

Regional Policy in Brazil: a Review¹

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This article discusses regional policy in Brazil focusing mostly in the instruments of regional promotion under the responsibility of the federal government. We present them in the context of the evolution of regional inequality in the country, as well as that of the main ideas and theories proposed to solve them. We discuss the main facts and ideas in Brazil about regional inequality and the proposed solutions, and present in detail the main instruments and policies, past and present, for regional promotion in Brazil. We also perform a succession of evaluation exercises of the effect of regional policies in the poor regions of the country from different viewpoints. We ask if they have any impact on the observed convergence between poor and rich regions; we examine their effect on interstate GDP level; we report econometric results in the literature on tax and credit incentives and regional performance (at different levels) and we study the evolution of social indicators. We also attempt, mostly at a theoretical level, some counterfactual exercises. Our main conclusion is that regional policy as we know it in Brazil has a poor record in reducing inequalities and in the few successes, costs are very high and never taken into account seriously.

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I Introduction

This article discusses regional policy in Brazil focusing mostly in the instruments of regional promotion under the responsibility of the federal government. We present them in the context of the evolution of regional inequality in the country, as well as that of the main ideas and theories proposed to solve them. Evaluation of results is an important component of the present article.

Brazil is a country of inequalities. It has one of the worst records of personal income inequality in the world. Gini Coefficient, based in the 1999 “PNAD” household survey, is 0.587, while in Mexico and the USA, for comparable data, they are 0.536 and 0.445, respectively (Bourguignon, Ferreira and Leite,2002). In this country, the 10% richest people receive 50% of total income, while the 50% poorest people receive less than 10% of total income. Although estimates vary, around 30% of the Brazilian population lives below the poverty line.

Regional inequality is also high. Income per capita in the Northeastern region, the poorest in the country, is only one third of that of the Southwest, the richest region. The former concentrates 58% of national GDP, while the latter only 13% implying a Northeast-Southeast per capita income ratio of 46% in 2000. This is a bit better than in 1970, when Northeast-Southeast per capita income ratio was 0.26, but since 1985 the situation has stopped improving. In some dimensions it deteriorated: total share of the Northeast in the national GDP in 1985 was 14%. Winners here are the remaining regions, especially the Center-west.

Social indicators in the Northeast region are also significantly below the national average. Its illiteracy rate is at least 3 times higher that of São Paulo, child mortality rate is twice as large as that of the Southeast (54.5 per thousand and 26.3 per thousand, respectively), life expectancy four years shorter, and income inequality is much worst. In this case, the Theil Coefficient of Ceará, Bahia and Pernambuco is 0.80 while that of São Paulo only 0.55 (Ferreira (2000)). Fifty per cent of the Northeast Population lives under poverty

Not all are bad news. From 1970 to 2000, GDP per capita in the Center-west region relative to the national average went from 68% to 100%. In the Northern states of Pará and Amazonas, they went from 24% and 34%, respectively, to 47% and 103%. Dias (1999) shows that ratio of the Northeast Index of Human Development, IHD, to Brazilian IHD goes from 0.45 in 1970 to 0.74 in 96. Many authors (Azzoni(1994), Ellery and Ferreira(1996) and Ferreira(2000)) had found that from 1970³ to the present there is strong evidence of convergence between interstate income per capita, either of the “beta” type and of the “gamma” type. This can be partly attributed to regional policy (e.g., Diniz(2000) support this view) although some (e.g., Maia Gomes(2002)) disagree⁴.

This article is organized in four sections in addition to this introduction. The next section discusses the main facts and ideas in Brazil about regional inequality and the proposed solutions. Section three presents in detail the main instruments and policies, past and present, for regional promotion in Brazil. It presents a detailed outline and review of policies, their motivation, financial mechanisms, type of incentives, groups benefited, etc. Of course, comparisons between policies are done when appropriate. In addition, policies that are not explicitly designed to correct regional disparities, but may have an impact on it, are also examined. Given the importance of fiscal war between states in the attraction of business, we have in this section one example, the case of “Regime Automotivo” and Ford Company in Bahia, which mixed federal and state incentives.

Section Four presents a succession of evaluation exercises of the effect of regional policies in the poor regions of the country. We do that from different viewpoints. We ask if they have any impact on the observed convergence between poor and rich regions; we examine their effect on interstate GDP level; we report econometric results in the literature on tax and credit incentives and regional performance (at different levels) and we study the evolution of social indicators. We also attempt, mostly at a theoretical level, some counterfactual exercises. In this sub-section we ask what would have happened in the absence of a particular intervention (e.g., Sudene, Free Trade Zone of Manaus), instead of what happened after the intervention, and then conjecture possible scenarios. Finally,

³ Some authors, Azzoni (1994) and Maia Gomes(2000), use 1960 data. However, 1960 GDP data is not too reliable.

⁴ This will be tackled later, in Section 4.

Section Five presents some concluding remarks. There is also an appendix with summaries of the main instruments of regional policies studied in section three.

II Regional Policy in Brazil: Facts and Theories

Regional policy in Brazil in its modern form can be traced, initially, to the work of Celso Furtado in the “Grupo de Trabalho para o Desenvolvimento do Nordeste, GTDN (“Working Group for the Development of the Northeast”, Sudene (1967)) written in the late fifties. Inspired by the theories of Cepal and the Latin America’s Structuralist School, this document transposed to the regional level the ideas of this group for the relative underdevelopment of the countries in the continent.

Using the concept of center-periphery, Cepal pointed out that poverty in Latin America was, in essence, a problem of terms of trade disadvantage that would not allow countries in the region to accumulate enough resources internally. Hence, investments would remain below the necessary to produce fast growth, unless there was some form of public intervention. The government main role should be the creation of the necessary conditions for industrialization, given the structural shortcomings of agriculture. Hence, import barriers were erected to increase the competitiveness of domestic production. Subsidies and many forms of transfers to the manufacturing sector were, at least temporarily, fashioned and aggressive investment programs in infrastructure and in strategic sectors, mostly industrial and public utility, were implemented.

Furtado transplanted these ideas to the North-South imbalance in the country. His policy recommendation, and the one that inspired the creation of Sudene in 1960, was industrialization, of course, but in radical terms. His document defended a form of import substitution with respect to the Southwest and almost autarky. It was that or either misery or migration⁵, as agriculture or services would not be able generate enough growth to lift

⁵ Why migration was not acceptable is not explained. Most probably because this tradition thinks of the region as an unit and not of its isolated individuals as the relevant unit. However, migration end up being an important factor in the country. For instance, more than 40% of the natives of the Northeastern state of

local population out of poverty. The reason was that terms of trade favored the South (among other reasons because of barriers to trade at national level and devaluation, which increased even further the prices of intermediate goods imported by local business and so raised the demand for Southeastern goods), implying in a permanent transfer of resources from the Northeast to the South.

The “substitution” idea was, in practical terms, unfeasible, given scale problems, local demand and funding. It was later replaced by a more modest view of complementarity between local production and that of the rest of the country. However, citing Diniz (2001), “albeit policy changes after the 1964 coup, ..., the expectations of poverty reduction in the Northeast resulted in the persistence of the initial diagnosis that gave origin to the creation of the Sudene (e.g., Furtado’s GTDN) and its use as the basis for governmental action in the region for the design of the policies and incentives that in essence prevail until the present.”

Hence, more than any modern “market failure” approach, the origin and maybe the current essence of regional policy in this country have Cepal’s center-periphery arguments as its intellectual backbone⁶. Note however, that although Furtado’s GTDN or even Prebisch (1949) seminal article do not mention Rosenstein-Rodan (1943) or any coordination argument, numerous analysis of regional policy in later years implicitly used arguments close to those. As we know, this view in essence defends multiple equilibria: without coordination no isolate firm will invest, local production and employment will be small, so will demand and market size. On the other hand, if many sectors adopted increasing return technology, they could each create income that would be a source of demand for other sectors, increasing their market and making industrialization profitable. In this context, of course, industrialization is welfare improving. Hence, the need for a “big push” (Murphy, Shleifer and Vishny, 1989) from the government, i.e., the need of public coordination of investment decisions. This could be made via incentives or planning (or both).

Paraíba lived, in 1999, out of the state (PNAD data). That may not help to decrease regional imbalance, but surely contributed to the reduction of personal income inequality in the country

⁶ Castro(1971) and Cano(1976) are other relevant references that, although do not follow strictly Furtado, find in historical imbalances of the exchanges between the South and North the reasons for the relative underdevelopment of the latter.

We could not find, however, in the literature or even in surveys (Diniz(2001), Bacelar (2000) and Dias (1999)) any argument that explicitly justified the need of policies for the reduction of regional inequality based on coordination failures à la Rosenstein-Rodan (1943) or “Big Push” style arguments. Much the opposite: Dias (1999) still explains regional imbalances using center-periphery arguments, although in a sophisticated fashion.

Hence, inspired by Furtado’s GTDN document, modern regional policy in Brazil started in 1960 with Sudene, which for some time coordinated all actions of federal institutions in the Northeast region and was also responsible for the management and operation of various incentive mechanisms. Policy instruments included tax and investment credit, long-term financing, infrastructure construction (especially roads and energy) and income tax reductions for business in the region. In 1974, a similar agency, Sudam, was created for the Amazon region, with analogous objectives. Before that, in 1967, a free trade zone and industrial district was established in the Amazon, based in the city of Manaus, mostly financed by tax incentives. In this case not only regional imbalance but also the strategic objective of occupation of an empty region were the key objectives. Another important mechanism of regional promotion was created in 1990: the Constitutional Funds. These investment funds collect 3% of income and industrial taxes and use them to finance, at subsidized interest rates, investment in the North, Northeast and Center-West.

The volume of resources involved in these programs was never small. From their creation to March 2002, total credit of the Constitutional Funds reached more than US\$ 10 billions. Tax credit directed to the Free Trade Zone of Manaus is estimated to be US\$ 1.2 billion in 2003 alone. Finor and Finam, investment incentives schemes funded by income tax deductions, averaged from 1995 to 2000 more than 600 million dollars a year, before they were shut down under accusations of corruption. Estimated value of total tax breaks (Secretaria da Receita Federal, 2003), and associated regional development program (not including Free Trade Zone of Manaus) in the current year is 2.6 billions of Reais, almost US\$ 900 million. And this do not include, for instance, loans at favored condition by BNDES, a federal development bank.

Furtado's GTDN document stated that regional inequality was the most serious problem in the country. Is this true? And how serious a problem? In fact economic activity in Brazil is concentrated in a relatively small portion of the territory. In 2000, the four states located in the Southeast Region, which occupy only 11% of the country's area, accounted for 57.8% of the Brazilian GDP and 43% of the population. The Northeast, by contrast, occupies 18% of the area, accounted for 28% of the population but only 13.1% of the Brazilian GDP in 2000. This situation was even worse in the past (table 1.)

Table 1: Regional GDP per capita relative to the national average

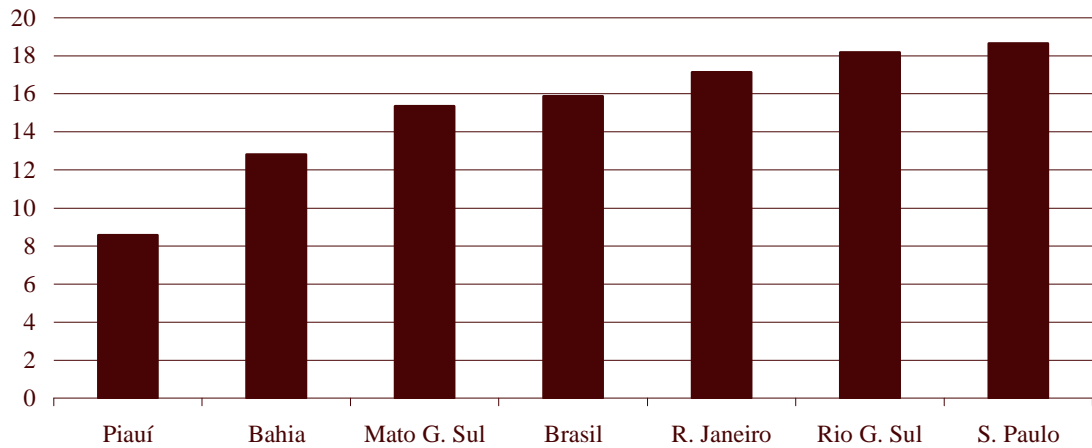
Region	1970	2000
North	0.58	0.61
Northeast	0.40	0.46
Southeast	1.52	1.36
South	0.96	1.19
Center-west	0.68	1.01
Piauí	0.21	0.29
São Paulo	2.06	1.54
Distrito Federal	1.79	2.25

Source: IBGE, Contas Regionais do Brasil

In Section 4 we will deal in detail with these data. It is enough to say now, that although relative inequality reduced from 1970 to 2000, distances are still large. Piauí, the poorest state in 1970 and the second poorest in 2000 (after Maranhão) is 5.3 times poorer than São Paulo, the most important state, in economic terms, of Brazil.

Personal income data from PNAD – a household survey whose data are considerably more reliable than regional GDP data – also show large disparities, but less so. In 1999, average hourly income of a Brazilian worker was R\$15.87, but that of a worker living in the Northeast was R\$12.33 and in Piauí just R\$ 8.97. In contrast, hourly income of a resident of the Southeast region was R\$17.12 and of a worker living in São Paulo was R\$ 18.66. Hence, the difference from São Paulo to Piauí is now only 2.1 (Figure 1)

Figure 1: Average Income from Labor (R\$/hour)
Selected States



Source: PNAD 1999.

Regional income difference may be the result of many factors, but it surely reflects educational differences, especially when considering personal income. And the disparities in this dimension are huge. For instance, educational attainment of the adult population in 2001 in São Paulo was 75% per cent above that of Piauí (6.9 years and 3.9 years, respectively) and while less than 6% of the adults of São Paulo cannot read or write, illiteracy rate in Piauí is almost 30%. There is no state in the Northeast region where this rate is below 21%, while the country average is 13%. The return from education in Brazil, estimated by standard Mincer equation, is above 10%, meaning that on average one more year of schooling implies ten percent more income.

Many have noticed (e.g., Barros, R. P. and Mendonça (1995) and Menezes-Filho(2001)) that educational differences are the main cause of income inequality and poverty in Brazil. It has been observed too that once you control for education and other relevant factors, the contribution of the region to inequality is relatively small. Some (e.g., Azzoni, Menezes and Leite (2000)) go even further and, using simulations with micro-data, contend that once you control for education and infrastructure differences, there is no residual left to be explained by regional factors. However, investment in human capital was

never seriously considered in this country as a policy to reduce regional imbalances and the emphasis was given to physical capital accumulation, industrialization and infrastructure investment. The first two were financed by a number of different credit and tax incentives schemes, all of which with some form of explicit or implicit subsidy. In Section 4 we will see that the record of these policies is, at best, mixed, something already pointed by Maia Gomes(2000) and Pessoa(1999). Although certainly able to attract business to poor regions, 40 years of regional policy in Brazil, were not able to reduce decisively income disparities across states and regions. Given the established link between poverty, personal income inequality and education, one is left wondering if it is not time to change the focus of regional policy from subsidy to physical capital accumulation to mass investments in human capital.

III - Instruments of Regional Policy in Brazil

III.a - The Constitutional Funds

On September 1989 the Brazilian Congress enacted Law 7827 - based on a constitutional article⁷ - which created the Constitutional Financing Funds (“Fundos Constitucionais de Financiamento”) respectively, for the Northeast – FNE -, the Center-West – FCO – and the North – FNO. These funds are financed through a percentage of income taxes (both from firms and individuals) and also of the tax on industrialized goods, 3% in both cases. Of the total resources, 60% goes to the FNE, and the rest is evenly divided between the FCO and the FNO. These resources are transferred from the National Treasury to the Ministry of Integration (“Ministério da Integração”), which later reallocates them to the operating banks, which are the Banco do Nordeste (FNE), Banco da Amazônia (FNO) and Banco do Brasil (FCO).

⁷ The Brazilian Constitution is extremely comprehensive, having 250 articles, .For instance, it not only stresses general principles of the national tax system but legislates in detail the responsibility of municipalities, estates, and the Union and also the distribution of revenue among them.

After the extinction of Finor and Finam, to be studied in section III.b, the constitutional funds became, probably, the most important instruments of regional policy in the country. Their declared objectives are the economic and social development of the corresponding regions, through the concession of loans to local entrepreneurs. Preferential treatment is given to what are called “mini” and “small” agricultural producers and “micro” and “small” companies, to activities that use local raw materials and are labor intensive and also to basic food production. Special attention to sound environmental procedures is also taken into account.

From September 1989 to March 2002, the loans granted with resources from these Constitutional Funds had reached, in today’s values, more than US\$ 10 billion⁸ amounting to an average 0.8 % of total GDP of the 3 regions per year. About 980 thousand operations had been completed with these resources in the same period. Table 1 below presents the total yearly transfer from the Treasury to the funds, in the 1989-2001 period:

Table 2: Total Resources of the Constitutional Funds (US\$ 1000)

Year/Fund	FCO	FNO	FNE	Total
1989	53,097	53,097	159,290	265,483
1990	164,815	164,815	494,447	824,077
1991	132,637	132,637	397,918	663,192
1992	124,865	124,865	374,593	624,323
1993	158,525	158,525	475,575	792,626
1994	149,809	149,809	449,428	749,046
1995	153,902	153,902	461,707	769,511
1996	144,609	144,609	433,835	723,054
1997	149,246	149,246	447,744	746,236
1998	151,738	151,738	455,210	758,686
1999	156,348	156,348	469,046	781,742
2000	174,381	174,381	523,151	871,913
2001	210,701	210,701	632,101	1,053,504
2002 (*)	79,711	79,711	239,134	398,556
Total	2,004,386	2,004,386	6,013,179	10,021,950

Sources: National Treasury Secretariat -STN and the Ministry of National Integration.

(*) January to March 2002

⁸ In Brazilian currency, R\$ 23.278 billion at March 2002 prices.

As one can see from the table above, until 2000 the transfers to the Constitutional Funds remained relatively stable, around US\$ 750 million per year. Out of this value, US\$ 450 million went to the Northeast fund and the rest was divided between the FNO and the FCO.

The loans from the Constitutional Funds were offered at interest rates well below market rates, and under extremely favorable conditions to local firms. Nowadays, these rates differ from firm to firm, depending on the size of the investment, sector and whether the beneficiary has a good credit record or not. The agricultural sector, for example, has three rates: 6% for the mini-producer, 8.75% for small to average and 10.75% for large ones. These rates were negative in real terms in 2002, as inflation in this year was 12.53%.

For the non-agricultural sector, loans have the following interest rates: 8.75% for micro firms, 10% for the small ones, 12% for medium-sized businesses and 14% for large firms. Again, given that market rates for loans to private firms are today well above 45%⁹, these rates imply huge subsidies from the government to local enterprises. It is no wonder that the Banco do Nordeste, which administers the Northeast Fund, accounts for more than 75% of all loans granted by the banking system in the region. The conditions of its loans are much more favorable than those of private banks and other public banks such as Banco do Brasil. Its participation in overall agricultural credit is even larger, 88.3% in 2001.

The table below presents the official forecast of the amount of resources to be allocated to the Constitutional Funds in 2003. As one can see, most of the resources come from income taxes (“Imposto de Renda” - IR) and they amount to a total of US\$ 800 million. The rest comes from tax on industrialized goods, “IPI”.

⁹ According to the Brazilian Central Bank, the average spread over the CDI rate paid by firms was in March 2003, 24.98%. The CDI is the base rate for loans between banks and was, in the same month, 26.2%.

Table 3: Constitutional Funds: 2003 forecasts (US\$ 1000)

	FCO	FNE	FNO	Total
Source				
IPI	38,869	116,606	38,869	194,344
IR	119,996	359,989	119,996	599,981
TOTAL	158,865	476,595	158,865	794,325

Source: National Treasury

III.a.1 - The Northeast Constitutional Fund

In the case of the FNE, most of the resources are directed to the agricultural sector, a trend that has been accelerating recently. In 1991 and 1992, only 42% of the total value of loans went to the farming sector, but in 1997 and 1998 this proportion was twice as large. From 1989 to 2001, 64.4% of FNE money went to the agricultural sector. This can be thought of as a compensation for FINOR, which was mostly an industrial fund. Until 2001, except for the tourism sector, loans to the service sector were not legally allowed, but there is no such a restriction now. However, only 2.3% of the total volume lent has gone to services and tourism.

Note that values in Table 3 are forecasted transfers to the Constitutional Funds. The FNE resources actually Disbursed in 2002, as loans to the private sector were less than a fifth of this value¹⁰. Even when we consider institutional and legal problems that plagued the Banco do Nordeste in the period, the forecast in the table above is way over the loans figures for 2000 and 2001. Hence, as stated in a recent interview by a Bank director, the loans may well end up above these numbers, given that part of the money available in previous years was not used. The table below presents the outlays by sectors from FNE between 1994 and 2000.

¹⁰ Original values were in 2003 Reais: R\$ 532 thousand – in the case of FNO and FCO – and R\$ 1,536 thousand in the case of FNE.

Table 4: Loan Values, FNE, 1994-2001 (US\$ 1000)

	1994		1995		1996		1997	
	VC	%	VC	%	VC	%	VC	%
Agriculture	269,243	73.7	307,617	76.9	402,861	80.4	259,740	74.7
Agro industrial	10,838	3.0	13,321	3.3	13,111	2.6	9,528	2.7
Industrial	83,532	22.9	72,197	18.1	74,370	14.8	66,921	19.2
Tourism	1,373	0.4	6,692	1.7	10,712	2.2	11,707	3.4
TOTAL	364,985	97	399,828	100	501,054	100	347,896	100
	1988		1999		2000		2001	
	VC	%	VC	%	VC	%	VC	%
Agriculture	311,737	85.8	225,653	78.4	176,367	69.5	64,427	48.5
Agro industrial	4,151	1.1	2,444	0.8	2,432	1.0	2,719	2.0
Industrial	45,207	12.5	53,239	18.5	68,744	27.0	62,692	47.2
Tourism	2,208	0.6	6,689	2.3	6,300	2.5	809	0.6
Com. & Services							2,255	1.7
TOTAL	363,303	100	288,025	100	253,843	100	132,903	100

Source: Ministério da Integração, VC: total value of contracted loans.

As said before the FNE is heavily focused on the agriculture sector. Note that loans, after reaching a peak in 1996, fell by almost half in 2000. In the following two year this figure fell even further¹¹. Moreover, while total outlays declined in the period, resources directed to the rural sector remained relatively stable. As a proportion of sector output, it fluctuates around 3.8% (if we ignore 1990, its first year of operation) in the case of agriculture and 1.1% for industry, as one can see from Table 4 below:

¹¹ Apparently, this fall in credit volume is due to legal problems and the informal intervention, in the BNB, by the Central Bank in 2001. This may have reduced the pace of operations of the bank. More on this later in Section 4.

Table 5: FNE loans as a proportion of sector output

Year	Agriculture	Industry
1990	1.7%	0.5%
1991	3.5%	2.5%
1992	2.1%	1.9%
1993	7.1%	1.2%
1994	3.5%	0.7%
1995	4.3%	0.7%
1996	3.7%	0.8%
1997	2.6%	0.5%
1998	3.3%	0.3%
91-98 mean	3.8%	1.1%

Source: Ministério da Integração and IBGE

The loans of FNE are relatively concentrated in the states of Ceará, Bahia and to a certain extent, Pernambuco. They received between 1989 and 2001, on average, 18%, 26% and 14% of the total FNE resources, respectively, as one can see from the table below¹²:

Table 6: State-by-state breakdown of FNE loans

	FNE Share	GDP Share
Maranhão	7.40%	6.50%
Piauí	8.00%	3.70%
Ceará	18.10%	15.40%
Rio G. Norte	7.60%	5.90%
Paraíba	6.90%	6.10%
Pernambuco	13.90%	20.60%
Alagoas	6.20%	5.10%
Sergipe	5.50%	4.30%
Bahia	26.40%	32.50%
	100.00%	100.00%

Source: Sudene;

Note, however, that the participation of Pernambuco and Bahia stands below their participation in the Northeast GDP. Of course, one can expect, for political reasons, that FNE loans do not directly reflect GDP participation, especially because the fund was created to reduce regional inequality. Hence, poorer states should receive a proportionally

higher piece of the pie. However, the under-representation of these states looks too disproportional, at the same time that those of Piauí and Sergipe go in the opposite direction.

Of course this could be compensated by other financial sources, such as FINOR or even with BNDES (National Development Bank) loans directed to the region. With respect to FINOR, that is not the case. Between 1990 and 1995, according to Sudene data (cited by Monte and Távora Junior (2000)), Bahia got only 21% of the total FINOR money and Pernambuco 18% (in this case closer to its GDP share). In both cases Ceará got credit well above its participation in the regional output – 22% in the case of FINOR. This may reflect the fact that Banco do Nordeste is located in Fortaleza, Ceará's state capital, and so more vulnerable to political pressure from this state's officials. When one takes into account that agriculture production in Ceará is extremely small, this over-representation, especially with respect to FNE, which mostly finances the rural sector, hints at political influence. One of the main reasons is that in past years, the head of Banco do Nordeste was "appointed" (in the sense of traditional naming rights) by the governor of Ceará or local politicians. Of course, these facts may partly (or entirely) reflect the competence and aggressiveness of local bureaucrats in obtaining FNE and FINOR funds¹³.

Finally, FNE has a bimodal distribution, by size of establishment. This is so because 60% of the contracts, in value, are earmarked for small size firms, while 31.5% goes to large firms. As for the balance of investments, 36% corresponds to large firms, and of these, almost half are in the industrial sector.

A particularly serious problem in the FNE performance is its rate of non-performing loans, 31% in 2001, very high by any standard. In Section Four we will discuss this problem.

¹² We excluded loans to Minas Gerais and Espírito Santos municipalities, which are part of the Sudene region. Proportions are corrected to add up to one.

¹³ Against this political view of regional credit concentration is the fact that Piauí, a state with no political clout at the national or regional level, received considerably more than its share of FINOR and FNE money,

III.a.2 - The Center-west and North Constitutional Funds

The main objective of the FCO, as for the FNE and FNO for their respective regions, is to contribute to the economic and social development of the Center-West region, by financing activities in industry, agroindustry, farming, mining, tourism, commerce and services. The FCO's area takes in the Federal District and the states of Goiás, Mato Grosso and Mato Grosso do Sul.

Although the Treasury forecast of new resources for the FCO presented in Table 2 is something around R\$ 534 thousand, the upper bound of resource application established by the fund board is 2.5 times that (R\$ 1.276 billion), the difference coming from resources left idle from previous years and from the return on loans and investments. This figure, however, is unlikely, as it is far above recent outlays from the FCO.

Similar to the FNE, the vast majority of total loans from the FCO are directed to agricultural activities. For instance, in 2001, credit to the industrial, agro industrial, infrastructure, tourism, commerce, and service sectors absorbed only 29.6% of total credit. Of these, only 15% went to industrial enterprises and 7% to infrastructure. Likewise, 60% of loan values went to small firms, while 20% went to large ones and another 20% to medium-sized firms.

As opposed to the FNE, there does not seem to be an imbalance between state GDP and FCO loans, especially if we ignore the Federal District (DF), which is basically Brasilia. The DF GDP corresponds to almost 40% of the region GDP, but this is in most part expenses related to the public sector. With this correction, there is high correlation between relative GDP and FCO loans, although Goiás receives a bit less than its share and Mato Grosso a bit more.

The official figures for the number of jobs created by the FCO are 270 thousand from 1990 to March 2002. This is the estimate of direct employment created by FCO loans; there are no figures for indirect employment. On average, fund money allowed the creation of 22 thousand jobs a year at a cost of US\$ 6,700 each. As a comparison, the

8% and 10%, respectively, as it represented in 1997 only 4% on the regional GDP. Moreover, in 2000 and 2001, the proportion of FNE credit going to Ceará decreased considerably.

FNO, which receives the same volume of transfers from the National Treasury, generated 15.6 thousand jobs a year (from 1990 to 1999). Hence, at least with respect to job creation, the FCO is more efficient. As for the FNE, there are no separate estimates for indirect and direct job creation, and the methodology for the former is not clear.

Another dimension in which the FCO is more efficient than the other funds is in the proportion of non-performing loans. The quality of the credit from the FCO is way above that of the FNE and FNO. As we saw before, 31% of the loans from the FNE should be classified as non-performing in 2001, while this number for the FNO was 13.2% in 2002. From 2001 to 2002, of all outstanding FCO credits, only 1.5% on average was classified as non-performing. Of that, more than 90% is credit to agricultural activity¹⁴.

Part of the explanation for the better credit quality of the FCO may be related to the fact that regional banks – BASA and BNB, administer the FNO and FNE respectively. These banks tend to be influenced by local elites and politicians, and so are more indulgent with late payers and less strict with respect to loan guarantees and collateral. The FCO, on the other hand, is managed by Banco do Brasil, which although a federal bank like BASA and BNB, is not locally controlled as are the latter two. Much the opposite, in recent years the influence of local politicians over Banco do Brasil has decreased considerably, so that it can use better practices in managing the FCO.

Finally, the FNO received from its creation until 2001 around US\$ 2 billion, the same amount as the FCO and one-third of that received by the FNE. As said before, these resources are transferred by the National Treasury and correspond to 0.6% of total revenues from income taxes and tax on industrialized goods. Similar the other two constitutional funds, the FNO credit goes mostly to agricultural activities, as 65% of their loan operations were concentrated in this sector from 1989 to 2001. Likewise, 55% of the loan volume went to small firms. In 2001, however, 50% of the credit went to large firms and in 2002 more than one-third. The total volume of loans contracted in 2001 and 2002, was R\$ 462 million and R\$ 609 million, respectively.

¹⁴ This is a recent trend, however, as in 1998 and 1999 more than 20% of the loans were not paid in full or were in arrears.

FNO loans were heavily concentrated in the state of Pará. On average, this state took 48% of the total FNO credit since the program's creation (51% in 2001), but Pará represents only 37% of the regional GDP. The state of Amazonas, in contrast, received only 7.4% of the credits, but its economy has the same size as that of Pará. This imbalance may be a compensation for Manaus Free Trade Zone credit, which is mostly allocated in the state of Amozonas.

III.b -Fiscal Incentive Programs, Sudene and Sudam

The recent history of fiscal incentives in Brazil for private investments in economically backward regions of the country began with the creation of the Superintendência de Desenvolvimento do Nordeste – SUDENE (Northeast Development Superintendency) in 1959, through Law 3692. Subsequently, in 1966 the Superintendência de Desenvolvimento da Amazônia – SUDAM-- was created for the Amazon region. Another program was instituted, the Grupo de Recuperação Econômica do Estado do Espírito Santo – GERES (Group for Economic Recovery of the State of Espírito Santo), to manage that state's Economic Recovery Fund – FUNRES.

Decree-Law 1376 of 1974 was another mark in the history of development incentives, creating two huge investment programs, FINAM for the Amazon region and FINOR for the Northeast region¹⁵. These programs were based on tax incentives, which were used to constitute the investment funds for the programs. In 2001, Provisional Measure 2146¹⁶ extinguished the three regional investment funds discussed above (FINAM, FINOR and FUNRES), except for certain projects set up under Art. 9 of Law 8167 of 1991, which were previously approved. The same Provisional Measure extinguished Sudene and Sudam.

¹⁵ Sudene and Finor area of operation also included the North of Minas Gerais and Espírito Santo, two states located in the Southeast Region.

¹⁶ Provisional Measures are issued by the President, to remain in effect for 30 days, during which Congress can enact them. If not, the President can reissue them every 30 days. This use of what amounts to executive fiat is controversial, but does allow a certain degree of action in the face of a very fractious Congress and party system.

The resources for the two regional funds came from tax options by companies throughout the country, while for FUNRES this only took in companies located in the state of Espírito Santo. They were allowed to earmark up to 18% of their income tax to the fund of their interest (for FUNRES the limit was 25%). The option for the fiscal incentive was made on the annual tax return delivered to the Federal Revenue Secretariat (SRF).

The beneficiaries of the Funds' investments were, respectively, projects and investments considered strategically important to the North (FINOR), Northeast (FINAM) and state of Espírito Santo (FUNRES). The sectors considered as favored according to Art. 5 of Law 8167 of 1991 were adjusted annually and approved by the Deliberative Councils of the Regional Development Superintendences (SUDAM and SUDENE and GERES, for Espírito Santo).

III.b.1 - Operational mechanism of the Finor, Finam and Funres

Resources for the investment funds came from an abatement of 18 percent of corporate income taxes. Companies throughout the country would declare their interest, the Ministry of Finance would issue at the start of each year a special edict provisionally establishing the percentage of "real profit" for income tax purposes and the schedule for early release of the resources¹⁷. This edict was what guided and authorized the National Treasury Secretariat (STN) to transfer in advance the estimated resources each month to the Funds.

As the resources are transferred by the STN to the Funds, the operating banks, complying with release from the Sudene and Sudam¹⁸ (for FINAM AND FINOR) or from GERES (for FINRES), pass them on to the beneficiary companies for application in the fostered projects. The resources are released against issuance of the shares of the companies in the case of own projects, or of debentures in the case of third-party projects.

¹⁷ This is because companies generally pay an estimated tax per month and often have a credit at the end of the fiscal year based on the final calculation.

¹⁸ These assumed responsibility for project evaluation and for recommending approval for beneficiary undertakings by the Deliberative Councils

Upon physical implementation of the project, the Superintendencias issue the corresponding Certificados de Empreendimento Implantado (CIs) and the shares obtained by conversion of debentures are sold in special auctions¹⁹. Before the changes instituted in 2001 by Provisional Measure 2058, there were also non-convertible debentures, issued at the time of release of the resources, but only redeemable upon their maturity.

It is at the time of these special auctions that the shares held by the Funds are exchanged for the CIs originally issued by the Funds in favor of the participating companies that chose the 18% deduction option. These operations were regulated by the Comissão de Valores Mobiliários – CVM, the Brazilian Securities Commission, and were carried out on regional stock exchanges. Traditionally this operation implied significant subsidies for the project owners because the quotation of these CIs was very low in the secondary market. They could in effect buy back their own shares at a steep discount. This was an important attraction for regional investment. More on this on Section Four.

Table 7 presents the total transfers from the Treasury to the Funds. On average, resources allocated to Finor were marginally larger than those to Finam. In the case of the latter, they were around 68% larger than those of the FNO from 1995 to 2000, but Finor values were never above those of FNE. In March 2001 the funds were extinguished.

Table 7: Transfers from the Treasury to the Regional Investment Funds (US\$1000)

	1995	1996	1997	1998	1999	2000	2001
FINOR	366,898	400,303	434,218	353,825	181,595	234,455	50,833
FINAM	362,266	155,960	238,671	298,301	221,449	300,572	37,808
FUNRES	12,988	14,922	21,154	11,492	10,235	9,112	1,733
Total	742,152	571,185	694,043	663,618	413,279	544,139	90,374

Source: Secretária do Tesouro Nacional

The table below presents the distribution of the resources of Finor across states. As we can see, there is a relative asymmetry favoring Ceará, Paraíba and Maranhão, that got more than its share of resources, and hurting Bahia.

¹⁹ In later years the rules changed as not all the released resources could be transformed in shares, and 30% would have to be paid in money. As noted by Maia Gomes(2002), this almost never happened as very few of

Table 8: Resources Allocation: Finor (1995-01)

	Total	Northeast
Alagoas	4.4%	4.9%
Bahia	11.5%	12.7%
Ceará	16.9%	18.0%
Maranhão	9.2%	9.6%
Paraíba	12.0%	13.0%
Pernambuco	21.3%	23.2%
Piauí	6.0%	6.5%
R. G. do Norte	7.2%	7.7%
Sergipe	4.2%	4.4%
N/ Minas Gerais	7.3%	
Total	100%	100%

The resources of Finam, on their turn, were heavily concentrated in the states of Mato Grosso and Pará, which received around 26% and 31% of total resources, respectively.

III.b.2 - Adene, Ada and the new Development Funds

The same provisory decree that extinguished Sudene and Sudam, and the tax options to FINAM, FINOR e FUNRES, created substitutes regional policy agencies and programs. They were the Agência de Desenvolvimento do Nordeste (ADENE, Development Agency of the Northwest) e Agência de Desenvolvimento da Amazônia (ADA, Development Agency of the Amazon) and they will be responsible for the management of the Development Fund of Northeast and Development Fund of the North, respectively. As opposed to the previous investment funds, the current ones are not financed by fiscal/tax incentives but by Treasury resources. Hence, the amount of funds allocated to them is now part of the federal budget, which is approved by the Congress.

In 2001 the resources allocated to the Northeast fund were close to US\$ 200 million and that of the North fund, US\$ 130 million. In 2002, these values were, respectively, US\$225

the inconvertible debentures were ever repaid.

million and US\$ 150 million. In future years the funds endowment will follow, in real terms (and local currency, of course), the values of 2002.

The resources of the Fundos de Desenvolvimento do Nordeste e da Amazônia stay in the Treasury account, which contrasts with Finor and Finam. The operator agency of these funds will be, respectively, the Banco do Nordeste and the Banco da Amazônia. Their functions now are much more limited when we compare to their previous role in Finor and Finam. They have only, first, to supervise and to certify the regularity of the projects and in second place suggest the release of the financial resources of the projects

In summary, there are two main differences between the present institutional framework and the previous one. First, the funds resources are part of the federal budget and do not come from tax incentives, Second, the money stays with the Treasury, which releases them direct to the projects approved by the agencies. The control from the central government is much stricter now, and the room for rent seeking behavior and even corruption are much smaller. Moreover, there are no hidden subsidies now, as opposed to the Finor/Finam system that in fact transferred large sums of public money to private firms, although it was not suppose to.

An important point here is that, in fact, these agencies and programs are not yet operative. As stated by Maia Gomes (2002), the first director of EDENE was only nominated in the end of 2002, and even the physical structure and headquarters of the agency were not set by this date. This left opens the room for pressures in favor of restoration of SUDENE and the new president promised in campaign that this agency would be back under his administration. However, there is no budget money for such, and even if SUDENE is re-opened is not likely that the same type of programs of the past will be reinstalled.

III.b.3 – Other fiscal incentives

There are other Fiscal incentives for the Northeast and North region of lesser (or difficult to estimate) importance.

The provisory decree n° 2199-14, of August 2001, decided that firms in this two regions, that operated in sectors strategic for the regional development (defined by law), which have projects previously approved (by a similar law) for installation, expansion, modernization or diversification will have the right to a reduction of up to seventy five percent of their income tax owed. The definition of strategic sectors is very broad, comprising most industrial sectors, tourism, some agribusiness sectors, some agricultural sectors and infrastructure. There is a time span for the benefit (at most ten years) and the program will be extinguished in 2013.

The same decree decided that new projects would have smaller discounts in the future, which will be of 37.5% (until December 31, 2003), 25% (from this date to December 31, 2008) and 12.5% (from the end of 2008 until December 31, 2013).

There is also a program of “deposit for re-investment” which allows firms in the same priority sectors as above to deposit 30% of its income tax due, added of 50% of own resources, in the regional development bank and use these funds to the acquisition of equipment and modernization investment. The investment projects have to be approved by the BNB and BASA, depending of its region.

III.c - Banco do Nordeste

Banco do Nordeste do Brasil S.A (BNB) is the development bank for the Northeast Region, as well as for the north part of the states of Minas Gerais and Espírito Santo. The bank was founded in 1952 with objective to foment the development of the Northeast

region that, devastated by the constant droughts and the scarcity of steady resources, lacked a consistent planning and financing sources (BNB, 2000).

Nowadays the bank added to its objective technical assistance and training, or some support to it at least, of clients and firms involved with one of its many credit programs. In that sense the bank goes a bit further of being a simple financial intermediation business or even a typical development bank. It has some research tradition (more in the past than today) and its research department, ETENE, was an important regional reference in the sixties and seventies.

The Bank exerts the administration of the FNE and was the operator of the FINOR, and its portfolio administrator. It is also the executor, in the Northeast, of federal financing programs with some regional impact (for instance, FAT credit directed to small business and some BNDES credit lines).

The bank has also operated with credit lines, directed to specific programs, partially created with loans from The World Bank and IADB. From The World Bank, for instance, it was granted a loan of US\$ 400 millions in 1994 to be applied in tourism projects, and another one of US\$ 100 millions directed to the financing of machinery imports. In a less extent, the bank also issued medium term bonds in the international credit market.

From 1995 to 2001, the total credit from the bank averaged 2.4 billion reais, something around 1.8 billion dollars. However, after reaching a peak of 2.8 billion dollars in 1998, the total credit fell to only US\$ 800 millions in 2001. Although currency devaluation played a part here, the fall in local currency was also evident and large, from R\$3 to R\$1.8 billions. This last figure amounts to 1.25% of to the regional GDP?

Recession may explain a share of this fall. However, part of the explanation has to do with the financial troubles the bank had in the period. In 2001, the central government decided to increase the social capital of the Bank, of R\$ 936,0 million for R\$ 3,596.00 million. The central government, as its main shareholder, subscribed the stock issued by the BNB, totaling R\$ 2,556.22. In consequence of these measures of patrimonial adjustment, the institution suffered, in 2001, a loss of R\$ 2,542.7 million (around US\$ 1,215 million). The reason for all this is that the bank was forced by the Central Bank to register as non-performing loans 31% of its credit, and without the injection of treasury

money the social capital of the bank would be negative. The general perception is that credit control and general accounting procedures were considerably below usual standards.

In any case, and as said before, the bank still is by far the main source of credit in the region. Of its total loans, 62% is directed to the rural sector, 25% to the manufacture sector and 8.5% to infrastructure projects. It operates mostly with the private sector, as only 8% of its total credit goes to the public sector. The BNB has around 1,400 million clients and in the last eight years 98 percent of the operations were done with small firms.

In addition to programs connected to Finor and FNE, the Bank has a large number of programs with well-specified objectives and clients. Among them, the most important are: *Crediamigo*, direct to micro businesses, it was created in 1998 and since then had a total volume of loans of R\$ 539 million and 720 thousand operations, and its average loan size is close to 300 dollars. It's the largest program of this type in the country; *Prodetur*, directed to tourism projects in the region. This fund has a US\$ 800 million endowment, half of it comes from an WorldBank loan. It finances investment in hotel, resorts, parks and other touristy facilities and also infrastructure such as airports renovations; *Pronaf*, a program aimed at family farming business; *Cedula da Terra*; a program to support land reform, etc. There is also a relative important program, Farol do Desenvolvimento, which is based on clustering ideas.

As any official institution, the Banco do Nordeste is not free of political injunction and influence of local forces. In the previous years, the governor of Ceará – member of the same party of the president Fernando Henrique Cardoso - appointed the BNB president. The current president was an indication of the local branch of the Labor Party and is a college professor with no previous experience in the financial sector. The same is true with the Basa, Banco da Amazonia. Its president was a top official in Acre, a small state governed by the Labor Party and, likewise, no experience in financial markets.

Overall assessment of the institution is not an easy task. In the recent past it has decentralized its operation and increased its focus on small to medium sized business. It went from 46 thousands clients in 1995 to 1.4 millions in 2002. *Crediamigo*, its program for micron firms is the most important in the country, with an impact on the informal sector. Likewise, the “*Farol do Desenvolvimento*” program and the introduction of

Development Agents – bank officials responsible not only for credit operations, but for a number of technical and training actions - had surely a positive impact on local business throughout the Region. This all contrasts to the exclusive emphasis on large business in the past and reduces the room for rent seeking. Other programs with well-defined target, such as the already mentioned *Prodetur*, apparently have been very successful (tourism infrastructure in the region has surely improved in the last few years).

However, as we will see in Section IV.C, bank operations were far from efficient in the past, due either to political injunction or simply sub-par administrative procedures. The rate of non-performing loans of the FNE was 31% in 2001, and that of large firms way above this figure. Informal intervention by the Central Bank, and a new administration, suggest an improvement in its banking practices. Another problem, this time structural, is that half the money of the FNE has to be directed by law to the “Semi-Árido” region, a dry and distant area. This, of course, hurts the performance of the bank. Summing up, even hard-line opponents recognize that the Northeast would be worst without than with the bank. The room for improvement, however, seems large.

III. d - Zona Franca de Manaus

Probably the most important tax incentive program in Brazil is the Zona Franca of Manaus (ZFM - Manaus Free Trade Zone), established by the federal government through Decree 288 in February 1967. Its objective was (and is) to create in the Amazon region an industrial, commercial and farming center. Its main mechanism is tax incentives, granted initially for 30 years, and its physical area encompassed more than 10 thousand km², centered on the city of Manaus (a deepwater inland port on the Amazon River). Its declared objective was to integrate the Amazon region to the economy of the rest of the country, as well as job creation²⁰. In August 1968, Decree 356/68 extended the benefits to all the Western Amazon states, taking in Amazonas, Acre, Rondônia and Roraima.

²⁰ Moreover, also “to improve the security level for maintenance of its territorial integrity” a seasonal worry of hard line nationalist sectors of the Brazilian society.

The ZFM is based mostly in tax incentives for firms located in its region, and its main mechanism is abatement or exemption of taxes on imports and industrialized products. With respect to the former, there is only a partial rebate if the products industrialized in the Manaus Industrial Pole (PIM, for “Pólo Industrial de Manaus”) leave the ZFM for any point in the country. In this case, packing material, intermediate inputs and other imported components pay the usual import taxes. In contrast, the exemption of the tax on industrialized products is total for all the merchandises produced in the PIM, regardless of whether their destination is internal consumption, sale in any point of the country or export.

The agency responsible for managing the program created a methodology to calculate the of the ZFM. Table 8 below presents the estimates by Suframa, the agency responsible by the administration of the ZFM program, of total tax exemption in 1997-1999:

Table 9: ZFM: Annual Tax Exemption (US\$ million)

	1997	1998	1999
Import Tax	693	401	375
Tax on Industrial Goods	1824	1357	1131
Total	2517	1758	1506

Source: Suframa

Although, as one can see, there are large fluctuations in the estimates, on average in that period tax exemption was more than US\$ 1.9 billion a year. The official forecast for 2003 is something around US\$ 1.2 billions (Secretaria da Receita Federal (2003)).

The ZFM had a considerable impact in terms of job creation, exports and attraction of industrial firms. It is today the main location of electronic equipment factories in the Brazil, although some of them (especially computers) are merely assembly lines for imported parts. The table below presents the evolution of employment by industry in the Manaus industrial Pole:

Table 10: ZFM: Employment by Industry

SUBSECTOR	YEAR	JOBS				
		1998	1999	2000	2001	2002
Electrical, electronic/IT		26,831	21,902	25,870	28,100	28,147
Watches and clocks		1,615	1,526	1,407	1,456	1,496
Motorbikes		5,147	4,943	5,709	6,566	7,702
Thermoplastics		2,680	2,572	2,933	3,609	4,201
Beverages		1,482	1,151	928	1,105	1,166
Metallurgy		1,258	1,102	1,400	1,531	1,665
Metalworking		404	274	435	505	896
Woodworking		2,971	2,571	2,391	2,182	1,933
Paper and Cardboard		615	660	874	1,113	1,234
Chemicals		392	472	526	679	751
Textiles		86	82	64	470	475
Non-metallic minerals		536	526	650	554	365
Optics		863	850	1,049	1,121	1,150
Toys		351	204	175	464	506
Disposable Lighters, Pens and Razors		1,700	1,587	1,577	1,734	1,584
Others		2,644	2,673	2,891	3,526	4,057
TOTAL		49,575	43,095	48,879	54,715	57,328

Source: Suframa

By far the largest employers in the Manaus Industrial Pole are the electronics and computer sectors, followed by motorbikes and plastics. As for revenues, the electronic equipment, computers and motorbike sectors were responsible, respectively, for 36%, 17% and 16% of the total sales, which is approximately US\$ 10 billion. The remaining revenue is relatively dispersed, except for the chemicals sector, which is responsible for around 9% of total revenues.

In Section 4 we will present an evaluation of the Manaus Free Trade Zone. For now it can be said that in terms of business attraction an direct and indirect job creation it is indeed a success story. It also had an impact on the occupation of the Amazon. The costs, however, are not small. Moreover, it is hard or quite impossible to be replicated, not only because of the costs but also because there is probably not scale for other industrial districts in the country such as the one in Manaus.

III.e - BNDES

The BNDES, Banco Nacional do Desenvolvimento Econômico Social, has no mandate on regional policy. It is a federal development bank and the main source of long-term credit in the country. Its volume of operation reached R\$ 38,153 million in 2002, more than US\$ 11000 millions, and something around 14% of national credit.

There are, however, four regional programs in the bank, *Programa Nordeste Competitivo* (for the Northeast Region and north of Espírito Santo and Minas Gerais), *Programa Amazônia Integrada* (for the Amazon Region, except ZFM, and parts of Maranhão), *Programa Centro-Oeste* (for the Center-West Region) and a program for parts of the Rio Grande do Sul State.

These four programs are in fact a collection of benefits and advantages, associated with the main lines of credit of BNDES, offered to business located in these regions. Hence, there are no programs in the bank explicitly designed for regional action. What these programs in fact do is to offer in some cases smaller interest rates, longer debt maturity, and greater participation of the financing in the total value of the investments. For instance, the *BNDES Automático* program, that offers credit lines up to R\$ 10 millions, increases its maximum participation in the total investment financed from 80% to 90% in the case of firms located in one of the areas of the regional programs. The same is true with FINAME, the main credit line for machine and equipment.

Another noteworthy example is that of Finen. This is a line of credit for loans above R\$ 10 million that can be used, for instance, in the acquisition of machines and equipment. This limit falls to only R\$ 1 million in the case of companies located in the areas of the regional programs. Moreover, in this case the financing can directly be pled to the BNDES rather than to financial intermediate licensed by the bank (e.g., a commercial bank), reducing loan cost, as there is one spread less to be paid by the borrower. There is also a small interest rate advantage, and no firm size limit, in one of the export-financing program, the *BNDES-Exim Pré-embarque*.

The BNDES has a number of licensed financial intermediates that operate some of its line of credit. In 2002 they were responsible for around 46% (R\$ 15,721 billion) of all resource outlays of BNDES. The regional banks, BNB and BASA, are small players in this case. The first, in the same year, processed only R\$ 111 million of loans from BNDES credit lines and the second only R\$ 36 million.

However, although BNDES' regional program seems rather limited, the impact of the bank in the poorer regions is not necessarily small. The evidence is that total credit from the BNDES for the Northeast and Center-West regions is not only large, but also superior to that of the regional funds. According to numbers in Aguiar Monte and Távora Junior (2000) the total credit from the BNDES to the Northeast Region in the 1990-98 period was, on average, four times larger than that of Finor and 1.8 times larger than FNE loans. In 1998 these numbers jumped to almost 6 and 3 times larger, respectively. Likewise, in the Center-West region according to numbers in Monteiro Neto and Maia Gomes (1998), BNDES credit was three times larger than FCO credit in the years from 1990 to 1995.

The Credit-GDP ratio in Brazil is very small, around 25% as compared to 60% in Chile and almost 80% in North Korea (Lisboa and Scheinkman, 2002). In this sense, the importance of the BNDES is considerable, more so in underdeveloped regions. At least until the implementation of institutional reforms allowing the development of the Brazilian financial system - at least to levels comparable to those of Latin American countries - BNDES will remain a key player in the long-term credit market. Note, however, that there was never a comprehensive evaluation of its performance, among other reasons because it does not publish detailed numbers of its operations and costs. As loan rates are below market (but less so than in the BNB) one could think of alternative uses of these funds, but this exercise would need access to protected data.

III.f - Regional Impact of National Policies

III.f.1 - “Regime Automotivo” and Ford Motors in Bahia

Regime Automotivo is an investment and export program with special regimen of importation. In this program, an industrial company installed in the country or newcomer that commit itself to investment and export targets will have the authorization to import industrial goods, inputs and even vehicles under reduced import taxes.

The system was created in 1995 (Provisory Decree n° 1025/95, turned into Law n° 9449 of March 1997) and grants some minor special incentives for the Northeast, North and Center-West regions, in addition to the benefits common to the entire country. It is directed to the auto industry, including cars, trucks, buses, tractors and other agriculture vehicles and parts. In the case of the regions above, it also includes two wheel vehicles²¹. Its main objectives were to maintain and modernize companies and plants already established in the country, attract new firms and to promote sector export.

It is not clear what is the regional impact of the Regime Automotivo, if any. We can infer that the concentration of motorbikes production in the ZFM makes uses of its benefits, but there is already, in this area, exemption of import tax for local production intended to the international market. Except for the ZFM we do not have information of any other motorbike factory in the Northeast, North and Center-West regions. Moreover, as the benefits are the same to all states, the decisive factor for plant location end up being state and municipal level tax benefits (Arbix and Rodriguez-Pose, 1999).

In this sense, the state of Paraná was able to attract a number of car factories, and Minas Gerais a Mercedes-Benz plant, mostly because of exemptions of local taxes (in general for 10 years), infrastructure investment, and in certain cases, direct loans and land donation. As the benefits of Regime Automotivo applied equally to every region and state, it might at most partly explain the volume of investment but not its distribution.

²¹ That was the only regional incentive we could find in the legislation.

With respect to state benefits and “fiscal war” among states, one of the most noticeable case is that of the Ford Motors plant in Bahia. This factory was originally supposed to be built in the state of Rio Grande do Sul. However, the government elected in 1997 tried to renegotiate the deal between the company and the previous governor, claiming that the conditions were too generous for Ford and too expensive for the state.

According to the original contract, the State of Rio Grande do Sul would lend Ford R\$ 210 million (around US\$ 200 million), at extremely favorable conditions (no monetary correction, 6% interest, 15 years to pay and 5 to start paying) and expend another R\$ 234 million in infrastructure, public works and the like. There was also a BNDES loan of R\$ 500 million assured and exemption of local taxes for 10 years. When Ford did not accept the new conditions proposed by the state, it moved its project to Bahia. The advantages offered by this state were similar to the original ones, but most likely better (e.g., now there is 12 years of exemption of local taxes). Of course, this is an extremely expensive policy for the country as a whole. Arbix (2001) estimates that the cost for the State of Rio Grande do Sul of each employment created in the GM factory in Gravataí was US\$ 172 thousand, and the total contract is similar to the Ford deal. This is 5 times above the cost of an employment, in terms of tax breaks and fiscal incentives, in a GM plant in Tennessee.

Note that the tax reform currently under discussion in the Congress will in practice ban fiscal war, as they will take out of the state the power to modify most of the relevant local taxes as well as the capacity to grant exemptions.

III.f.2 - Trade Liberalization

There are not many studies investigating the impact of the Brazilian trade liberalization at the regional level. As it well known, the trade liberalization process began in Brazil in 1988. This was rather timid at first, with the elimination of redundant tariffs, but after 1990 the pace of reform accelerated. All quantitative controls were definitively eliminated and a timetable was established for tariff reduction. By 1997, nominal tariffs were on average one-tenth as large as in 1987. We have now strong evidence (e.g., Ferreira

and Rossi (2003)) of large and widespread productivity improvement after barriers to trade were drastically reduced. The data also reveal increases in import penetration in almost all manufacturing sectors, of (at least) temporary reduction in employment and some sector reallocation of production.

The evidence of the regional impact of trade liberalization is far from abundant. Souza e Barreto (2001) tests the impact of nominal tariff on Northeast industry productivity. Their stylized facts are similar to those of the country as whole. During the eighties productivity decreased at large annual rates (e.g., labor productivity fell 3% a year in the 1986-89 years). By the beginning of the nineties this trend is partly reversed and from 1992 on it is observed a general increase of productivity. On average, total factor productivity and labor productivity grew at 3 percent a year across manufacturing sectors. This change of behavior coincides with trade liberalization. Econometric results confirm the association between trade liberalization and productivity growth. The authors regress productivity measures on nominal tariff and the estimated coefficients are negative and significant at the usual levels. They show that a reduction of 1% of the nominal tariff implies increases around 3% to 3.7% in the rate of growth of labor and total factor productivity.

Nogueira e Rosa(2000) presents some stylized facts, using industrial data from the IBGE, and a simple structural break model to investigate the impact of trade liberalization on production, productivity and labor cost. They find that there is a break in the output trend in 1990 (“liberalization date”) in the Northeast and South Region, as well as in the states of São Paulo, Rio de Janeiro and Minas Gerais. However, this change is not enough, in the case of the Northeast and Rio de Janeiro, to invert the negative trend estimated from 1985 to 1990. They also show that the manufacturing sectors of São Paulo and South regions grew in the whole period at rates above the national average, implying most probably a “reconcentration” of industry activity in some of the traditional industrial areas.

When examining sector reallocation, the article shows that the Northeast increased its participation in some traditional industries. Its proportion of the nationwide textile output goes from 14.7% in 1985 to 29.9% in 1997 and in the leather industry its participation jumped to 18%, from 11%. As for São Paulo, the broad picture according to

the authors is a reduction in its share in traditional industries (with the exception of the Perfumes and Soap industry) and an increase in its share in technology and capital-intensive industries. There is also some weak evidence that the South Region is specializing in traditional industries such as furniture.²²

The same authors estimated a strong structural break in productivity after trade liberalization. In all states and regions they have data, the productive decline estimated before 1990 turn into positive growth after this date. As in the previous paper, and previous evidence using nationwide data, one cannot reject that trade liberalization improved industry efficiency in all regions and some states. One noteworthy fact in their estimates is that productivity growth rates after trade liberalization are basically the same across states and regions.

Finally, Canedo and Ferreira (2001) shows that in the 1988-1995 period there is an increase, across states, of labor productivity dispersion in the manufacturing. Of the 20 industries investigated, 12 of them display increases of productivity dispersion in the period, and two have no noticeable change. One exception is the textile industry in which the dispersion measure (Theil's index) was halved in the period. Movements inside regions, and not across regions, caused most of the estimated increase in productivity variability.

²² Note, however, that the data used in the paper end in 1997. After this year, a considerable number of automobile plants were installed in the region.

IV – Tentative Evaluation

IV.a - Impact on Income Levels

IV.a.1 - Northeast

There is now abundant evidence (e.g. Azonni(1994), Ellery and Ferreira(1996), Ferreira (2000) and Maia Gomes(2002)) of convergence of state per capita gross domestic product levels. Ferreira (2000) shows that the coefficient of variation of interstate output per capita falls from 0.645 in 1970 to 0.494 in 1995. Other dispersion measures such as Theil's index also reveals a decrease in income disparity across states in the period. At the same time, per capita GDP in the Northeast as a proportion of the Brazilian per capita GDP goes from 0.40 in 1970 to 0.49 in 1985 and decrease slightly to 0.46 in 2000, according to regional data collected by the IBGE. Finally, Ellery and Ferreira finds evidence of β -convergence, from 1970 to 1990, across Brazilian states although the speed of converge is relatively small.

The decrease in dispersion of per capita GDP could be interpreted as resulting from the regional policies implemented in the country since 1960. However, this can be questioned at different grounds. Ferreira (1996) was the first study to point that most of the observable converge of income per capita occurred from 1970 to 1985. In the following years one observe either a small increase of dispersion or no trend at all, depending on the data or methodology. Hence, as point out by Maia Gomes (2002), the first period is the one for which regional policy can claim to have been successful. Likewise, in the period immediately before, there is no evidence of convergence.

It is difficult, however, to disentangle the impact of regional policy from that caused by other policies implemented in the country in the same period. For one, investment in infrastructure experimented a sizable increase from the sixties on, and the relative impact in the Northeast was greater than in the rest of the country. For instance, paved road in the

region went from a mere 2000 km in 1960 to 42000 in 1997, and the participation of the Northeast went from 15% of the country total to 25%. Likewise, its installed electric generation capacity went from 343 MW in 1960 to 10731 MW in 1998 (from 7% to 18% of the country total) and investment in telecommunications and ports were vast²³. At the same time, investment from public companies also increased in the region. The II PNB, the ambitious development plan of the seventies, favored some decentralization of investment and one of the results was the Camaçari Petrol-Chemical Pole in Bahia. All these investments represented a boost from the demand side on regional output and also an attractor to private investment, as they increased the return to complementary factors.

Another possible problem of interpreting convergence evidence as the result of regional policy is the fact, pointed out by Maia Gomes(2000), that GDP growth rates of the Northeast, from 1960 to the present, is the smaller among all regions. While GDP increased in the region 5.4 times in the period, it increased six times in the country as a whole. As we know, the Northeast is the main target of regional policy, which aimed - by attracting new business and boosting investment - mostly to increase GDP levels and not GDP per capita. Hence, the good performance of the Northeast in terms of growth rates of GDP per capita is due only to out-migration. In other words, GDP per capita increased faster in the Northeast than in the country as a whole because labor population increased at a slower pace, mostly due to migration. This is, of course, what one could expect. Factors flow to regions (in this case, mostly the Southeast) where the return to their services is higher and regional policy was not able to stop this movement.

Finally, the creation of the constitution funds maybe used as natural experiment. As said before, these funds where created by the 1988 Constitution and implemented in 1990. They represented a considerable increase of resources available to regional promotion. The resources allocated to the FNE were almost always above those of the previously existing FINOR. Hence, one could expect a sizable impact on local economies. Although this is not a perfect “before and after” set up (it coincides with trade liberalization), it is a relatively controlled experiment as most policy and institutional changes observed after 1990 had a comparable impact across the country, or at least were meant to have.

²³ Telephone terminals went from 5% of the Brazilian total to 15%. All these numbers are from Diniz(2000).

Five years after the introduction of the FNE in the Northeast, the GDP of the region was 17% higher. But in the Southeast it was 16% higher, in the South 22% higher and in the whole country the number is 16%. The same is true if we consider the whole 1990-2000 period, as the performance of the Northeast is only marginally better than the performance of the country as a whole, while that of the other regions benefited by the constitutional funds is way below the country average. Hence, the introduction of this new instrument of regional policy did not improve the GDP behavior of the affected regions. It did not improve their record with respect to the parts of the country not benefited by the new funds, but neither with respect to their own past: the growth record after 1990 is much worse than that of 1970-1985.

In summary, it is doubtful if one can associate convergence evidence and the reduction of dispersion of per capita GDP to regional policy. The relative good performance of the Northeast in the 1970-1985 is mostly due to out-migration, the introduction of new sources of financing had no sizable impact and there were several other sources of expenditures (such as infrastructure investment) that may well surpass the impact of Finor and FNE on local production.

IV.a.2 - North and Center-West

One could easily infer that without the incentives and exemptions of the ZFM, almost none of the business and jobs currently located in Manaus would continue there, given the distance from the main cities of Brazil and the lack of local demand, and also the absence of road links to the rest of the country. The importance of the ZFM for the economy of the state of Amazonas can also be observed from the participation of the manufacturing sector in the state GDP. According to IBGE numbers, in 2000, 45% of the value added produced in this state came from the manufacturing sector. This number is considerably above the national average, twice as large as the industry participation in the output of the states of Rio de Janeiro and Ceará – a state well known to be aggressive in granting fiscal benefits to attract business – and above that of São Paulo (Brazil's economic

powerhouse). Given that almost 100% of the sector activity is located in the PIM, a huge share of this value, if not all, is the result of the incentive schemes created around the ZFM.

The conclusion, at least from a partial equilibrium standpoint, is that the impact of the incentives scheme of the ZFM is positive. Relative per capita of the region went from 58% of the national average in 1970 (Ferreira (2000)) to 72% in 1995, and in the Amazonas state it goes from 72% to 102% in 2000. Total regional GDP went from 2.2% to 4.7% of national GDP. Annual growth rate of per capita GDP in the 1960-1999 period, 3.57%, is almost one point above the Brazilian rate.

One cannot disagree that the benefits are large, but it also has to be say that the cost is sizable. The official forecast of the Ministry of Finance is that the tax benefits of the ZFM in 2003 will be R\$ 3.6 billions, something around 1.2 billion dollars (Secretaria da Receita Federal, 2003). This is a very expensive program, and a value 50% above the total estimated expenditures of all the other regional development programs. As seen before, the direct impact on employment is not too large, as most of the companies in the Manaus Industrial Pole are capital intensive. Nonetheless, it attracted labor force from out of the region, as population growth in the state of Amozonas was twice as large as that of Brazil. Hence, as one could expect, the benefits went partly to individuals that were born elsewhere, and so transfer programs that are way less expensive could generate similar benefit without the cost of migration.

The Center-West region experimented fast growth in the recent past. In fact, in absolute terms its GDP growth rate was the highest among Brazilian regions (Maia Gomes(2000)). In per capita terms growth was also impressive, 3.66% a year. Being a frontier region it benefited from its relative backwardness and from infrastructure investment (e.g., Brasilia in the sixties and roads later on). It became in the seventies and eighties a very dynamic agriculture region and as opposed to the Northeast its relative catch-up did not stop after 1985. Its GDP per capita relative to national average went from 0.68 in 1970 to 1.01 in 2000 (but less then 0.85 if Brasilia is not considered). There is not much evidence that this good performance is the result of regional policy, which was never relevant in the region. The importance of the public sector in this case is much more linked

to direct investment, consumption and credit via traditional sources than to credit or tax incentives (Monteiro Neto and Maia Gomes (1998)).

IV.b - Econometric Evidence of Policy Performance

IV.b.1 - Impact on labor productivity and total factor productivity growth

Souza and Barreto (2001) use 1995 FNE contract values in the manufacturing sector (at an industry level similar to the 2-digit level US classification) to test its impact on labor productivity and total factor productivity (TFP) growth. Both productivity measures are constructed with PIM, “*Pesquisa Industrial Mensal*” (Monthly Industry Survey) and PIA, “*Pesquisa Industrial Annual*,” (Annual Industry Survey) data from the IBGE, the Brazilian public statistics bureau²⁴. In both cases, there was no evidence that FNE credits had any significant impact. In fact the opposite was true, as it could not be rejected that the coefficient of FNE credit in all regressions was different from zero. Moreover, in the 24 regressions they report, the coefficient of FNE had the wrong size, i.e., was negative.

These authors also test the impact of FINOR on labor productivity and TFP growth for the 1985-1995 period. Productivity measures are constructed as explained above, and FINOR data is the average transferred for each manufacturing sector. As in the case of the FNE regression, the coefficients of FINOR credit volume were never significant at the usual levels and had the wrong size in all models.

Of course, these regressions are open to the usual criticism: FINOR and FNE money may be endogenous – less efficient sectors tend to get more money – so that OLS may be inappropriate; there are too few observations; productivity measures are not corrected for

²⁴ The authors used two measures of productivity: one based on “total work hours employed in production” and the other “total labor force employed in production.” There is no information on value-added by industry, so they used output (in constant prices) as a proxy. In the TFP series, capital was constructed from investment data using the perpetual inventory method.

cyclical factors and are not constructed with value added. However, results are very robust and in no FNE or FINOR regressions were found close to being relevant to the evolution of industry productivity in the Northeast. Hence, if the objective of these funds is, in any sense, to reduce the gap between the manufacturing sector of the region and that of the more developed Southwest region of Brazil, or to promote efficiency, Souza and Barreto (2001) show that the funds are not doing their job.

IV.b.2 - The Impact on Gross Domestic Product Levels

Monte and Távora Junior (2000) investigates the impact of FINOR, FNE and BNDES credit on Northeast states' GDP. They worked with pooled time series and cross-section data of the 9 states of the region, with the time span of the database varying with financing source. We have, hence, in this case OLS estimations in which cross-section and time series observations were piled together. There is not much with respect to diagnosis tests or robustness checks in the paper. (e.g., they could but did not test if the pool model was more appropriate than fixed-effect or random-effect modeling). The regressions are in levels, which tend to favor positive results²⁵.

As opposed to the results in Souza and Barreto (2001), the regressions in Monte and Távora Junior (2000) support the view that regional funds have a positive role in the performance of the Northeast economies. The authors run separate regressions for FNE, FINOR and BNDES credit in total GDP, industrial GDP and agricultural GDP. In all cases, the impact of the funds was estimated to be significant at the usual levels and positive.

As the regressions are in levels, we cannot interpret estimated coefficients as elasticities, so interpretation of the results is difficult (for instance, the estimated coefficient of FINOR credit is 2000 times as large as that of FNE in the total GDP regressions). The authors are cautious in the interpretation of their results, but in the conclusion they end up implicitly associating the estimated correlations between state or sector output and credit from the regional funds as causation. However, in fact we can only say that the regression

results could not reject, for instance, that there is a positive association between FINOR credit and industrial output. The regressions may very well be capturing inverse causality, as richer states tend to receive a large fraction of total credit.

IV.C - Non-Contracted Transfers and Hidden subsidies

An indication that FNE money is not being used efficiently is the rate of non-performing loans. Until 2000, due to unorthodox accounting practices, this rate always fluctuated around 2%. However, in 2001 the Central Bank forced Banco do Nordeste officials to record all overdue loans as non-performing. Previous to that most bad credits were considered “under renegotiation” although in fact they were never paid back.

As a consequence of the Central Bank intervention, the rate of non-performing loans jumped in 2001 to 31.29%. In other words: one out of three loans will probably never be repaid. The rate with respect to large firms reaches 75% to 80%. This is of course a huge transfer of public resources to private hands without any benefit to society. The situation is so bad that firms that have paid their previous loans on time get a discount in the interest rates of their new loans. Credit quality with respect to FNO is also very bad.

With respect to Finor, it was said before that the shares auctions implied sizable subsidies. This is so because project owners could buy back their own shares using Investment Certificates – issue to companies that opted for the 18% tax deduction - bought at a discount in the secondary market. In fact Barreto(1990) calculated that, in a sample of 1988-89 auctions, 87.7% of shares were brought by the same firms that issued them using C.I.’s obtained in the secondary market. In the same study, it is shown that the secondary market value of the C.I.’s was, on average, around 30% to 40% of its nominal value. Hence, out of every 100 Reais of shares issued by firms in the region and bought by BNB, only 60 to 70 Reais were paid back.

²⁵ In any case, this article as well as Souza and Barreto (2001), which also lacks robustness and diagnosis tests, give us a first approximation of the true magnitude of the impact.

This was an important subsidy, not declared, however. It is maybe an indication that more than incentives those are transfer programs. Or, in any case, that the design of the contracts was far from efficient and the size of transfer is way above the official figures. Moreover, Finor subsidies and FNE non-performing loans benefited mostly large firms, which are capital intensive, aggravating the already awful income concentration in the region.

IV.d - Social Impact

In Brazil, regional policy almost never included social policy measures. In fact, the latter was not part of the former not only in terms of policies but in theoretical terms too, and the two lived very different and separated worlds in this country. Regional policy was associated with industrialization, and so with incentives to investment or to the attraction of business, while social policy would deal with education, health, sanitation and the like.

Of course, in the long run, one would expect that a well functioning policy of regional promotion would have an impact on social indicators, especially poverty, even if it did not include direct actions to improve these indicators. Hence, a first question one should answer before trying to link regional policy and social indicators is if the social condition of the poor regions had a relative improvement in the last decades. The record is mixed when one compared the Northeast, the preferred target of regional policy, to the rest of the country:

- Illiteracy: 20 years ago the Northeast had the nine worst records among all Brazilian states and today it still has. Of course, those are years of large improvements, but the relative gains of this region are smaller than that of the rest of the country. On average the nine states of the Northeast experimented a 42% decrease in illiteracy, while in the remaining states it fell by 49%. And it still the case that illiteracy rate in the region is twice as big as in that of the rest of the country (17.7% and 8.99%, respectively);

- **Schooling:** the Northeast region has a relative good record with respect of educational attainment of the adult population. The states in the region experienced the highest increases in the 1981-2001 period. Note, however, that they came from a very low threshold (2.4 years, state average) and they still have the worst record.
- **Life expectancy:** The Northeast states had the 9 worst figures in 1991 and in 1970. On average, these states experienced a 26% improvement against 23% of rest of the country, not a too positive assessment. In 1998, life expectancy at birth in the region (65.14 years) was still five years below that of the South Region.
- **Good performance in IHD:** 73% improvement in the 80-91 period, against 58% improvement in the rest of the country. According to Dias (1999) the IHD ratio of the Northeast to Brazil goes from 0.45 in 1970 to 0.74 in 96.
- **Poverty:** in the country as a whole, poverty had decreased continuously in the last decades. As measured by the ratio of poor people in the population it decreased in all regions. However, according to numbers in Maia Gomes (2002) the relative decrease in the Northeast is smaller, as its ratio of poor people goes from 29% above the national average (87.8% and 67.9%, respectively) to 78% (50.2% and 28.2%, respectively).

In summary, there are some isolated progress and some failures. Given that regional policy had no social targets, most probably the advances were caused by social policies especially created with this aim. For instance, the reduction of infant mortality is well known to have been caused by improvements in sanitation, education and especially by the creation of programs of neighborhood doctors and the extension of medicine services to large fractions of the population.

IV.e - A counterfactual: what if there were no Sudene, Sudam and Regional Policy?

As seen in section A.1, the introduction of one extra regional policy mechanism, the Constitutional Funds, did not imply any relevant change in the performance of the regions they were suppose to benefit. That is a relative good “before and after” experiment and it is particularly dramatic in the Northeast Region as the FNE introduction coincided with a decrease in regional growth rates.

However, one could always note that the relevant question is not what happened after the introduction of a particular intervention, but what would happen without it. It could be the case that the decrease of growth rates would be even larger without the FNE. Of course, to give a proper answer to this question we would need a control group and a perfectly designed experiment, something not available to us.

Note, however, that at least with respect to the Manaus Industrial Pole the answer is straightforward: without the tax breaks of the ZFM there would not have an industrial pole in the middle of Amazon. Transportation costs are high, local demand is irrelevant to production, and labor force is mostly composed by migrants so that, without subsidies, there would be no economic rationality for the location of industrial plants there.

The tough question, however, is if this is good or bad. If the evaluation criterion is local job creation and industry attraction, there is no question that this policy is a relative success, albeit a very expensive one. Moreover, one of the main motivations for the creation of the ZFM was the occupation of the Amazon, and from this viewpoint there is no question that this policy was a success.

However, if the ultimate metric is the welfare of the Brazilian population (and not of the now resident population of the Amazon), and from a general equilibrium perspective, the answer may well be that the net return of the Manaus Industrial Pole is questionable. As we just saw, the cost is very high and direct job creation very low. A large part of the labor force came from out of the state. Part of the companies located in the ZFM would be located in the Southwest anyway. Even if it were a small part of them, that may not be a

problem. We would import some of the goods currently produced in Manaus that the country, without subsidies, could not compete internationally. That would release resources, capital and labor, to sectors in which we have comparative advantage and the net effect on jobs may well be positive, as these resources would be allocated to labor intensive sectors. Hence, there could have a positive impact on income distribution, as the subsidies to capital and qualified labor would be reduced - and also taxation to the population as a whole - and employment of less qualified labor would increase and their wages too.

Finally, there are not much technology spillovers from these firms, as a large fraction of them are mere assembly lines of imported parts. Therefore, the gains in this dimension are not very large²⁶.

Can we make a similar argument with respect to regional policy in the Northeast? The counterfactual here is a bit more complicated. Local demand is large and transportation cost in the region or to the markets in the south is low. In this case, scale and coordination arguments à la Rosenstein-Rodan might have made sense in the sixties and earlier seventies. Hence, without the “big push” from Sudene this market failure would not be corrected, firms would not be installed in the region, demand would remain low, and the region would linger in an equilibrium that is even worst than the current one. In other words, without these instruments state GDP levels would have grown even slower than the actual (and modest) growth. How much slower is an open question, of course. There is a bound in the GDP growth given by a composition effect: the fraction of the manufacturing industry in the regional output was small when the incentive programs were installed. Hence, it cannot be the case that the absence of fiscal incentives to this sector would cut by half the overall observed growth of the region.

Another argument could be made in favor of the past and present incentive schemes. Wages in the Northeast, especially of unqualified labor, is relatively lower than in the rest of the country. In the recent past this is said to be the main reason for the attraction to the region of southern and southwestern firms in such a labor-intensive industries as textiles, clothing, fabric products, footwear and food. For these firms temporary subsidies from FINOR or relatively cheaper credit from FNE or BNDES may make the difference and pay

²⁶ Not all agree with this opinion. See Ariffin and Figueiredo (2003) for an conflicting opinion.

for the reallocation costs. In the long to medium run this will have an impact in the local wages that would increase until equalization with other regions.

There are some caveats, however. From a general equilibrium criterion, there are no gains for the country in displacing one firm from one state and paying for it to move to another. As a matter of fact, there is a net loss (the reallocation credits). Moreover, labor equalization would be achieved naturally with migration.

With respect to “big push” or coordination arguments, once you consider the country as a whole, and its entire population, the gains may be much smaller. Yes, it is true that locally there would have less employment, less business and most probably a much lower industrial output. On the other hand, resources (labor and capital) would be liberated to be used in other regions where the return is currently higher. Hence, one would observe even more people moving out of the region, as capital would stay/migrate to the southwest. Moreover, production in the south would have an extra boost as distortions would be reduced with the cut in fiscal incentives.

The net effect on employment and incomes is difficult to guess. However, it is certainly not the case that the welfare loss of not having Sudene, Finor and the like would be equal, or even proportional, to the direct and indirect gains as measured by their local impact. It is certainly much smaller than that, given the distortionary cost involved with the tax and credit incentives and the alternative uses of the production factors. Northeast GDP could be even smaller than today, but not necessarily its GDP per capita. Moreover, with migration the income of those born in the region would increase anyway, whether they end up living or not in the region.

Finally, the attraction of large firms with modern technology to less developed regions has an impact on traditional business. The latter cannot compete, especially because they do not receive any tax break, with the formers in the local markets so that a large number of them simply close down. Given that they are labor intensive, the net effect on local employment maybe negative, although total production most probably will increase.

In summary, if it is true that we cannot simply look to past performance of GDP or GDP per capita in the region to assess the effectiveness of regional policy in the region, it is not easy to construct a counterfactual were its impact is undisputable positive. There are

theoretical reasons that can be used in the defense of its impact on output and employment, but there are many solid counter-arguments that impose bounds on the total benefit for the country as a whole.

V. Concluding Remarks

As we write this conclusion, the Brazilian Congress is currently discussing a project of law that would direct to the North, Northeast and Center-West regions one third of all credit of BNDES. This is something around R\$ 10 billions (approximately US\$ 3.4 billions), a lot of credit by any standard. It is more than total annual credit by Banco do Nordeste, for instance. Most probably, even if approved, the law will be vetoed by the presidency. At the same time, there are non-stopping talks of re-creation of Sudene.

Old ideas die hard, especially when interest groups benefit from them. The record of this type of regional policy in the country is, at best, mixed. Growth in the Northeast was not faster than in the rest of the country and the introduction of new instruments such as the FNE did not generated any relative improvement with respect to the past or to the South or Southeast region. Social indicators did improve, but sometimes at rates slower than in the rest of the country and as a matter of fact, regional policy had no impact here. There are successes, but not enough to significantly reduce the distance between this region and the rest of the country.

We have showed that past and present mechanisms of regional promotion in the country are relatively expensive. The question we should ask is if the country should not reduce the incentives of the traditional sort and start to use more creative mechanisms and horizontal policies – infrastructure and education – that for sure have an impact in income levels, are less distorcive and contribute to the reduction of income inequality.

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Appendix: Summary of policies

Constitutional Funds

- Created in 1989 these funds receive 3% of total Income Tax and Tax on Industrialized Goods. 60% of the resources are directed to The Northeast Fund (FNE) and the remained divided evenly between the North and Center-west regional funds (FNO and FCO, respectively). From 1990 to 2001, average volume

of credit of the funds was US\$ 780 millions. Funs loans charge below-market interest rates, that go from 6% (small producer in the agricultures sector) to 14% (large industrial business).

- Two thirds of the FNE money is directed to the agricultural sector and almost all the rest to the manufacturing sector. Ceará, Bahia, and Pernambuco received, between 1989 and 2001, on average, 18%, 26% and 14% of total credit. The ratio of FNE share to GDP share is highest in Piauí, poorest state in the region. 60% of the contracts, in value, are earmarked for small size firms, while 31.5% goes to large firms. In 2000, 31% of the outstanding loans were non-performing loans. The FNE is managed by the Banco do Nordeste do Brasil.
- Seventy percent of total loans from the FCO are directed to agricultural activities. In 2001, only 15% of the credit went to industrial enterprises and 7% to infrastructure. Of total loans, 60% went to small firms, 20% to large ones and another 20% to medium-sized firms. The official figures for the number of directed jobs created by the FCO are 270 thousand from 1990 to March 2002, at a cost of US\$ 6,700 each. Non-performing loans currently is not a problem. The FCO is managed by the Banco do Brasil
- FNO credit goes mostly to agricultural activities, 65% of their loan operations from 1989 to 2001. In the same period, 55% of the loan volume went to small firms. In 2001, however, 50% of the credit went to large firms. The total volume of loans contracted in 2001 and 2002, was R\$ 462 million and R\$ 609 million, respectively. On average, the state of Pará took 48% of the total FNO credit since the program's creation (51% in 2001), and the state of Amazonas received only 7.4%. Direct job creation is estimated in 15.6 thousand jobs a year (from 1990 to 1999), a worst record than the FCO. In 2002 13.2% of total loans were classified as non-performing. The Banco da Amazônia manages the FNO.

FINOR and FINAM

- Created in 1974, FINOR and FINAM were investment funds for the Northeast and North region, respectively. They were based on tax incentives: companies throughout the country were allowed to earmark up to 18% of their income tax to one of the funds. The option for the fiscal incentive is made on the annual tax return. Resources of these funds were used for investment in new plants and expansion or modernization of new ones. Firms in agriculture, agribusiness, manufacture, tourism and infrastructure were eligible.
- The beneficiaries of the Funds' investments are, respectively, new projects and investments considered strategically important to the North (FINAM, which includes part of the Center-west region) and Northeast (FINOR). There was also a fund of less importance restricted to the state of Espírito Santo (FUNRES). From 1995 to 2000, resources allocated to the funds averaged US\$ 600 millions a year, 55% of them directed to FINOR.
- Resources of Finor, from 1995-2001, were relatively concentrated in the States of Ceará, Paraíba and Pernambuco (55% of the total credit) and less so in Bahia. The resources of Finam, on their turn, are heavily concentrated in the states of Mato Grosso and Pará, which received around 26% and 31% of total resources, respectively.
- In 2001, due to mismanagement and corruption accusations the three regional investment funds were partially extinguished, except for certain projects previously approved and one specific type of project that was temporarily kept. The funds were substituted by the FDNE, for the Northeast, and FDA, for the Amazon, new funds whose resources are not from tax incentives but direct provision from the central government. The idea is to increase control and accountability. However, these funds were not really operative up to the present.

Sudene and Sudam

- Created in 1960, Sudene was the first and for many years the most important agency in the country for regional development. During its prime years it was responsible for the operation and management of incentive programs in the Northeast (and part of Minas Gerais and Espírito Santo) and for the coordination of actions of every other federal institution in this Region.
- Sudene was extinguished in 2001, under accusations of mismanagement and corruption. At that time it was the administrator of FINOR. In its place it was created a new agency, EDENE, not operative yet. The new government is considering recreate Sudene, but that is far from certain;
- Sudam had similar task and was the regional development agency for the Amazon. It was abolished together with Sudene and supposedly replaced by ADA, not yet operative.

Banco do Nordeste e Basa

- Banco do Nordeste do Brasil S.A (BNB) is the development bank for the Northeast Region, as well as for the north part of the state of Minas Gerais and Espírito Santo. The bank was founded in 1952.
- The Bank exerts the administration of the FNE and was the operator of the FINOR, and responsible for the administration of FINOR portfolio. It is also the executor, in the Northeast, of federal financing programs with some regional impact (for instance, FAT credit directed to small business and some BNDES credit lines). The bank has also operated with credit lines, directed to specific programs (e.g., tourism), partially financed by The World Bank and IADB loans.
- From 1995 to 2001, BNB`s total credit, in nominal terms, averaged 2.4 billion Reais per year, something around 1.8 billion dollars in real terms. However, after reaching

a peak of 2.8 billion dollars of credit loans in 1998, the total credit fell to only US\$ 800 millions in 2001.

- BNB is responsible for more than 75% of all bank loans in the Northeast region. Of its total loans, 62% is directed to the rural sector, 25% to the manufacture sector and 8.5% to infrastructure projects. It operates mostly with the private sector, as only 8% of its total credit goes to the public sector. The BNB has around 1,400 million clients and in the last eight years 98 percent of the operations were done with small firms.
- In addition to programs connected to Finor and FNE, the Bank has a large number of programs with well-specified objectives and clients direct to micron business, to tourism, to family business, land reform and a relative important program, Farol do Desenvolvimento, which is based on clustering ideas.
- Banco da Amazônia S.A. (Basa) is the development bank for the Amazon, comprising all the North Region and part of Center-west region. Its operational structure is similar to that of the BNB, as it exerts the administration of the FNO and was the operator of the FINAM, and its portfolio administrator.

Manaus Free Trade Zone and Manaus Industrial Pole

- The Zona Franca of Manaus (ZFM - Manaus Free Trade Zone) was created in 1967 with the objective to establish in the Amazon region an industrial, commercial and farming center. Its physical area now encompasses all the states of the North Region but Pará.
- The ZFM is based mostly in tax incentives, and its main mechanism is abatement or exemption of taxes on imports (partial) and industrialized products (total). Total value of tax exemption from federal taxes in 2003 is estimated to be R\$ 3.7 billions (around 1.2 billion dollars). There is also a partial abatement of state taxes.

- Gross revenue of firms in the Manaus Industrial Pole was US\$ 9 billions in 2002, of which 12% is exported. Direct employment is 55 thousands. In 2002 there were 220 new projects approved. Main industries installed were Electronic, Computers, Motorbikes and Chemistry.

BNDES

- The BNDES, Banco Nacional do Desenvolvimento Econômico Social, is a federal development bank and the main sources of long-term credit in the country. Its volume of operation reached R\$ 38153 million dollars in 2002, more than US\$ 11000 millions
- BNDES has no mandate on regional policy but it has a number of specially designed regional programs. They are in fact a collection of benefits and advantages, associated with the main credit lines of BNDES, offered to business located in backward regions (North, Northeast, Center-West and part of the state of Rio Grande do Sul).
- These programs offer in some cases smaller interest rates, longer debt maturity, and greater participation of the loans in the total value of the investments. For instance, FINAME loans - the bank main credit line for machine and equipment - to these regions cover up to 90%, and not the usual 80%, of the total investment
- However, although BNDES regional program seems rather limited, the impact of the bank in the poorer regions is not necessarily small, given the importance of the bank for long-term financing across states and regions of Brazil. The evidence is that total credit from the BNDES for the Northeast and Center-West regions is not only large, but also superior to that of the regional funds.