OPENING THE BRAZILIAN ECONOMY IN THE 1990s: EFFECTS UPON EMPLOYMENT

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ABSTRACT

The Latin American debt problem of the last years had many consequences on the economic apparatus of most of the countries. One of the striking features of the weakened position in which debt itself placed these economies was the increasing pressure to open their frontiers. As regards Brazil, from 1988 onwards, the regulations concerned with tariffs and the international movements of capital started to be reduced. An enormous restructuring process took place, based on the incorporation of new technology, with discernible effects upon employment. This paper is concerned with an evaluation of the consequences of these measures on employment of 42 Brazilian industries, dealing with an extended version of the so-called labor circuit of the input-output model for 1990, 1995 and 1998.

1. INTRODUCTION

The Latin American debt problem is one of the consequences of the 1973 oil crisis. The events of that year were one of the causes of the forthcoming difficulties faced by the world economy. In particular, part of the enormous amounts of money which flowed from the oil user countries to oil producers and from them to the international financial markets were sent back to Latin America in the form of loans. The main world capital and stock markets started to lend money at floating interest rate, giving rise to an uncurbed speculation. This, in its turn, helped to transform the problem of paying for interest and principal of the foreign debt a very hard task.

As regards Brazil, whose economy was experiencing a very fast growing phase, the launching of an ambitious development plan was observed. It was designed to complete the import substitution process, enforcing the internal production of capital and intermediate goods. The growth of both the previous 1973 period and its aftermath were heavily based on foreign capital. But particularly, after the oil crisis, when the international financial community made loans easier, Brazilian economic authorities heavily relied upon them, in order to increase the overall savings and speed growth.

After the increase in the oil price, the key word was to “recycle” the economic plans to deal with the “adverse external shock”. The Brazilian society, which was

already epitomized by the binomial dynamic-inegalitarian, changed this sort of characteristic to an even more perverse successor. Particularly from the 1980s onwards, inegalitarianism remained and even increased, while dynamism vanished. The official figure of near 9% per year growth of the 1970s dramatically dropped to 2.7% in the 1990-98 period. Further, the Gini inequality index of income concentration, departing from a figure of 0.49 in 1959 jumped to 0.6 by the end of the century.

A host of socio-economic and political causes can be associated with this bleak performance of the country. Some very important ones, particularly those associated with the reduction of egalitarianism in an already unequal society, have very weak links with the external sector of the economy, as the exports-GDP ratio never deviated much from 8-12%. However, many of the unfoldings of the economic structure are deeply associated with the international trade and financial relations brought about by the 1964-84 military regime. In particular, measures were taken to open both of these international dimensions of the Brazilian economic relations, as vernacularly stated, by Ferraz, Kupfner & Haguenauer (1997:340): “From 1988 onwards, when the tariffs reform began to be pursued, imports also began to grow.”

The examination of a fraction of this whole issue is the objective of the present paper. In particular, it focuses on two associated phenomena. First, it deals with the last decade of the century. Second, it selected two dimensions of the whole drama to probe further: international trade and employment. International trade is becoming increasingly important, by virtue of many reasons, among which one can align the very Latin American debt crisis, the collapse of real socialism and the emergence of the Washington consensus. On the other hand, employment is the key variable to egalitarianism: it is impossible to speak of reasonable threads of civilization in a society which denies access to consumption to an enormous fraction of the population, through rationing reasonably well paid working posts.

In order to achieve its objective, the paper is organized as follows. Section 2 provides an overall view of the employment issue, showing some of the striking features that escorted the performance of the last decade of the century. In an attempt to shed some light on these intriguing results, Section 3 compares the importance of different groups of final demand in shaping the employment changes along the period, dealing the input-output framework. Section 4 explores the relation between the international trade sector of the country and employment. After that, some

counterfactuals are performed, dealing both with exports and imports, in an attempt to appraise what would happen to employment if the official efforts to open the economy both in trade and financial terms were maintained constant. In section 5, the current prices structure of final demand and final goods (and services) imports are used to appraise the effect of opennes upon sectoral employment. The final section summarizes the previous discussion and explores some further points associated with the theme.

2. THE OVERALL USE OF SOCIAL LABOR

This section is aimed at presenting both a brief description of the overall evolution of employment in Brazil during the 1990s, and its sectoral composition and change. To begin with, as – up to the present days – employment and value added have a positive correlation, it might prove worthwhile to present a few figures about Brazilian GDP. This variable grew at a rate of 2.7% per year between 1990 and 1998, while employment grew at 0.3% along the same period. In particular, the 1990s saw GDP to grow to nearly US$800 billion (in domestic currency and corrected by the purchasing parity power) and employment to reach nearly 60 million people, respectively. In particular, the official figures of employment are actually disturbing, because – during the whole decade – a massive destruction of manufacturing employment took place. Figure 1 shows the evolution of GDP and employment for the 1990-1998 period.

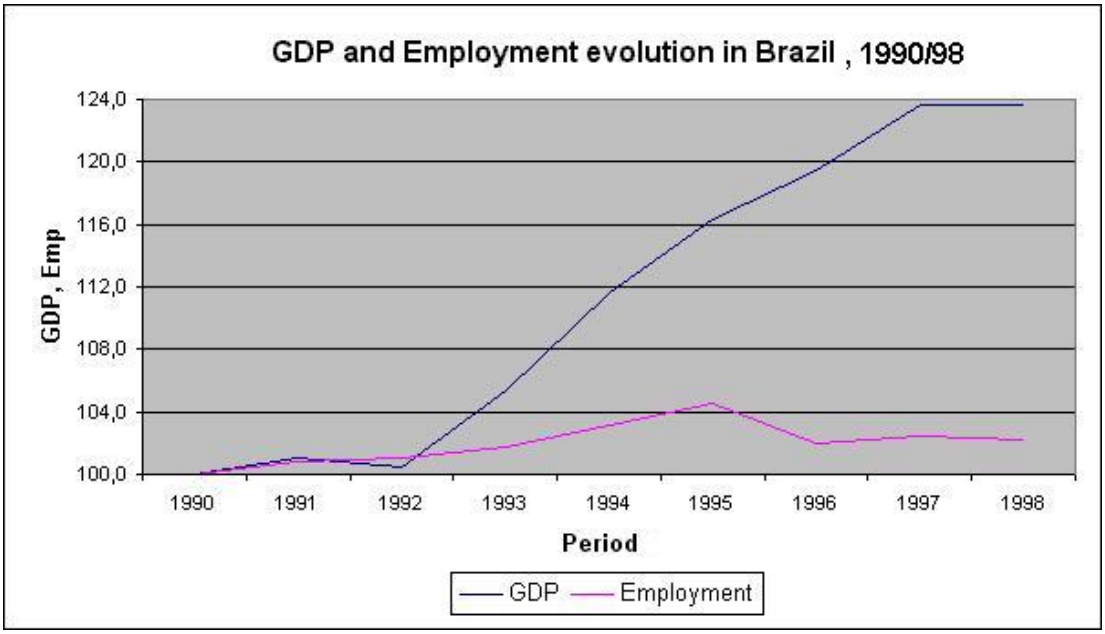


Figure 1 – Although GDP growth was sluggish during the period, employment showed even worse a performance
Source: http://www.ibge.gov.br

In particular, the employment zenith occurred in 1995, the first year after the measures launched in mid-1994 to curb inflation, reaching a figure of 61,2 million employees. However, Marquetti's (2000) recent interpretation of the Brazilian economic growth process stresses the fact that the country changed its growth style. If the period ranging up to the end of the 1970s was marked by steady growth, the 1980s saw dynamism decelerate, and the 1990s witnessed a decisive shift in the use of social resources. The data which originated Figure 1 present a coefficient of determination of 0.40, pointing to the fact that less than half of the production variation is explained by labor variations. To summarize: an important change took place along the Brazilian productive apparatus.

Table 1 shows the employment figures for eight sectors: agriculture, industry (cracked in its four classes, of which, manufacturing exhibits three subclasses) and services. To begin with, it is possible to observe that, in agriculture, the employment record occurred in 1992, with 15.2 million workers. From this year onwards, there

was an almost monotonic fall, with less than 14 million people placed in agriculture in 1998. As regards the three years focused in this paper, the primary sector started the decade embracing 25.5% of total employment, falling to 24.8% in 1995 and reaching just 23% in 1998. Interesting enough, the figure of 23% was achieved only by virtue of the fall in the industrial employment, which all over the previous periods was the dominant sector in terms of jobs creation.

Table 1 – Employment associated with the production of goods fell during the 1990/98 period, whereas in services there was a steady increase. Brazil, 1990/1998 (1,000 employees)

S e c t o r s	1990	1995	1998
Agriculture	14,911.4	15,163.0	13,758.0
Industry	13,684.8	12,237.1	11,472.8
Mineral Extraction	335,3	261.0	222.6
Manufacturing	9,089.5	8,291.6	7,400.6
Production goods	3,790.2	3,143.4	2,844.0
Consumer Durables	1,354.0	1,207.2	1,097.8
Cons Non-Dur (1)	3,945.3	3,941.0	3,458.8
ISUP (1)	324,0	255.1	217.0
Construction	3,936.0	3,429.4	3,632.6
Services	29,984.6	33,826.0	34,646.5
T o t a l	58,580.8	61,226.1	59,877.3

Source: http://www.ibge.gov.br

(1) In this and the remaining tables and figure, Cons Non-Dur stands for Consumer Non-Durables and ISUP for Industrial Services of Public Utility

If agriculture was a net loser, the urban services increased its share in the provision of jobs all over the decade, starting with 51,2%, culminating with 57,9%. Of course, this increase is to a large extent due to the urban informal sector. Not to speak of commerce, services provided directly to families grew by 56.5% between 1990 and 1998, reaching a figure of 2.3 million employees. The government sector, as far as the so to say neo-liberal-IMF style of making economic policy was adopted, almost did not contribute to employment, its share actually falling from 5.7 to 5.1 million jobs. The branch of the services sector which showed an interesting performance was that of ONGs: it increased its share in total employment from 7.0% in 1990 to 9.4% in 1998, marching on in the direction of 6 million people employed in the non-market private sector.

The complementarity between the behavior of agriculture and services does not hide the dramatic performance of industry. This key sector not only faced a drastic reduction of 2.2 million jobs during the whole period, but also, as a matter of consequence, had its share reduced from 23.2% to less than 20% of total employment.

This loss was more or less evenly distributed along its components. In almost all of its groups the fall was quite monotonic, the exception being due to the construction industry. This faced a small recovery of nearly 200 thousand jobs between 1995 and 1998, but without matching the 1990 level. Inside manufacturing, the restructuring process produced really astonishing results. The textile industry, which was not of much importance in 1990, providing 408 thousand jobs, plummeted to only 207 thousand in 1998, a reduction of nearly 50%. The other side of the coin of this performance was the secular trend of eradication of the cotton crop in São Paulo and other formerly important producer states.

Metal and machinery industries and even tractors faced falls of almost one fifth and one third of their employment figures of 1990. The external debt and the entry of foreign capital particularly in the energy-supplying sector were responsible for another striking result in terms of restructuring and employment reduction, with its jobs falling from 324 to 217 thousand.

Food processing industries, such as coffee, milk and sugar, while small in absolute terms, experienced growth. The coffee industry expanded its jobs by 16,7%, while the other two had an increase of 6% each. But this is not of much comfort, as far as the three of them employed only 236 thousand people in 1998, mere 0.4% of total employment in that year.

To sum up, the 1980s were dubbed “The Lost Decade”, by virtue of their modest economic results. But, unfortunately, the 1990s came to join this unfortunate situation. Not only the external debt, but also internal corruption and political instability were the causes of this performance. Most of these factors are not easy to be dealt with in a paper with the contours of the present one. However, in the next section, the sectoral shares of employment induced by the different groups of final demand are to be appraised, in an attempt to quantify the extent of the overall change. In order to perform this task, the input-output model has to be used.

3. THE USE OF SOCIAL LABOR ALONG THE SUB-ECONOMIES

To speak of social labor means to refer to that sort of labor power which, applied over intermediate inputs with the aid of capital inputs, produces commodities. The input-output model allows ascribing the direct and indirect labor requirements for the production of commodities to the different groups of final demand. This batch of information is not directly available from the official statistics, as it is generated

precisely by the model.

The basic equation of its closed version, in its reduced form, reads:

$$\mathbf{x} = \mathbf{Bf}, \qquad (1)$$

where **x** is the column vector of gross output for n industries, **B** is the Leontief-inverse matrix, of order n x n, and **f** is the vector of final demand for n industries.

Now, if a whole matrix of m different groups of final demand is considered, then equation (1) is transformed in

$$\mathbf{X} = \mathbf{BF}, \qquad (2)$$

where **X** is a matrix of order n x m of gross output of the m groups of final demand, **B** has the same interpretation as above and **F** is the matrix of the m groups of final demand. A characteristic element of matrix **X** informs the direct and indirect requirements for industry i (i = 1, 2, 3, ..., n) to deliver the amount x_{ij} of production, so that the final demand of group j (j = 1, 2, 3, ..., m) can be matched. In other words, each element of **F** is mapped into its corresponding element of **X** through matrix **B**. In this sense, in a similar fashion to Adam Smith's prices being **resolved** into wages and profits, it is possible to say that matrix **X** contains the resolved final demand.

While vector **x** is linked to the quantity circuit, its labor correspondent takes the form:

$$\mathbf{L} = \lambda^{D}\mathbf{x}, \qquad (3)$$

where **L** is the vector of direct and indirect labor employed in n sectors, λ^{D} is a diagonal matrix, whose characteristic element is given by the ratio of labor employed in sector i and its corresponding gross output. Substituting (2) in (3) provides:

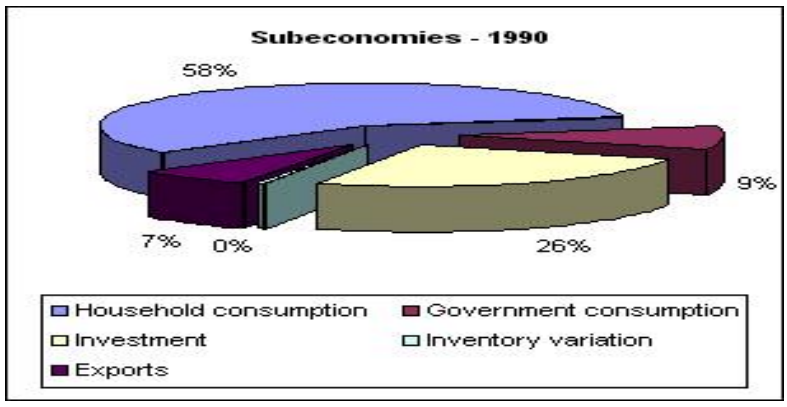
$$\mathbf{\Lambda} = \lambda^{D}\mathbf{BF}. \qquad (4)$$

The columns of **Λ** can be seen as the sectoral amounts of labor needed to produce final goods and services that will be absorbed by the corresponding groups of final demand.

While vector **L** can be associated with the labor used in the whole economic system, each column of matrix **Λ** can be associated with one of the groups of final demand. Thus, each sub-economy established by the ensemble of the corresponding columns of vectors **F**, **X** and **Λ**, as well as others, is a fraction of the whole economic system. Each of these sub-economies shares a technological matrix with the whole economy, and provides information about the direct and indirect requirements of a selected set of variables, such as value added, wages, and – of course – employment.

To probe a little further and summing up, human needs cause human action. In order to produce goods and services to match some of these needs, the action required has an economic character, which – in a monetary economy – takes the form of commodity production. This requires not only the direct content of the commodity itself, but also indirect requirements of the specific commodity, as well as other commodities. In its turn, this production is made feasible through the use of social labor, distributed along the different sectors which stitch together the whole economy.

Figure 2 shows the shares of the different sub-economies in total employment in 1990. The most important component is household consumption, whose productive direct and indirect requirements are responsible for 57.7% of total employment. In other words, if a hypothetical economy existed without consumption, its employment would be only 42% of the actual figure.



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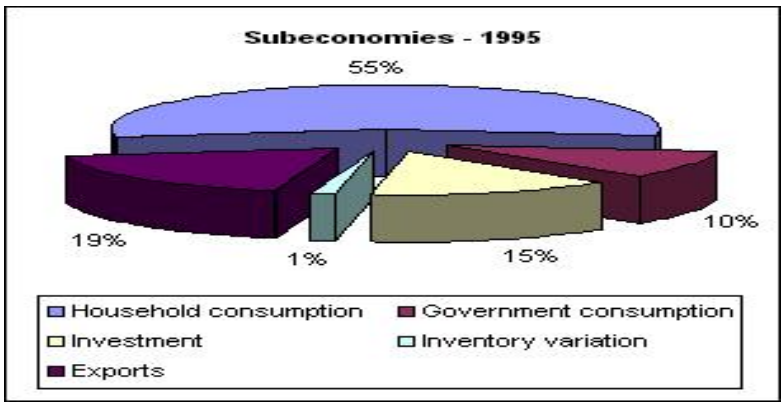

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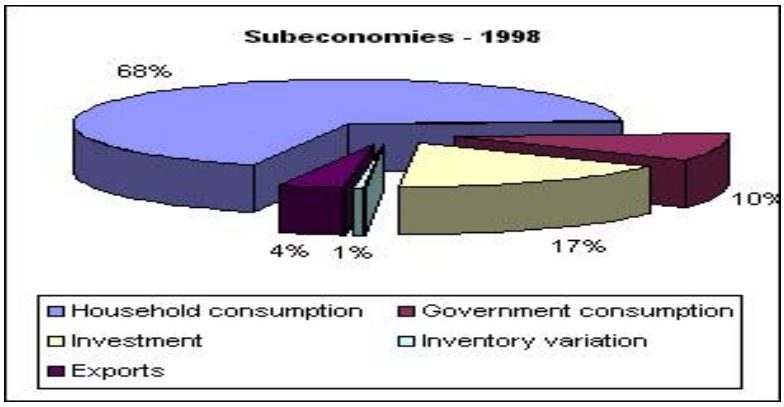

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Figure 2 – The share of employment devoted to match the households consumption is the largest and increased during the period, in a sharp contrast with investment and exports
Source: http://www.ibge.gov.br

After a small decrease in 1995, consumption rocketed to be responsible for almost 70% of all Brazilian employment. An interpretation might be useful to help in the understanding of this impressive shift. As consumption is moving from goods to services, and the services increased their share in employment, the consequence is an increase in the "employment contents" of the supply of services to households.

In the case of 1990, government consumption was responsible for 9-10% of

the total jobs of the economy. The investment sub-economy faced a dramatic fall, representing 26% of final demand in 1990, plummeting to 15% in 1995, and 17% in 1998. The exports sector responded for only 7% of the economy's jobs, jumping to 18% in 1995, the first year of prices stability in decades, but ended the period with mere 4%. This figure points to the fact that the policy of dealing with an overvalued currency injured the exports performance of the country and, associated with that, almost destroyed the employment linked with the export business.

Table 2 shows the resolved employment associated with household and government consumption. In 1998, the services sector embraced 60% of all labor associated with household consumption, the period's record. Agriculture responded for almost one quarter of these jobs, leaving to industry as a whole the intermediate position. Inside industry, manufacturing exerted a prominent but falling role. The government sub-economy had in the services its main inducement of employment, close to 90% all over the period. Production goods and consumer non-durables, as well as the construction industry, were the other important responsible factors for the direct and indirect labor requirements induced by government.

Table 2 – Resolved Employment by Sub-economies (household and government consumption) in Brazil, 1990/1998 (%)

Sectors	Household Consumption			Government Consumption		
	1990	1995	1998	1990	1995	1998
Agriculture	26.9	26.7	23.6	5.3	4.5	5.3
Industry	17.2	15.9	15.9	5.7	7.1	6.1
Mineral Extraction	0.3	0.2	0.3	0.1	0.1	0.0
Manufacturing	14.8	13.4	13.4	3.5	4.3	3.2
Production goods	4.7	3.8	4.5	1.6	1.9	1.1
Consumer Durables	0.9	1.7	2.0	0.4	0.5	0.4
Cons Non-Dur	9.1	7.9	6.9	1.6	1.8	1.7
ISUP	0.7	0.6	0.5	0.2	0.1	0.1
Construction	1.4	1.7	1.8	1.8	2.6	2.8
Services	55.9	57.4	60.5	89.0	88.4	88.6
T o t a l	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations on the basis of information collected at the following electronic address: http://www.ibge.gov.br

As regards the labor requirements associated with the investment sub-economy, Table 3 shows that industry as a whole also played a prominent but falling role all over the period in terms of inducing the generation of jobs. However, both agriculture and services were more important than any of the industrial classes. An interesting point associated with the inventory variation sub-economy (not shown

here) is the enormous inter-sectoral variability in 1990, a year of creeping inflation. Just in January the overall price index grew by more than 80%, a fact that made inventory speculation a very attractive business.

To conclude, labor absorption due to the export activity reflects, by and large, the overvalued domestic currency drama. Reducing its share in exports, agriculture reduced hand in hand its contribution to employment. The same happened to industry in 1990 and 1995, while its share in 1998 showed an impressive increase.

Table 3 – Resolved Employment by Sub-economies (investment and exports) in Brazil, 1990/1998 (%)

	Investment			Exports		
Sectors	1990	1995	1998	1990	1995	1998
Agriculture	25.4	33.4	32.5	27.1	51.8	12.1
Industry	44.4	41.3	36.3	25.6	24.9	31.5
Mineral Extraction	0.8	0.3	0.2	3.2	1.1	4.0
Manufacturing	21.6	12.9	10.3	20.2	22.2	24.5
Production goods	11.6	6.4	5.2	10.9	13.5	14.4
Consumer Durables	6.5	2.9	1.7	1.1	3.5	3.1
Cons Non-Du	3.5	3.6	3.4	8.2	5.3	7.0
ISUP	0.4	0.2	0.2	0.6	0.3	0.2
Construction	21.7	27.8	25.6	1.7	1.3	2.7
Services	30.2	25.3	31.2	47.3	23.3	56.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations on the basis of information collected at the following electronic address: http://www.ibge.gov.br

This behavior was mainly induced by manufacturing and its subclass of production goods. The other subclasses of manufacturing did not exhibit the same pattern. All in all, these figures might be suggesting both an increase in the Brazilian capital goods industry competitivity, and an important feature of the intersectoral division of labor within Mercosul.

4. CREATION AND DESTRUCTION OF JOBS BY THE EXTERNAL SECTOR

Counterfactual analysis is perhaps as old as economic science. But it was from 1964 onwards that it took impetus, with the work of Robert Fogel (*apud* McCloskey, 1998). His issue was to appraise what would have happened to the American economy if railroads had not existed. One of the most distinguished *avant la lettre* counterfactual authors is Winston Churchill, with his speculation on what would be the science fiction created about the victory of the North if actually the South had

won the American Secession War (Jakubowski & Edwards, 1983).

Here, the first counterfactual exercise consists of determining which sectors are domestic generators of employment and which sectors create employment abroad, by virtue of their international links. In fact, these are not **actual** imports, because the market share assumption dealt with in order to transform imported ordinary commodities in utilities provided by industries does not come from a world or coutry-specific input-output table. It comes, instead, from the Brazilian make table.

Table 4 summarizes the main results of a number of simulations. Each of the three years under scrutiny heads a corresponding column. The first column concerns the "actual" situation, that is to say, for instance, actual 1990 exports minus imports. The second column considers a simulation of the exports vector and the previously described imports vector. The simulation consists of dealing with total imports of 1990, but distributing this figure according to the percentile structure of 1995. Similar steps were taken as regards 1998 and its third column.

Table 4 – Employment surplus/deficit due to the Exports-Import sub-economies, according to actual and attributed percentual structures in Brazil, 1990/98 (1,000 employees)

Sectors	1990			1995			1998		
	Actual	1995 structure	1998 structure	Actual	1990 structure	1998 structure	Actual	1990 structure	1995 structure
Agriculture	663.9	604.0	359.4	1122.4	1580.7	636.4	-333.4	-55.0	227.5
Industry	146.7	-121.4	204.4	-612.1	1314.8	1855.3	-109.6	-66.1	-134.2
Mineral Extraction	57.2	27.7	100.1	-137.7	201.0	150.8	61.3	13.2	7.7
Manufacturing	97.0	-146.1	100.4	-471.2	1020.8	1643.6	-117.1	-6.3	-99.4
Production goods	62.0	-66.7	147.8	-471.9	519.5	1038.2	-28.7	4.6	-63.0
Consumer Durables	-94.4	-109.7	-94.9	-38.7	4.7	199.3	-43.9	-35.8	-33.8
Cons Non-Dur	129.5	30.3	47.6	39.5	496.7	406.1	-44.5	24.9	-2.5
ISUP	-12.9	-7.7	-2.0	-1.1	9.0	-4.5	-7.1	-13.0	-7.0
Construction	5.5	4.7	5.8	-2.1	84.0	65.4	-46.7	-59.9	-35.5
Services	678.3	944.1	209.9	2186.1	3212.5	2580.8	-825.6	2350.3	4316.1
T o t a l	1489.0	1426.6	773.7	2696.5	6108.1	5072.4	-1268.7	2229.3	4409.4

Source: Author's calculations on the basis of information collected at the following electronic address: http://www.ibge.gov.br

The results of this table allow for very important interpretations. Their underpinnings are the assumption that employment is a key variable to egalitarianism (Glyn, 1991,1995). Thus, if a particular sector creates employment, it is a positive contributor to equality, in contrast to a sector which imports goods and services creating jobs abroad. The larger the balance between exports and imports, the larger the egalitarian character of the sector, while a sector which equilibrates imports and exports is neutral as regards egalitarianism. Therefore, the surplus/deficit between exports and imports points to the more or less egalitarian character of a sector. As regards 1990, the overall surplus of about 1.5 million workers was concentrated mainly in the services and agriculture.

The two columns of simulations point to two interesting results. First, the 1995 structure would cut 62.4 thousand jobs, but this figure would drop to more than 50% in 1998. In other words, the 1990 imports structure was more favorable to the domestic employment than the structure observed both in 1995 and 1998. This result is confirmed by the confrontation of the other two counterfactual exercises dealing with the actual figures of 1995 and 1998. What is at stake is the proposition that incoherent openness of an economy should bring about disastrous results. Contrariwise, well-conceived processes of opening an economy can bring about important welfare increases, as is argued by Balassa (1979). Clearly, as Brazil is concerned, the **actual** 1998 trade deficit (1,3 million jobs) provides empirical support to this assertion. Particularly, the variation observed between the actual and simulated situations concerned with 1998 show that the economy's structure of labor induced by exports moved towards a more inegalitarian character.

The second interesting result, although more dramatic, is the enormous variability within sectors, whichever is the column examined. In this case, the more impressive aspect to be stressed derives precisely from the confrontation between the actual results of 1990 and 1998.

To summarize, adding a brief comment, the examination of the ensemble of the international trade and domestic employment points to increased inegalitarianism along the 1990s. This phenomenon not only has shown an overall character, but obviously, when scrutinized under the sectoral perspective, displays even more dramatic results. For instance, in 1998, the direct and indirect effects of openness

upon services were responsible for the destruction of 0.8 million jobs. Services is not a sector which produces tradeables, but its economic links through the Leontief inverse matrix show that the domestic intersectoral relations dragged Brazilian employment to foreign countries.

5. COUNTERFACTUALS WITH THE STRUCTURE OF FINAL DEMAND

As regards the present context, namely, the study of the consequence of the increasing openness of the Brazilian economy upon employment, the counterfactual exercises performed in the former section were so eloquent that it is worthwhile to study the dada which originated them. Therefore, the actual and counterfactual exports and "actual" imports of 42 industries grouped in eight sectors were taken separately. In order to overcome the inflation issue and avoid losing the relative prices movements, two exercises were made for each year dealing with nominal domestic money values.

Resuming what was discussed in the last paragraphs of the previous section, vectors of exports and imports percentile structures were created and the actual amount of each year was distributed according to these shares. Some selected results are presented in Table 5.

Table 5 – Weight of the Exports and Imports Sub-economies with the Structure of Different Years in Brazil, 1990/1998 (%)

Sectors	Exports				Imports			
	1990 with 1995's structure	1990 with 1998's structure	1998 with 1990's structure	1998 with 1995's structure	1990 with 1995's structure	1990 with 1998's structure	1998 with 1990's structure	1998 with 1995's structure
Agriculture	24.4	21.8	11.4	10.2	16.3	15.7	19.8	14.5
Industry	21.5	34.8	12.4	7.2	35.2	36.9	21.7	16.1
Mineral Extraction	1.6	3.6	1.5	0.5	1.4	1.2	2.0	0.7
Manufacturing	18.0	28.8	9.7	6.0	30.8	32.7	15.8	13.2
Production goods	9.5	17.9	5.0	2.9	15.9	17.6	7.9	6.6
Consumer Durables	2.1	3.0	0.8	0.8	6.5	6.8	2.3	2.1
Cons Non-Dur (1)	6.5	7.9	4.0	2.4	8.4	8.3	5.7	4.5
ISUP (1)	0.4	0.6	0.1	0.1	0.9	0.8	0.5	0.2
Construction	1.5	1.8	1.1	0.7	2.1	2.1	3.4	2.0
Services	54.0	43.3	76.2	82.6	48.6	47.4	58.5	69.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations on the basis of information collected at the following electronic address: http://www.ibge.gov.br

The results of this table allow for very important interpretations. Their underpinnings are the assumption that employment is a key variable to egalitarianism

(Glyn, 1991,1995). Roughly speaking, if a particular sector creates employment, it is a positive contributor to equality, in contrast to a sector which imports goods and services creating jobs abroad. On the one hand, the larger the balance between exports and imports, the larger the egalitarian character of the sector, *ceteris paribus*. On the other, a sector which equilibrates imports and exports should be neutral as regards egalitarianism. Therefore, the surplus/deficit between exports and imports points to the more or less egalitarian character of a sector.

In Table 5, for instance, the first column points to the fact that, if the production of 1990 retained its technical conditions and changed its final demand structure to that occurred in 1995, then agriculture would respond for 24.4% of total employment. This would contrast both with its actual 27.1%, and the even reduced 21.8% associated with 1998, pointing to the enormous shift of demand from agriculture. The reduction in both of these figures points to the fact that the comparative advantage of the country in producing primary products vanished by virtue of an overvalued exchange rate, *ceteris paribus*. In other words, this clause is used here not to deny that international price movements might have influenced.

The most impressive results originated from this table are concerned with the swap of positions between agriculture and the services. This movement had its most striking moment when the exports structure of 1998 were superimposed over the labor coefficients of 1990. However, these were not the only impressive results: industry would have increased its share in total employment from 21.5% to 34.8%, with the exports structures of 1995 and 1998 plummeting to mere 12,4%, when the actual situation of 1998 is changed to the exports structure of 1990. This astonishing change is distributed along the four industrial classes and branches in a beneficial way to the services.

Dramatic as it were, the confrontation between the 1998 actual figures and the counterfactual exercises is a preliminary indication that overall industry did not suffer as much as agriculture with the overvalued exchange rate policy. This is enforced particularly by the enormous relative labor absorption simulated for 1998, when the exports structure of 1990 is superimposed. In terms of import of the sector which would have its employment level more affected by their expansion would be the services.

Confronting the current transactions balance of services, its general surplus character would not change much along the counterfactual hypotheses. Manufacturing

and particularly consumer non-durables are those on which the exchange rate policy burden was placed. To conclude, in terms of imports, the general trend of the period points to moderate industrial jobs destruction in 1990 and 1998, and a 10 percentage points shift as regards these extremes in 1995. On the other hand, only in the last year would the services show a different and larger pattern of labor absorption, as regards the relative impact of substituting imports for domestic production. In other words, the sectoral pattern of employment associated with imports did not face dramatic movements, contrariwise to exports. The dramatic variability along the actual and the two counterfactuals of the three years under scrutiny shows that the 1990s were a decade which, even starting a new phase in the Brazilian economic development, did not use the foreign sector to reduce the proverbial inequality of the country.

6. CONCLUSION

Concerned with the openness to international trade of the Brazilian economy, this paper put the emphasis on the consequences of structural change on the use of social labor. The changes faced by the country during the 1990s were dramatic. Between 1990 and 1998, employment grew at a modest rate of 0.3% per year, contrasting with the not as modest 2,7% annual growth rate of GDP. In a multi-causal modeling fashion, it is not tenable to suggest that all that happened to the Brazilian economy is the one and only consequence of the process begun in 1988. Many were the factors which affected both the dynamism and the inegalitarianism lived by the country. Political exclusion of the masses, corruption, and an enormous debt crisis are, perhaps, only different faces of the same die.

As regards the duo employment-exports, some features have to be stressed:

a) labor absorption was due mainly to the household consumption, which reached a peak of 68.7% of the employment induced by final demand in 1998. The other side of this coin was the dramatic relative fall in the jobs created investment sub-economy as labor supplier. Besides, exports had an astonishing and erratic performance, arriving in 1998 with only 3,8% of the direct, indirect and induced employment generation;
b) using the simplistic view that considers that exports create employment and imports destroy it, the period under scrutiny has shown strong variations in the exports-imports implications on employment. An enormous intersectoral variability accompanies the whole period, while the figure for total employment

fell from a surplus of 1,5 million to a deficit of 1,3 million workers. This sort of approach leads to the conclusion that the duo employment-exports was one of the contributors to the maintenance and even increase of the proverbial Brazilian inequality; and

c) the counterfactual exercises resumed the question of the effect of an overvalued exchange rate on exports and, therefore, on the employment associated with exports. It seems that agriculture suffered the consequences of the exchange rate policy much more than the rest of the economy. Industry did not show the same regularity, while the bulk of exports driven employment was located in the services sector. Under these circumstances, it is possible to say that, even starting a new phase in the Brazilian economic development process, the foreign sector was far from serving as an instrument of inequality reduction.

To conclude, the opening of the Brazilian economy in the 1990s was not very friendly to employment. External debt and world circumstances forced an enormous restructuring in industry, where 2.2 million jobs were burned. The exchange rate devaluation of January 1999 changed this situation, although there are no figures at present to incorporate the results to the present analysis. One clear point about devaluation is that its success depends on the surrounding conditions. It has always been said that an exchange rate devaluation has to be accompanied with deflation, that is to say, an expenditure reduction, in order to free the resources for exports. But it has become clear that it has to be accompanied by sufficient unemployment to prevent the impact on real wages, through higher import prices. This, in its turn, would lead to big wage increases, eroding the competitive advantage, and claiming for a new devaluation. The next few years will answer the fascinating question associated with the external front of whether or not there is a possibility for Brazil to recover its traditional dynamism and use exports as an instrument to reduce its not less traditional inegalitarianism.

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