Neumáticos SAIC.  
Prysmian Energía Cables y Sistemas de  
Argentina**

**Quickfood S.A.**

**Repsol-YPF  
Roggio S.A.**

**San Jorge Emprendimientos S.A.  
SC Johnson & Son de Arg. S.A.  
Sealed Air Argentina S.A.  
Sempra Energy International Argentina**

**Shell C.A.P.S.A.  
Siemens S.A.  
Sociedad Comercial del Plata S.A.  
Sociedad Rural Argentina  
Swift Armour S.A. Argentina**

**Telecom Argentina  
Telecom Italia S.P.A. Sucursal Argentina  
Telefónica de Argentina  
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