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Labor Market Dynamics in Brazil

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1) Introduction

This proposal aims at examining the process of job reallocation in the Brazilian labor market. We intend to use panel data of matched workers and firms in order to investigate the processes of employment reallocation, labor adjustment and the costs of reallocation to workers. The main objective will be to document the extent of the flexibility of the Brazilian labor market, to compare it with that of developed and other less developed countries and to investigate the speed and costs of its adjustment to external shocks. As an example of this process of adjustment, we will provide an in depth study of the impact of the trade liberalization process that took place in Brazil in the early 1990s on the labor market functioning.

This proposal consists of three additional sections. In the next section we will thoroughly describe the three data sets we intend to use in this study, the *Relação Annual de Informações Sociais (RAIS)*, the Pesquisa Industrial Mensal (PIM) and the Pesquisa Mensal de Emprego (PME). Section 3 will try to demonstrate that the data is suitable to carry out topics 1, 4, 6 and 7 of the terms of reference and will describe the proposed methodology to achieve the objectives of the research. Section 4 will briefly review the Brazilian literature on job reallocation that is relevant for this proposal, while the final annexes will describe the experience of the researchers involved in this project and the estimated budget necessary to carry out this project.

2) Data

In order to conduct this research we will use three main data sets. The main data will come from the *Relação Anual de Informações Sociais (RAIS – Annual Social Information Report)*, carried out by the *Ministério do Trabalho e Emprego (MTE – Labor Ministry)* from 1990 to 1999. The second data set is the *Pesquisa Industrial Mensal – (PIM – Monthly Industrial Survey)*, a monthly establishment survey covering the entire country, conducted by IBGE (Brazilian Census Bureau). The third data set is the *Pesquisa Mensal de Emprego – (PME - Monthly Employment Survey)*, a monthly household survey covering six metropolitan regions, also conducted by IBGE (Brazilian Census Bureau). These data sets are available to all researchers involved in this project through IPEA-RJ, Instituto de Pesquisa Econômica Aplicada (Applied Economics Research Institute) a government research center.

RAIS

The main data set, *RAIS*, is an administrative report filed by all tax registered¹ Brazilian establishments. Since the *RAIS* information may be used for investigation about labor legislation compliance, firms that do not comply with it do not to file in *RAIS*. Thus, *RAIS* may be considered a census of the *formal* Brazilian labor market.² *RAIS* is carried out annually and the information is collected every year in the first quarter, referring to the previous year, and it covers the whole country.

The main variables available from the survey at the establishment level are:

¹ Every tax registered (formally set up) enterprise receives a unique tax number, the *CNPJ*. This number is composed by a specific firm part and a complement for each unit (local plant or establishment) that the firm operates.

² State owned enterprises, public administration and non-profit organizations are also required to file the report.

- Geographic location: State, metropolitan region, *município* (county).
- Activity Sector: *CNAE (Classificação Nacional de Atividades Econômicas – National Economic Activity classification)*: sector level (CNAE- 10 categories), activity (CNAE - 42 categories), subactivity (CNAE – about 560 categories), IBGE sectors (9 categories), IBGE subsector (26 categorias) – the latter are necessary to use national accounts/official trade data.
- Establishment size: number of workers, number of wage earners, number of owners.
- Establishment type: Private enterprise, private foundation, state owned enterprise, state foundation, joint public-private enterprise, non-governmental organization, government, nonprofit enterprise, notary.

At the employee level, the following information is available:

- Occupation: occupation classes (*Classificação Brasileira de Ocupações, CBO – Brazilian Occupation Classification system - about 350 categories*), occupational subgroup (84 categories), occupation group (11 categories).
- Personal Characteristics: schooling (9 classes), age, gender, nationality.
- Contract information: month of admission, month of separation, December wage rate, average yearly wages³, tenure, separation cause⁴, contract type⁵, contract status⁶, admission type⁷, contract hours⁸ (exclusive overtime).

³ In minimum wage classes from 1990 to 1993.

⁴ Firing with/without fair reason, separation with/without no fair reason, retiring, transfer to other units (or firm).

⁵ Work card (labor legislation - *CLT*), civil service, isolated worker, temporary worker.

With the establishment identification number (CNPJ) it is possible to follow all establishments that file the RAIS survey over time. Moreover, with the worker's national insurance number, it is also possible to follow all workers that remain in the formal sector over time and to match the workers' characteristics with those of the establishments, through *RAIS*. Therefore, we can form a panel that matches workers to their establishments and follows each of them over time. These data will be used to address topics 1, 6 and 7 of our project.

PIM

The secondary data source is the *Pesquisa Industrial Mensal - PIM*: This is a monthly establishment survey covering the entire country, conducted by IBGE (Brazilian Census Bureau). It is a longitudinal survey of a stratified sample of 4,500 manufacturing establishments employing five workers or more. The original panel was selected in mid-1984, together with a supplementary sample chosen to replace establishments in the panel that eventually close. The panel covers the period from January 1985 to the present, with the latest available information relating to August 2001. The sample was originally designed to allow most statistical analysis to be conducted breaking Brazil down into six geographical areas and 22 manufacturing sectors.

The survey collects information on labor inputs, labor costs, turnover, production level and a few others. The information on labor input covers both employment and the total number of hours paid. In terms of measuring labor inputs, the survey has three major limitations: (a) It has the information on total number of hours paid, but not on hours

⁶ In activity or paid leave, leave without pay, occupation accident, military service, maternity leave, sick leave, inactive.

⁷ (Since 1994) First placement in firm, re-employment, transferred.

worked. (b) All information refers only to the personnel directly involved in production. (c) There is no information on the qualification of the labor force employed.

With relation to labor costs, the information available is: (a) total value of contractual wages (i.e., value of wages and salaries as specified in labor contracts) and (b) total value of payroll. In addition to contractual wages, payroll contains information on the payment for overtime, severance payments and other firing penalties, all payments due to commissions and other incentive schemes, such as productivity premium, all fringe benefits, additional payments due to hazardous activities, night shifts and other compensating schemes, and paid vacations.

Despite the fact that the payroll information includes a large variety of labor costs, it does not include all of them. Major exceptions are all employers' contributions to social security, training programs and other social programs that are fixed as a fraction of the total value of contractual wages. Fortunately, the regulation of these contributions as a fraction of contractual wages has been fairly constant over time, with very few changes. As a consequence, the value of these contributions could be easily imputed from the information on contractual wages to obtain an estimate of total labor costs. These data will be used to address topic 4 of our project.

PME

The third data source is the *Pesquisa Mensal do Emprego – PME*. This is a monthly household survey covering six major Brazilian metropolitan regions: Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo and Porto Alegre. It is also conducted by IBGE (Brazilian Census Bureau) that interviews about 38,500 households

⁸ Since 1994.

every month. The main feature of this data set is that each individual household member is interviewed for two periods of four consecutive months, with an interval of 8 months between the two periods. This means that PME follows all individuals living in the same household for a total period of 16 months.

The information available from the surveys covers the usual demographic and labor market indicators. On the demographic side, we know the individual education, age, gender, race, and position in the household. The labor market information starts with her labor market status (employed, unemployed or out of the labor force). If the individual is employed, we know whether she is working in the formal or informal sector, the number of hours worked in the past week, monthly earnings, sector of activity and occupation. If she is currently unemployed, we know her unemployment duration and the characteristics of the previous job, if any. The same applies for those that are presently out of the labor force. These data will be used to address topic 7 of our proposal (see below).

3) Specific Papers and Data Suitability

In this project, we intend to write three papers that will collectively form the final report. In what follows, we discuss each paper in turn.

Paper 1 - Job Destruction, Creation and Reallocation in Brazil: The Role of Trade Liberalization

In this topic we intend to examine the job creation, destruction and reallocation processes in Brazil and its relation to workers' turnover. The objective is to measure job

flows in the Brazilian economy in the 1990's (1991-1999). Two facts motivate our study. Firstly, there is a dearth of job flow studies in developing countries, as compared to the developed economies.⁹ Secondly, the Brazilian economy faced high employment and income volatility in the past decade and the country experienced a massive trade and capital flows liberalization process, which created exciting prospects (from the econometrician point of view) in terms of identification of the link between labor turnover and job reallocation movements in the period.

Statistics and Methods

In order to measure gross job flows we follow Davis and Haltiwanger (1992) and Davis, Haltiwanger and Schuh (1996), DH92 and DHS henceforth. Usually, the job flow statistics are calculated using employment levels in two points in time (averaged over a period or end-of-period stocks). However, as DH and Hamermesh, Hassink and Van Ours (1996) point out, job flow measures using such data are in fact lower bounds on the true number of positions created and destroyed over the period under study and of worker turnover.¹⁰ Our data set does have information on actual workers' flows (accessions and separations), so it will be possible for us to measure the differences between job reallocation and total turnover.

Statistics

All statistics presented here relate to the economy as a whole, but they will also be calculated for specific groups (sectors, firm size classes, regions and others).

Employment (job) growth rate for unit i (g_{it}):

⁹ Most, if not all, studies concentrate on manufacturing, concentrate on small establishments (5 or 10 or more workers) and do not consider entry and exit. Tybout (2000) is a very good survey. The only work we found that does not have these limitations is Haltiwanger and Vodopivec (1999) for Estonia.

The job growth rate at unit i (establishment or firm) from periods t and $t-1$ is measured as

$$g_{it} = \frac{(n_{it} - n_{it-1})}{x_{it}}; \quad x_{it} = \frac{(n_{it} + n_{it-1})}{2},$$

where n_{it} is the number of employees in unit i at period t , and x_{it} is the average number of employees at i over t and $t-1$. We use December 31st employment levels for n_{it} . This growth rate has the interesting property of being bounded for all units (including new and disappearing) between -2 and 2 .

Job creation and job destruction:

Gross job creation (POS_t) in period t is defined as the weighted sum of establishment growth rates (g_{it}) for all establishments with positive employment changes, including entry ($\Delta n_{it} \geq 0$) over $t-1$ and t , that is, it is the sum of establishment employment gains in the economy divided by the economy average employment. Gross job destruction (NEG_t) is defined as the weighted sum of establishment growth rates (g_{it}), in absolute terms, for all establishments with negative employment changes, including exit, ($\Delta n_{it} < 0$), over $t-1$ and t , that is, it is the sum of establishment employment losses in the economy divided by the economy average employment:

$$POS_t = \sum_{i=1}^N ((n_{it} - n_{it-1}) / X_t) I(\Delta n_{it} \geq 0)$$

$$NEG_t = \sum_{i=1}^N (|n_{it} - n_{it-1}| / X_t) I(\Delta n_{it} < 0)$$

where X_t is the average employment level for t and $t-1$ in the economy, ($X_t = \sum_i (n_{it} + n_{it-1})/2$), and $I(\cdot)$ is the indicator function, with 1 if the argument is true and 0 otherwise.

¹⁰ See also Davis and Haltiwanger (1995), or DH95, henceforth.

We can divide POS_t (NEG_t) in two parts, one for firms that enter and exit the economy, and another for continuing firms, that is, firms that appear both in t and $t-1$.

As we mentioned before, our data set allows us to measure gross (worker) turnover directly, as we have the number of accessions and separations over each month/year, thus providing alternative measures of labor flows in economic units. One could then identify, for instance, the fraction of workers' accessions caused by job creation.

We define the accession rate for the period t (H_t) as the sum of accessions in each unit i over period t (h_i) divided by aggregate average employment. The separation rate for the period t (S_t) is the sum of separations in each unit i over period t , (f_i) divided by aggregate average employment:

$$H_t = \sum_{i=1}^N h_i / X_t ,$$

$$S_t = \sum_{i=1}^N f_i / X_t .$$

Net employment growth (NET_t):

The net employment growth (NET_t) in the economy may be calculated in two different ways, either as the difference between job creation and job destruction or as the difference between accession and separation rates:

$$NET_t = POS_t - NEG_t = H_t - S_t$$

Job Reallocation:

Gross job reallocation (SUM_t) is calculated as the weighted sum of the absolute value of employment growth rates (g_{it}), that is, the sum of job creation and job destruction rates,

$$SUM_t = POS_t + NEG_t.$$

Conversely, a churning measure based on flows, denoted (total) worker turnover rate may be calculated as the sum of the accessions and separation rates,

$$T_t = H_t + S_t.$$

The proposed measures are related, as DH95, show. SUM_t may be considered as a lower bound on job changes induced workers' transitions¹¹. Worker turnover (T_t) is at most twice the number of worker transitions, as it double counts job-to-job movements. And gross job reallocation (SUM_t) may be taken as a lower bound to worker turnover (T_t) as the former considers only the difference between worker flows, that is, it does not consider accessions and separations that do not change the total employment level.

This suggests a rough measure of the quality of the matching between firms and employees. Abstracting from worker flows due to retirement and imposing a stable job composition within firms, the difference between SUM_t and T_t suggests the amount of worker turnover not accounted for by employment level adjustments:

$$MT_t = T_t - SUM_t.$$

Excess Job Reallocation

A measure of the intensity of job reallocation may be defined as the excess job reallocation (EJR):

$$EJR_t = SUM_t - |NET_t|,$$

that is, the fraction of the gross job reallocation that cannot be accounted for by the net employment expansion (or contraction). If the economy could be well characterized by a representative firm, EJR_t would be zero.

Minimum worker reallocation (MWR_t)

An alternative view of gross job reallocation is to compare job creation with job destruction, that is, the Minimum Worker Reallocation (MWR_t). It “provides a lower bound on worker reallocation required to accommodate job reallocation” (DHS, p.12)

$$MWR_t = \text{Max}\{POS, NEG\}.$$

Measurements to be carried out

Gross job flow measures by worker and establishment characteristics.

In the first part of the work, the annual job flows measures presented in the previous section will be calculated for the economy as a whole and broken down by ISIC(2) revised (2-digit) groups, size class (specified as 1-49, 50-99, 100-249, 250+) , private and state owned and business age (1,2,3,4,5-9,10+) class. We will also break out by skill groups (with skilled workers defined as high school or more). For size class, we will use both initial size and average size (t-1) and t. We will do the analysis for continuers, entrants, leavers. We will compute point in time based measures (e.g., December to December), annual average and quarterly based statistics, all on same basis (e.g., by industry, age, size and ownership structure).

¹¹ The number of workers that participate in transitions between jobs or between a job and unemployment/inactivity (and vice versa).

In addition to these measures, we will calculate the contribution of each firm type class to the statistics. In order to do that, note that the aggregate, say, SUM_t statistic is a weighted average of sector specific gross job reallocation, that uses as weights the job distribution by sector. This allows us to construct “adjusted” aggregate job flow statistics, to allow comparisons with other countries, as in Blanchard and Portugal (2001). The “adjusted” statistics use firm type flow measures but, for example, U.S. type distributions, thus isolating job flow differences across countries due to firm type composition. More over, by exploiting the link between employee and employer in our data, we can estimate flow measures by employee characteristics, such as schooling levels and tenure.

Decomposing reallocation on aggregate, sector specific and idiosyncratic effects

The aim of this decomposition is to investigate to what extent aggregate reallocation is associated with changes in employment opportunities across sectors (or firm types). If most of the reallocation is due to between-sectors reallocation, sector specific shocks can be thought of being an important part of the employment dynamics. However, in this case workers might have to bear larger transition costs. On the other hand, if within-sector reallocation is more important, there is evidence of widespread firm heterogeneity in market condition responses.

One could use a fairly simple decomposition to address this issue, using gross flow statistics. Multiplying the net employment growth (NET_t) and the gross job reallocation (SUM_t) rates by the average employment level in the economy (X_t), one can express the net difference in employment levels (net_t) and the number of jobs reallocated

in an economy (sum_t) from t to $t-1$ as the sum of the sector type (firm type) statistics, that is:

$$net_t = NET_t X_t = \sum_{i=1}^N (n_{it} - n_{it-1}) = \sum_k \sum_{i \in k} (n_{it} - n_{it-1}) = \sum_k net_{kt}$$

$$sum_t = SUM_t X_t = \sum_{i=1}^N |(n_{it} - n_{it-1})| = \sum_k \sum_{i \in k} |(n_{it} - n_{it-1})| = \sum_k sum_{kt},$$

where net_{kt} is the net job growth within class k . One can write sum_t as:

$$sum = \sum_k sum_k = \sum_k [sum_k - |neg_k|] + \left[\sum_k |neg_k| - |neg| \right] + |neg|.$$

$$(I) \qquad (II) \qquad (III)$$

Given the firm characteristics defined with k classes, (I) reflects the gross job reallocation due to within-class excess reallocation, while (II) reflects the between classes shuffle of employment opportunities. The last term indicates the minimum amount of job reallocation needed to accommodate the economy wide net employment growth.

A further set of statistics in an accounting framework may be calculated, by decomposing the individual establishments employment growth rates (g_{it}) in aggregate (g_t , or net_t), sectorial (g_{st} for each sector or establishment type class s , deviated about g_t) and idiosyncratic effects (\tilde{g}_{it}), using:

$$g_{it} = g_t + (g_{st} - g_t) + \tilde{g}_{it},$$

like in a shift-share analysis. The idiosyncratic establishment job growth rates may be used to calculate aggregate job creation, destruction, net employment and reallocation rates adjusted for aggregate (g_t), sector specific ($g_{st} - g_t$) time effects. If the dynamics of such statistics are different from their original counterparts, one may attribute the

dynamics to idiosyncratic, instead of sector or aggregate effects, as DH92 point out. Total growth rate variance ($g_{it} - g_t$) can also be decomposed in observables effects ($g_{st} - g_t$) variance and residual (idiosyncratic) variance, to gauge the relative importance of such effects.

The time series properties of the gross job flow measures could be important to motivate further study of the “prevailing views” about the business cycle, as DHS (ch.5) point out. Our data set covers most of the 1990’s (1990-1999). Usually, it is believed that POS_t and NEG_t should have a negative correlation, while NET_t and SUM_t should be basically uncorrelated¹². It would be interesting to compute the correlation between such statistics measures using idiosyncratic effects only.

The Impact of Trade Liberalization

. As we saw above, during the 1990’s Brazil experienced large macroeconomic changes. In the first half of the decade, the country experienced a combination of high inflation rates (above 20% per month), and a process of trade liberalization. During the second half of the decade, after the *Real* stabilization Plan in mid 1994, small inflation rates (less than 6% per year) coexisted with an allegedly overvalued exchange rate. Across the period (1990-1998), industrial employment fell by almost 40%, according to the IBGE.

The large changes in macroeconomic conditions may have influenced worker and job flows in possibly asymmetric ways, as Klein Schuh and Triest (2000) point out. On one hand, the reduction of inflation could influence worker flows as real labor costs,

¹² The sign of the actual NET_t and SUM_t correlation has generated debate, as may be seen in Boeri (1997).

including firing costs, that are significant in Brazil (Lora and Pages 1997), became relevant. In a high inflation environment, it is easy for the firms to adjust real labor costs, as contracts are normally fixed nominally (or adjusted using *past* inflation, not expected inflation). On the other hand, the rise in external competition may have increased job reallocation, as less competitive firms were driven out of the market. Finally, differences in trade exposure and productivity heterogeneity may cause asymmetries in response to macro conditions.

As Hamermesh, Hansik and Van Ours (1996) suggest, worker flows may have different dynamics than job flows. The different dynamics can be influenced by different trade liberalization factors, such as exchange rates and trade flows, and its impact may be asymmetric with respect to job creation and destruction or to hiring and separation rates.

The relationship between foreign trade and gross job flows was examined by Gourinchas (1999) for France, by Klein, Schuh and Triest (2000) for the US, by Roberts and Tybout (1996) for Chile and Colombia and by Davis, Haltiwanger and Schuh (1996) for the US. The last two papers did not find any pervasive effect of trade exposure on gross job flows, once firm characteristics were taken into account. On the other hand, Klein *et al* (2000) results differ from Davis *et al*, which they attribute to the method used (mean comparisons in trade exposure classes, instead of time series regression analysis). Gourinchas also found a strong (and asymmetric) influence of the exchange rate on gross job flows.

We intend to follow these papers to study the impact of trade exposure and exchange fluctuations on gross job flows, using the *RAIS* data. Although the theoretical models differ in terms of the explanation behind the influence of the international trade

on gross job flows, the empirical models of Gourinchas (1999) and of Klein *et al.* (2000) are similar.¹³

We intend to specify a regression model for job creation (POS_t) and job destruction (NEG_t)¹⁴ that depends upon nominal and effective tariffs, exchange rate and possibly on lagged dependent and other explanatory variables, that is:

$$POS_{it} = f(Tariffs_t, rer_{it}, H_{it}) + u_{it}, \text{ and}$$

$$NEG_{it} = f(Tariffs_t, rer_{it}, H_{it}) + u_{it},$$

for $i=1, \dots, s$ sectors at periods $t=1, \dots, T$, where tariffs is the nominal or effective tariffs sector i at period t , EXP_{it} the sector export coefficient, rer_{it} the sector exchange rate, H_{it} a measure of concentration in the industry, such as a Herfindahl index and u_{it} a mixed error term with possible sector fixed effects. The exchange rate may have variation across sectors if one considers the effective tariffs, or, as in Gourinchas (1999), if one uses a weighted average of the sector nominal aggregate exchange rates of the sector trading partners, deflated by the wholesale price index. In order to deal with the endogeneity of trade measures, we will experiment with using lagged trade measures and sector prices of trade partners, as in Muendler (2002).

The above model may be estimated as panel, using annual data over the 1990-1999 period. Quarterly data may be constructed for gross job flows and the exchange rate (using annual weights) but trade data would be unavailable at intra-year frequency.¹⁵

¹³ Gourinchas (1999) includes interest rates, while Klein *et al* (2000) include measure of factor prices.

¹⁴ For details on the statistics, see the proposal for topic 1.

¹⁵ Trade data is available with the DIMAC division of IPEA.

It would be of special interest to investigate the possibility of a structural break in 1994, when Brazil entered a period of exchange rate stability and low inflation, after the *Real* plan.

Data Details

In order to guarantee the representativeness of the *RAIS* data set to be used in the project, a number of comparisons were already carried out at IPEA-RJ, using the *IBGE* widely known household surveys (*PNADS*), to compare wages and other information on formal sector workers to those available from *RAIS*. The results suggested that the statistics computed using *RAIS* are very close to the official statistics. In total, the *RAIS* data set includes information about 28 million workers (22 million wage earners) in about 2 million establishments¹⁶ in a given year, with slightly smaller figures for the beginning of the 1990's.

As *RAIS* covers only the formal sector of the economy, the true job flow measures in the economy as a whole may be larger or smaller than the ones we intend to calculate. On the other hand, the sample covers the “best” jobs available, that is, the ones with all legislation benefits. In principle, every time a firm formally starts up (obtains a tax registry number), it must file a *RAIS* in the end of the year. We may have firms entering the data when they decide to become formal, maybe due to its growing size. On the other hand, a firm will be considered dead every time it does not file *RAIS*.

We can make one check to avoid the problem of spurious deaths, which is to identify the firms that file at $t-1$, do not file at t and file again at $t+1$. In this case, we can

¹⁶ Establishment (*estabelecimento*) refers to the local unit (*unidade local*), an address, where a firm (business) operates. Firms (*empresas*) may operate more than one establishment. As mentioned above it is possible to study both firms and local units.

assume that we have a spurious exit at t and a spurious entry at $t+1$. A first look at the data suggested that only 3% of establishments fall in this case, and about 90% of these establishments have no employees registered at $t-1$ or $t+1$. A last drawback of the data set, regarding entry and exit, is the treatment of merges and acquisitions or ownership changes. In all such cases, we expect the firm identification number to change, and it is not possible to identify perfectly such changes. This is a problem with other data sets too (e.g., Blanchard and Portugal, 2001).

Paper 2: Labor Adjustment Dynamics

In a background paper for a previous IADB research network study, Barros, Corseuil and Gonzaga (2000) used establishment monthly data for the industrial sector in Brazil, from 1985 to 1997, in order to estimate labor demand functions. The theoretical background was the standard partial adjustment model assuming a linear-quadratic form for both the revenue and the adjustment cost functions. The model was estimated for both total hours worked and employment, using panel data methods. The data were drawn from *Pesquisa Industrial Mensal* (PIM), a monthly establishment survey from IBGE described above, which in many aspects come very close to being characterized as an “ideal set of data for studying labor demand”, as described in Hamermesh (1993).

We propose to use the same data to study more deeply the process of labor adjustment at the firm level. More specifically, the idea is to characterize the process of labor adjustment using a more flexible form, which allows one to deal, for example, with possible non-linearities and lumpiness arising from non-convex adjustment cost functions.

The available information is enough to replicate the analysis of Caballero, Engel and Haltiwanger (1997) for the Brazilian case, in a monthly frequency. Since the data contain information on hours paid, one can use it to construct a proxy for the desired level of employment and get an estimate of the firm level employment shortage, defined as the difference between actual and desired employment levels. The objective is to estimate the probability of the employment adjustment function, which depends on the size of employment shortages and, eventually, on firm characteristics.

More specifically, in this part of the project, we propose to estimate the employment adjustment function using longitudinal monthly data from January 1985 to the latest available information (possibly December 2001). The analysis of this function and its evolution over time will allow us to study:

- i) the presence of asymmetries in the labor adjustment process;
- ii) the importance of aggregate and idiosyncratic shocks in explaining employment fluctuations;
- iii) the impact of changes in the institutional and economic environment on the labor adjustment process.
- iv) the behavior of the employment hazards, that is: $\Delta E_t - E_{t-1}$ as a function of $E_t^* - E_{t-1}$.

Paper 3 –The Cost of Turnover for Workers

In this topic we intend to examine the impact in terms of earnings of labor market transitions. We intend to concentrate on the wage changes associated with job changes, conditionally on the individual staying employed, but will also focus on the determinants of probability of transiting between employment in the formal sector, employment in the informal sector, unemployment and out of the labor force status.

In order to carry out the research addressing this topic, we will make use of two independent data sets, *RAIS* and *PME*. As described in section 2 above, with *RAIS* we will be able to follow workers that are employed in any formal establishment throughout Brazil for the entire sample period, that is, from 1990 to 1999. As one can identify the establishment where the individual is currently working, one can directly observe whether the individual has changed jobs from one year to another or not, and if so whether the changed occurred within sectors or across different sectors. Moreover, one can follow the wage evolution of each individual worker over a long time period and correlate this with job changes, conditionally on (and interacting with) demographics.

These features of *RAIS* are very important since, as stated in the terms of reference, we will be able to control for pre-displacement wages for a long period before displacement actually takes place, when correlating wage changes with job changes. Moreover, one can use all the relevant contractual information that *RAIS* provides us with, such as the month of admission, month of separation, tenure, separation cause, contract and admission type, to control for all possible effects that might be affecting job changes, especially the reasons for separation (individual dismissal, massive lay-offs,

quits, plant closures, etc.). Finally, since the data cover a long period, one can control for common macroeconomic and sector specific shocks, to obtain a more accurate estimate of the job displacement effect. With this information, we believe we will be able to compute all the statistics required in topic 7 that involve correlating wage changes with job changes in the formal sector.

Following Displaced Workers over Time

On the top of the required statistics, we intend to make a specific evaluation of the job market transitions of a specific group of displaced workers. The idea is to follow a group of workers that we displaced in 1995, for three years (1996, 1997, 1998). In order to minimize selection problems, we intend to focus on workers that were displaced in massive lay-offs, defined as events when more than 50% of the workforce of a specific firm was dismissed. We intend to control for all individual characteristics available at RAIS, in particular for pre-displacement wages and labor market trajectories, by using data for 1992, 1993 and 1994.

PME

The main drawback of the RAIS dataset however, is that it only covers workers that are currently employed in the formal sector of the Brazilian economy. Therefore, if the individual moves to the informal sector or becomes unemployed, we loose track of her. This means that we will not be able to discriminate between transitions to (and from) unemployment, employment in the informal sector or out of the labor force. Therefore,

we intend to obtain complement the RAIS information with another source, the Monthly Employment Surveys (*PME*).

As stated in the data description above, *PME* follows all individuals living in the same sampled household for two periods of four months, with an interval of eight months between the two periods. Moreover, the sample size is big, as *PME* interviews about 38,500 households every month. With these data, we will be able to identify *all* labor market transitions that take place over this sixteen months period, for different time intervals and compute, for each transition cell, different statistics regarding the wage changes. Moreover, for those currently unemployment we do have information on unemployment duration and previous jobs characteristics, so that we can correlate those using duration models (see Menezes-Filho and Picchetti, 2000), after controlling for demographic characteristics.

Finally, one can compute changes in transition probabilities over time, since the sample period is from 1983 to 1999, and correlate the changes in these probabilities to important changes in the economic environment (stabilization plans, trade liberalization), and in the labor legislation (unemployment insurance schemes, firing costs).

The main drawback of the data is that if the individual is working in the 4th and 5th interview (four months apart), we do not know whether she is in the same job, since we do not know her tenure in the present job. We can know, by looking at the occupation, sector of activity and formality status before and after the interval, whether the individual has changed jobs, but we can never be sure if she is in the same job or not, conditionally on being employment in both periods. Therefore, we have to rely on *RAIS* to identify wages changes associated with job changes.

4 - Previous results for Brazil

The measurement of gross job flows have only recently attracted interest in Brazil, mostly due to the unavailability of large micro datasets for researches outside statistical bureaus. There are only two such studies. The first is Pazzelo, Bivar and Gonzaga (2001), that uses the annual industrial survey of *IBGE* (called *PIA*). Given the sampling frame of the survey, only continuing firms were used. *PIA* also has a minimum firm size, defined by employment bigger than 5 workers.

Despite these limitations, the basic results suggest that, even with continuing firms only, gross job flow measures in Brazil are on the upper end of the world figures. Also, smaller firms account for about the same amount of job creation as larger firms.

The second study is Corseuil et alli (2001). Using the *IBGE* establishment registry (*CEMPRE*), gross job flow measures are calculated for the whole economy. The data set does not have a minimum firm size, but it covers only three years, 1996-1998. Since the data set does not have information on worker flows, we prefer to use *RAIS* in the current proposal.

To conclude, our proposal will contribute to the literature by extending the time span of analysis, extending coverage to all sectors of the economy and calculating both worker and job flows. Lastly, it must be noted that access to *RAIS* has already been granted and that other research projects have been carried out using the data set.

Previous work has estimated the impact of trade reforms on the labor market in Brazil. An up-to-date survey, with a few tentative conclusions is found in Soares, Servo and Arbache (2001). All papers share the common feature of relying on household surveys, and thus they are not able to assess how trade reform affected job flows. Nevertheless, most papers found that trade liberalization has changed the employment composition and has increased unemployment (particularly for less skilled workers). We intend to extend the analysis to incorporate the effect of trade liberalization on job flows.

To the best of our knowledge, we do not know of any study investigating the relationship between labor market transitions and wage changes in Brazil. Therefore, our proposal for topic 7 aims at starting filling this gap.

5 - References

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RIBEIRO, E (2001) “Rotatividade de Trabalhadores e Criação e Destruição de Postos de Trabalho: Aspectos Conceituais”. *IPEA, Texto para Discussão* n°

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Micro Patterns of Turnover, Productivity and Market Structure. New York:

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entre Abertura Comercial e Mercado de Trabalho no Brasil”. *Texto para*

Discussão 843, IPEA, Nov. 2001 (www.ipea.gov.br/liberalizacao/index.htm)

SUTTON, J. (1997). “Gibrat’s Legacy”. *Journal of Economic Literature*, v.36, 3.

TYBOUT, J. (2000) “Manufacturing Firms in Developing Countries: How Well Do They

Do, and Why?” *Journal of Economic Literature*, v. 38, n. 1, 11-44.

Annex 1 – Budget

- Research Team Honoraria U\$ 26,000
- Research AssistanceU\$ 8,000
- Administrative SupportU\$ 2,000
- OverheadU\$ 4,000

Total = U\$ 40,000.00

Annex 2 – CURRICULUM VITAE OF RESEARCHERS

NAÉRCIO AQUINO MENEZES FILHO

ACADEMIC BACKGROUND

- Ph.D in Economics , *University College London*, 1997
- M.A. in Economics, *University of São Paulo*, 1992
- B.A. in Economics, *University of São Paulo*, 1986

CURRENT POSITIONS:

- Lecturer at the Department of Economics, *University of São Paulo* .
- Research Associate, *Centre for Economic Performance, London School of Economics*
- International Research Associate, *Institute for Fiscal Studies*

PUBLISHED PAPERS

Menezes-Filho , N. e Picchetti , P. (2000) “Os Determinantes da Duração do Desemprego em São Paulo, *Pesquisa e Planejamento Econômico*, vol. 30, no.1 pp.23-48.

Menezes-Filho , N. e Fernandes , R. (2000) “A Evolução da Desigualdade no Brasil Metropolitano”, *Estudos Econômicos*, vol. 30 (4), pp. 549-569

Menezes-Filho, N.- (1997). “Unions and Profitability over the 80s : Some Evidence on Union- Firm Bargaining in the UK” , *The Economic Journal*, vol .107, 442, pp. 651-670.

Menezes-Filho, N., Ulph and Van Reenen (1998) The Determinants of R&D: The Role of Unions”, *European Economic Review*, vol. 42, no. 3-5.

Menezes-Filho, N., Ulph and Van Reenen (1998) "R&D and Union Bargaining: Evidence from British Firms and Establishments", *Industrial and Labor Relations Review*, vol. 52, no.1.

PRIZES

1998: Haralambos Simeonidis – Best PhD Thesis in Economics

IDB NETWORKS

- *A Dynamic Analysis of Household Decision-Making in Latin America* (1999),
- *Geography and Development* (1999)
- *Adolescents and Young Adults in LAC: Critical Decisions at a Critical Age* (coordinator) (2000),
- *Unions and Economic Performance in Brazil* (coordinator) (2001).

Referee for The Economic Journal, The International Journal of Industrial Organization and Fiscal Studies.

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ACADEMIC BACKGROUND

- PhD in Economics , University of São Paulo, 1995
- MA. in Economics, University of São Paulo, 1989
- BS. in Economics, Faculdades Oswaldo Cruz, 1982

CURRENT POSITION:

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MAIN PUBLICATIONS

PUBLISHED PAPERS:

Fernandes, R. (1998) - “Encargos Sociais e Demanda por Trabalho no Setor Formal da Economia”. *Economia Aplicada*, janeiro-março.

Fernandes, R. and Cavalieri, C. H. (1998) - “Diferenciais de Salários por Gênero e Cor: Uma Comparação entre as Regiões Metropolitanas Brasileiras”. *Revista de Economia Política*, janeiro-março, 1998.

Fernandes, R. (1996). "Mercado de Trabalho Não-Regulamentado: Participação Relativa e Diferenciais de Salários". *Pesquisa e Planejamento Econômico*, vol. 26, no. 3.

Fernandes, R. and Cacciamali, M.C. (1993). "Distribuição dos Trabalhadores e Diferenciais de Salários entre Mercados de Trabalho Regulamentado e Não-Regulamentado", *Pesquisa e Planejamento Econômico*, vol. 23, abril de 1993, no.1.

Fernandes, R., (1991). "Um Modelo Keynesiano de Determinação do Nível de Emprego e Salários", *Revista de Economia Política*, vol 11, num. 2 (42). abril-junho.

Fernandes, R. (1991). "Emprego, Salários e Redução da Jornada de Trabalho", *Estudos Econômicos*, vol 21, num. 1 janeiro-abril.

Dissertation, Books and Chapters in Books:

Fernandes, R. (1997). "Atypical Jobs: Some Evidences for Brazil" in Recalde de Bernardi, M. L. (Ed). *Structural Transformation in Latin American and Europe. Learning from each Other's Experience*. Ediciones Eudecor, Córdoba.

Fernandes, R. (1995). "Qualificação da Mão-de-Obra e Mercado de Trabalho Não-Regulamentado", *PhD dissertation* - FEA/USP.

Fernandes, R. (org) (1995). "*O Trabalho no Brasil no Limiar do século XXI*", São Paulo, Ed. Ltr, 1995.

Fernandes, R. (1989). "Os Efeitos da Redução da Jornada de Trabalho Sobre o Nível de Emprego e Salários: Uma Abordagem Keynesiana", *Masters dissertation* - FEA/USP.

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EDUCATION

- B.A. in economics - Pontificia Universidade Católica de SP - 1983.
- Ms.C. in economics - Instituto de Pesquisas Econômicas (FEA/USP) - 1991.
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PROFESSIONAL EXPERIENCE

Banco Itaú S.A.: Department of Credit Assessment and Concession - 12/1983 to 11/1984.

Activity: Elaboration of studies for economics of different sectors.

Banco Itaú S.A.: Department of Planning and Marketing - 11/1984 to 06/1985.

Activity: Elaboration of studies for economics of different regions of Brazil.

Banco Europeu para a América Latina S.A.: Department of Credit Assessment and Concession - 06/1985 to 02/1987.

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Teacher of Undergraduate Economics at Universidade Mackenzie - 01/1991 to 06/1991.

Teacher Assistant at the Ph.D. do Departamento de Economia da University of Illinois at Urbana-Champaign, for the Applied Econometrics Course - 08/1994 a 12/1994.

Researcher at Fundação Instituto de Pesquisas Econômicas (FIPE) – 08/1995 to present.

Assistant Professor of Economics at the Departamento de Economia da FEA/USP - 01/1996 to present.

RESEARCH

“An Econometric Analysis of Strike Activity in the Brazilian Industrial Sector”, *Labour Economics* (forthcoming).

“Testing for Seasonal Cointegration: A Survey”, with André Rossi de Oliveira, *Revista de Economia Aplicada*, Vol I No2 – May 1997.

“The Determinants of Real Estate Prices in the City of São Paulo: A Hedonic Regression Approach”, with Denisard C. Alves, submitted to *Journal of the American Association of Real Estate and Urban Economics*.

“O Brasil no Mercado Mundial de Software”, *Informações FIPE*, Maio/96.

“Alguns Aspectos Econômicos da Implementação da Internet no Brasil”, *Informações FIPE*, Novembro/95.

“A Privatização dos Serviços de Utilidade Pública e o Novo Marco Regulatório no Brasil”, with Elizabeth Farina and Paulo F. Azevedo, IPEA, RJ. 1997.

“Uma Análise dos Determinantes do Desemprego e da Inatividade no Brasil Metropolitano”, with Reynaldo Fernandes, Seminário sobre Desemprego no Brasil, IPEA, RJ. 1997.

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II. PROFESSIONAL EXPERIENCE

- Associate Professor, Department of Economics, PUC-Rio, since June 2001.
- Assistant Professor, Department of Economics, PUC-Rio, from August 1993 to May 2001.
- Director, Department of Economics, PUC-Rio, from October 1997 to December 1999.
- Researcher, CNPq, since March 1995.
- Undergraduate Coordinator, Department of Economics, PUC-Rio, from 12/1993 to 03/1996.
- Research Assistant, Prof. William Dickens, U.C. Berkeley, from August 1991 to September 1992.
- Research Assistant, Prof. James Stock, U.C. Berkeley, from September 1990 to July 1991.
- Research Assistant, Department of Economics, PUC-Rio, from July 1983 to July 1988.

III. PUBLICATIONS

A. Articles in Refereed Journals

- “A Evolução da Demanda por Trabalho na Indústria Brasileira: Evidências de Dados por Estabelecimento, 1985-1997”, 2000, forthcoming in *Pesquisa e Planejamento Econômico* (with R. P. Barros e C. H. Corseuil).

- “Emprego Industrial no Brasil: uma Análise de Curto e Longo Prazos”, *Revista Brasileira de Economia*, pgs. 467-491, October-December 2001 (with C. H. Corseuil).
- “Salário Mínimo, Efeito-Farol e Pobreza”, *Revista de Economia Política*, vol. 21, Nº 2, 82, pgs. 78-90, April-June 2001 (with M.C. Neri e J. M. Camargo).
- “Partilha do Trabalho e a Demanda Dinâmica por Trabalhadores e Horas”, in *Revista Brasileira de Economia*, 55(1): 5-32, Jan/Mar 2001 (with Rodrigo Pereira).
- “Criação e Destruição de Postos de Trabalho por Tamanho de Empresa na Indústria Brasileira”, in *Pesquisa e Planejamento Econômico*, 30(2): 259-288, August 2000 (with Elaine Pazello and Wasmália Bivar)
- “Determinação de Salários no Brasil: Dualidade ou Não-Linearidade no Retorno à Educação?”, *Revista de Econometria*, vol. 19, n.2, 271-304, 1999 (with Rodrigo R. Soares).
- “Desemprego Regional no Brasil: Uma Abordagem Empírica”, *Revista de Economia Aplicada*, vol.3, n.3, 407-435, 1999 (with C.H. Corseuil e J.V. Issler).
- “Distribuição Regional da Efetividade do Salário Mínimo no Brasil”, *Nova Economia*, vol.9, n.2, 9-38, December 1999 (with Marcelo Neri and J.M. Camargo).
- “Os Efeitos do Mercosul sobre o Emprego Setorial no Brasil”, *Pesquisa e Planejamento Econômico*, vol. 28 (3), 323-357, December 1998 (with M. C. Terra e J. Cavalcante).
- "How Does Government Wage Policy Affect Wage Bargaining in Brazil?", *Revista de Econometria*, vol.18, n.1, 1-31, 1998 (with J. C. Scandiuzzi).
- “Rotatividade e Qualidade do Emprego no Brasil”, *Revista de Economia Política*, n.18, 120-140, january-march 1998.
- “Equilibrium Real Exchange Rate, Volatility, and Stabilization”, *Journal of Development Economics*, n.54, 77-100, 1997 (with M. C. Terra).
- “Educação, Investimentos Externos e Crescimento Econômico: Evidências Empíricas”, *Revista de Econometria*, vol.16, n.2, 101-127, 1996 (with J.V. Issler e G. Marone).
- “Labor Demand – Uma Resenha Bibliográfica”, *Pesquisa e Planejamento Econômico*, n.24, 127-133, April 1994.

B. Book Chapters

- "Desemprego e deslocamentos setoriais da demanda por trabalho no Brasil" in Rosa Fontes and Marcelo Arbex (eds), *Desemprego e Mercado de Trabalho – Ensaio Empíricos*, Universidade de Viçosa, 2000 (with M. C. Reis)
- "Brasil: Salário, Productividad y Cambio: Análisis del Costo Unitario en la Industria", in *Costos Laborales y Competitividad Industrial en América Latina*, OIT, Visual Service, Lima, Peru, 1997 (with Edward Amadeo).
- “Efectos de la Apertura sobre el Empleo Industrial en Brasil”, in Mauricio Cárdenas (ed.), *Empleo y Distribucion del Ingreso en America Latina*, TM Editores, Bogotá, Colômbia, 1997.
- “Estabilización, Volatilidad y Equilibrio de la Tasa de Cambio Real”, in M. Cardenas and S. Edwards (eds.), *Inflación, Estabilización y Política Cambiaria en América Latina*, TM Editores, Bogota, Colombia, 1997 (with M. C. Terra).
- “Inflation and Economics Policy Reform: Social Implications in Brasil”, in David Turnham, C. Foy and G. Larraín (eds.), *Social Tensions, Employment Generation and Policy in Latin America*, OECD Development Centre, Paris, França, 1995 (with Edward Amadeo).

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Educational Background

Graduate: Ph.D., University of Illinois at Urbana-Champaign, 1996.
M.A., University of Illinois at Urbana-Champaign, 1993.

Undergraduate: B.A., Economics, Universidade Federal de Pernambuco (UFPE),
Brazil, 1991.

Professional Positions

- Visiting Professor, Escola Nacional de Ciências Estatísticas, IBGE, Brazil. 2001.
- Associate Professor of Economics, Universidade Federal do Rio Grande do Sul, Brazil, 1997- present.
- Consultant, IPEA/IDB “Rede Ipea” research network. 2000.
- Short time consultant, The WorldBank, Poverty Reduction and Economic Management division. 1998 and 1999.
- Associate Professor of Economics, Universidade Federal de Roraima, Brazil, 1996 - 1997.

Publications

Articles in Refereed Journals

- Asymmetric Labor Supply *Empirical Economics*, 2001.
- Volatilidade e causalidade: evidências para o mercado à vista e futuro de índice de ações no Brasil.[Volatility and causality: Brazilian spot and futures stock-index

market evidence] (com Ana B. Galvão e Marcelo S. Portugal). *Revista Brasileira de Economia*, 54(1), p.37-56, Jan-Mar, 2000.

- Preference Structures and the Excess Burden of Income Taxes in Brazil. (with Jane H. Leuthold). *Public Finance Review*, 27(3), 243-261, May, 1999.
- Small Sample Evidence of Quantile Regression Estimates for Structural Models: estimation and testing. *Revista de Econometria/Brazilian Review of Econometrics* 18(2), 144-162, October, 1998.
- Estimating Private Demands for Public Goods: a review *Análise Econômica*, v.15, no.2, p.57-78, 1997.

Selected Articles in Meetings

- Progresso Técnico e demanda de trabalho da indústria de transformação brasileira, 1985-1999. [Technical Progrerss and Labor Demand in Brazilian Manufacturing, 1985-1999].(with Natalia F. Batista and Jorge Araújo) *Anais do XXIII Encontro Brasileiro de Econometria*, Salvador, BA, December 2001.
- Efficiency Wage, Union Effects and Labor Demand in Mexico: an application of quantile regression (com William Maloney, *The World Bank*). *III Lacea Meetings*, Santiago de Chile, October, 1999. and *XIX Latin American Meeting of the Econometric Society*, Cancun, México, July, 1999.
- Esforço Fiscal e Transferências Intergovernamentais dos Estados Brasileiros [Brazilian states fiscal effort and intergovernmental transfers] *XX Encontro Brasileiro de Econometria(SBE)*, Vitória, ES, Brazil, December 1998.
- Conditional Labor Supply Quantile Estimates in Brazil. *Annals XV Latin American Meeting of the Econometric Society*, Santiago de Chile, Aug. 1997.

Selected Working Papers

- Criação, Destruição e Realocação de Emprego no Brasil. Texto para Discussão, IPEA, 2001.
- Rotatividade de Trabalhadores e Criação e Destruição de Postos de Trabalho: aspectos conceituais. Texto para Discussão IPEA no. 820, September 2001.

- Firm Entry and Exit, Labor Demand and Trade Reform: evidence from Chile and Colombia. (with Pablo Fanzylber and William Maloney) *WorldBank Policy Research Working Paper*, 2341, August, 2001.
- Efficiency Wage and Union Effects in Labor Demand and Wage Structure in Mexico: an application of quantile analysis (with William Maloney). *WorldBank Policy Research Working Paper*, 2131, April, 1999.

Referee for the following professional journals

Empirical Economics, *Brazilian Review of Econometrics/Revista de Econometria*, *Revista Brasileira de Economia*, *Pesquisa e Planejamento Econômico* (Brazil).

CARLOS HENRIQUE LEITE CORSEUIL

Education

- B.S.** Economics, Universidade Federal do Rio de Janeiro, 1993
- M.Sc.** Economics, Escola de Pos-Graduação em Economia da Fundação Getúlio Vargas (EPGE/FGV), 1996
Economics, London School of Economics, 1997

Professional Experience:

Research:

1992 - 1993: Research assistant at Instituto de Pesquisa Econômica Aplicada (IPEA).

1995-1996: Research assistant at Instituto de Pesquisa Econômica Aplicada

1997: Research assistant at Instituto de Pesquisa Econômica Aplicada (IPEA).

Research economist at IPEA since 06/1998

Academic Production:

CORSEUIL, Carlos H. , REIS, Carla, URANI, Andre. **Determinantes da Evolução da Estrutura do Desemprego no Brasil; 1986-1995**. Revista de Economia Aplicada, vol.1, nº 3, Jul/Set 1997.

CORSEUIL, Carlos H., GONZAGA, Gustavo, ISSLER, Joao V. **Desemprego Regional no Brasil: Uma Abordagem Empirica**. Revista Economia Aplicada, vol.3, nº 3, Jul/Set 1999.

BARROS, Ricardo P., CORSEUIL Carlos H and BAHIA, Mônica. **Labor Market regulation and the duration of employment in Brazil**, Pesquisa e Planejamento Econômico, v.29, n.3, 1999.

- BARROS, Ricardo P., CORSEUIL Carlos H., MENDONÇA, Rosane. **Uma Análise da Estrutura Salarial Brasileira Baseada na PPV**, Rio de Janeiro: IPEA, 1999 (Discussion Paper n. 689)
- BARROS, Ricardo P., CORSEUIL Carlos H., LEITE, Phillippe G. **Labor Market and Poverty in Brasil** Revista de Econometria, v.19, n.2, 1999.
- BARROS, Ricardo P., CORSEUIL, Carlos H., CURY, Samir. **Salário Mínimo e Pobreza no Brasil: uma abordagem de equilíbrio geral** Pesquisa e Planejamento Econômico, v.30, n.2, 2000.
- BARROS, Ricardo P., CORSEUIL Carlos H., MENDONÇA, Rosane; REIS, Maurício. **Poverty, Inequality and Macroeconomic Instability**. Revista Economia Aplicada, vol.4, n.º 4, 2001.
- BARROS, Ricardo P., CORSEUIL, Carlos H., FOGUEL, Miguel. **Os Incentivos Adversos e a focalização dos Programas de Proteção ao Trabalhador no Brasil**. Planejamento e Políticas Públicas n.22, 2000.
- BARROS, Ricardo P., CORSEUIL, Carlos H., FOGUEL, Miguel, LEITE, Phillippe G. **Uma Avaliação dos Impactos do Salário Mínimo sobre o Nível de Pobreza Metropolitana no Brasil**. Economia, v.2, n.1, 2001.
- CORSEUIL, Carlos H., GONZAGA, Gustavo. **Emprego Industrial no Brasil: Uma Análise de Curto e Longo Prazo**. Revista Brasileira de Economia, v.55, n.4, 2001.
- CORSEUIL, Carlos H., FOGUEL, Miguel; SANTOS, Daniel. **Decisões Críticas em Idades Críticas: A Escolha dos Jovens entre o Estudo e o Trabalho no Brasil e outros Países da América Latina**. Revista Economia Aplicada, vol.5, n.º 4, 2001.
- BARROS, Ricardo P., CORSEUIL Carlos H, and GONZAGA, Gustavo M. **Regulação no Mercado de Trabalho e Demanda por Emprego no Brasil**, Pesquisa e Planejamento Econômico (forthcoming).
- BARROS, Ricardo P., CORSEUIL Carlos H, SANTOS, Daniel. **Job Placement, Gender Differences and Consequences on Welfare**. Revista de Econometria (forthcoming).

DANIEL DOMINGUES DOS SANTOS

1 EDUCATION

- 1998 - 2000 MA in Economics.
Pontifícia Universidade Católica do Rio de Janeiro, PUC/RJ, Rio de Janeiro, Brazil.
MA Thesis (2000): CARACTERIZAÇÃO DA EXTREMA POBREZA NO BRASIL
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- 1992 - 1997 BA in Economics..
Universidade de São Paulo, USP, Sao Paulo, Brazil.

2 - PROFESSIONAL POSITIONS

Instituto de Pesquisa Econômica Aplicada - IPEA

- 2001 Consultant / visiting researcher
2000 Research assistant.

Research interests: Labor and Welfare Economics
Topics: Job Creation and Turnover, Human Capital Accumulation,
Pension System and its Consequences on Welfare, Child Work

3 - PUBLICATION

Articles in Research Journals

- 2001 “Decisões Críticas em Idades Críticas: A Escolha dos Jovens entre Estudo e Trabalho no Brasil e em Outros Países da

América Latina”. *Revista Economia Aplicada*, forthcoming, with Carlos Corseuil and Miguel Foguel.

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