WAGE DIFFERENCES BETWEEN THE SO CALLED "BRAZIGUAIOS[1]" AND THE BRAZILIAN EMIGRANTS COMING BACK FROM THE UNITED STATES: AN APPLICATION OF COUNTER-FACTUALS MICRO-SIMULATION

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ABSTRACT

Migrations between Brazil, The United States and Paraguay, in terms of the number of migrants are the most significant in Brazil, South America's largest country with the fifth largest population in the world. Although the migratory flow from Brazil to the countries stated above are equally significant, the profile of the returning migrants is, however, far from homogenous.

This paper, focusing on the characteristics and social-economic as well as demographic attributes of the international emigrants received in Brazil from 1995 to 2000, means to investigate the importantance of the relationship between schooling and income/average hour of those returning from the United States on a fixed date in the above mentioned period through a counter-factual micro-simulation, supposing the latter had the same schooling as those returning from Paraguay and vise-versa. The results demonstrate that Brazilian emigrants returning from the United States received an average 25% lower wage in case they had the same schooling as the emigrants returning from Paraguay. Those returning from Paraguay, on the other hand, having the same schooling as those returning from the United States would have an average increase of 13.8% in their wages. This result appears to confirm the Human Capital Theory, since schooling has explained most of the existing wage differences between the two groups being studied.

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1 Introduction

The story of the international migrations in Latin American countries and The Caribbean may be divided in four great stages. PELLEGRINO (2002) draws attention to the fact that the first phase can be characterized by the overseas immigration of the European as well as African metropolitan populations, the latter in slave regimes. The second phase, which began in the second half of the 19th century and beginning of the 20th century, is characterized by the capital and population mobility. At that time, the European population was suffering the first consequences of the demographic transition with an increase of the population growth rates due to a drop in the mortality rates and stability in the pregnancy rates.

The third phase began with the world economic crisis at the end of the 20s. Economic liberalism loses popularity and along with it the incentives for international migration, especially on the part some receiving nations. Thus, many countries begin to adopt methods in order to limit the immigrant entrance in their territories. The last phase of the international migration in the region takes place in the last decades of the 20th century. This phase is well-known for the transformation of the continent from overseas immigrant receiving nations to population expellers to developed countries, especially The United States.

CARVALHO (2004) highlights that Brazil had received 66.217 international immigrants from 1986 to 1991, 47% of which were native Brazilians, meaning returning migrants. From 1995 to 2000 the number of international immigrants more than duplicated, the number of native Brazilians coming to represent about 61% of the total international immigrants. Despite the increase of the international immigration in the last period considered, the same author emphasizes that this picture wouldn't be able to revert the liquid population loss of almost one million people which occurred from 1986 to 1991 (see table 1).

The main origins of the 66 thousand international immigrants from 1986 to 1991 were Europe, with 15,203 emigrants, Latin America, The Caribbean (with the exception of Argentina and Paraguay), with 14,698 people, Paraguay, with 10,726 emigrants and The

United States, with approximately 9,199. From 1995 to 2000 there was an increase in all of the previous inflow. European immigrants reached 27,307 people, Paraguay, approximately 35,446 and The United States, 16,695 emigrants.

It's important to highlight that although the number of immigrants that Brazil received from 1995 to 2000 is relatively small, when compared to the population loss in the ten preceding years, they are far from constituting a homogenous group, having fairly different characteristics within themselves when the information according to their country of origin is analyzed separately. Immigrants who return from The United States, for example, tend to present more schooling and higher income, as opposed to those returning from Paraguay (better known as "Braziguios") who have less schooling, a much lower income than the others and precisely because of that, constitute a vulnerable group from a social-economic point of view.

Therefore, focusing on the social-economic and demographic characteristics and attributes of the international immigrants which Brazil received from 1995 to 2000, this paper aims to, through a counter-factual micro-simulation, investigate the importance of the relationship between schooling and the income/average hour of those returning on a fixed date from The United States, had they received the same schooling as those from Paraguay and vice-versa. The choice of these two countries is due to the fact that The United States and Paraguay were the ones that contributed with most of the returning immigrants to Brazil.

Furthermore**,** as it was stated before, those returning from Brazil and Paraguay constitute two very distinct groups due to the relative social-economic and demographic weakness of the "Braziguaios", their study contributing to the outline of more efficient public policies to meet the specific demands of this population, especially concerning income and employment generation**.**

2 Historical Contexts of Migrations to The United States and Paraguay

2.1 Emigration to the United States

From the second half of the 20th century the Latin-American emigration to the United States increased expressively, it's social, economic and cultural impact on the American society being irrefutable from then on.

During the military dictatorship with the aggravation of social-economic conditions in Brazil, The United States began to draw the attention of many Brazilians due to its excellent economic conditions and the possibilities of social and economic mobility that it offered to its citizens. It's possible to witness, from then on, a reversal in the direction of the migration flows in the country. For the first time in History Brazil begins to expel its population in a new political, economic, social and cultural context. (Fusco, Hirano & Peres, 2002).

In the beginning, the Brazil X USA emigration (as well as to other developed countries) was an unprecedented phenomenon without prior records. The majority of the Brazilian emigrants were young men looking for temporary work in whatever country so as to to accumulate wealth the quickest way possible and then return to Brazil in a few years and help the family. (Oliveira, 2002).

However, what became clear in the last decades of the 20th century was that the intensification of the Brazil X USA emigration flow was no longer temporary. Many Brazilians living in The United States tend to return to their country only after reaching long-term objectives, such as old age pension, generous savings for the family and academic studies for their children. Thus, the profile of the Brazilian emigrants to the United States has changed substantially in the last decades. The country not only exports labor force for services considered as "less noble" by the North American society, but also qualified professionals who wish to ascend to "a place in the sun" among the best opportunities in the competitive North American market place.

According to Pellegrino (2003), the number of people born in Central America in 1970 who were submitted to a census in The United States, was 873,624. In 1990 this number reached 5,425,922. In 2000, The United States had 9,789,000 immigrants from Central

America. In its turn, the number of Brazilians submitted to a census in The United States was 84,489 in 1990 and 160,000 people in 2000.

2.2 Emigration to Paraguay

The Brazilian emigration to Paraguay began in the end of the 1950s and intensified in the following decades. Paraguay is the second country with the most Brazilian migrants, losing only to The United States.

The history of the immigration of Brazilians to Paraguay is intimately related to the expansion and consolidation of the Brazilian agricultural frontier in the extensive area of the southern states. Beginning in the 40s, the opening of new productive spaces for the agricultural activity attracted expressive migratory flows from many different parts of Brazil. Nonetheless, this activity did not expand in a uniform manner, limiting itself initially to the Brazilian states of Rio Grande do Sul, Santa Catarina and later on Paraná. Consequently, this last state not only received migrants from the states of São Paulo, Minas and Nordeste (internal migrations from the Southeast and Northeast of Brazil), but also from Rio Grande do Sul and Santa Catarina (Brazilian migrations from Southern states near Paraná).

The 70s were marked by the same development tendencies. According to Ipardes (1997), the end of the incorporation of the extensive areas that could be used for agriculture in the south along with the deep modernizing transformations in the agricultural productive structure made possible in the context of the "green revolution" culminated with empty rural areas in the Southern States. Many migratory currents went towards urban areas of their own regions, to the urban centers of the Southeast, pioneering agricultural zones in the North and Northwest as well as to Paraguay.

Despite not having a precise number of the Brazilians in the neighboring country, Alburquerque (2005) draws our attention to the figures presented by the Ministry of Foreign Affairs in 2000 related to the number of Brazilians residing in South American countries. Of the 545.886 Brazilian migrants, roughly 84% (459,147) were to be found in Paraguay.

Paralel to the agricultural modernization, the Itaipu hydro-electric power station began its construction. The formation of the reservoir began only in 1982, flooding 1.460 square kilometers of marginal areas of the Panama River (835 square kilometers were in Brazilian territory and 625 in Paraguayan territory). About 42,000 Brazilians were removed from their land and received reimbursement; of these 38,000 were residing in rural areas.

In 1985 the military dictatorship in Brazil was over and the new government announced the possibility of beginning an agrarian reform with The National Plan for an Agrarian Reform. In Paraguay, the dictatorship was over in 1989 and people from the countryside began to claim their rights to land.

In this context we witness the return of many Brazilians to the country. From 1986 to 1991 about 81% of the international immigrants from Paraguay were returning Brazilians. The state of Paraná and the Central Western region were the main destinations of the migrants, (see appendix 1). Based on the information of the 2000 Demographic Census, it is known that the number of Paraguayan immigrants from 1995 to 2000 more than doubled.

3. Demographic and Social-economic Characteristics of the Returning Immigrants

This section analyses some of the characteristics of the immigration and of the fixed-date Brazilian immigrants from The United States and Paraguay concerning a series of demographic and social-economic attributes, such as destination region, age structure of the active population, sex and schooling among others.

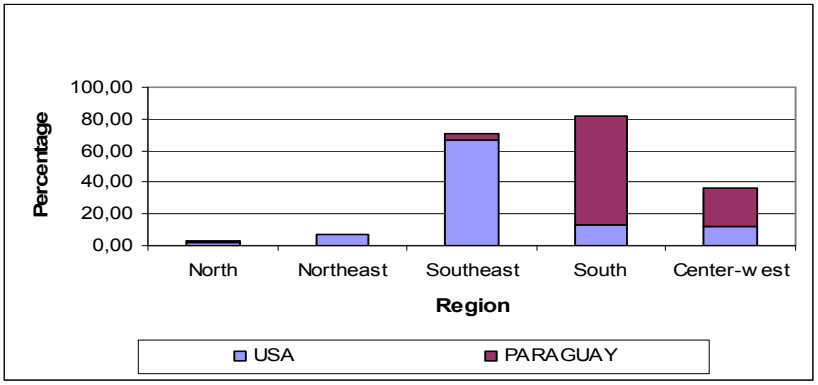
i) Destination Region

The fixed-date immigrants from The United States from 1995 to 2000 added up to approximately 16,696 people, 74% of which were returning Brazilians. More than half of these moved on to the Southeast of Brazil, mainly to São Paulo, Minas Gerais and Rio de Janeiro, in this order precisely. The Southern region received approximately 12% of these immigrants. (See appendix 1).

Of the 35,446 Paraguayan immigrants, 80% were returning ones. Most of these went on to the Southern region of the country, 60% of these returning Brazilians being received in

Paraná. The state of Mato Grosso do Sul accounted for 80% of the returning immigrants. Graph 1 and appendix 1 both illustrate this.

Graph – 1: Brazil: fixed-date immigrants returning from The United States and Paraguay, by destination region – 1995/2000



It's worth highlighting that most of those returning from The United States and Paraguay from 1995 to 2000 were men and corresponded to about 53% of all immigrants from both countries.

ii) Age Structure of the Active Population

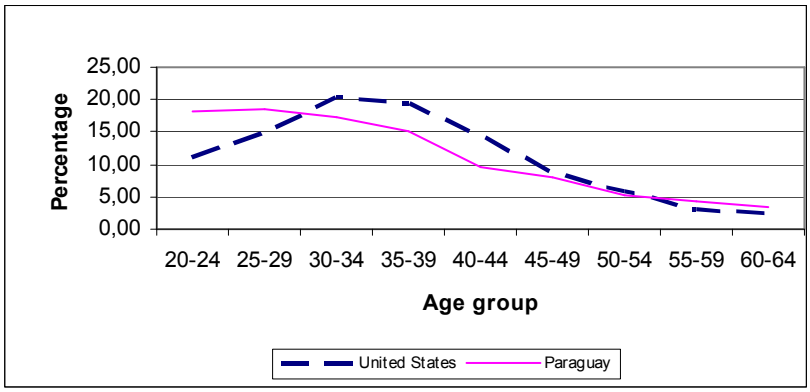
Table 1 presents the age groups of the population of the active analyzed immigrants analyzed. Note that the age distribution of the fixed-date retuning immigrants from Paraguay was younger than the age distribution of Brazilians from The United States. About 44% of the first ones were up to 34 years of age, against 46% of the second group (graph 2).

Table – 1: Brazil: those returning from The United States and Paraguay by active groups - 1995/2000

Age groups	United States			Paraguay		
	N. Abs.	%	% Accumulated	N. Abs.	%	% Accumulated
20-24	1.132	11,03	11,03	2.987	18,22	18,22
25-29	1.513	14,74	25,77	3.027	18,46	36,68
30-34	2.103	20,49	46,26	2.849	17,38	54,05
35-39	1.993	19,42	65,68	2.478	15,11	69,17
40-44	1.483	14,45	80,12	1.580	9,64	78,80
45-49	878	8,55	88,68	1.327	8,09	86,89
50-54	616	6,00	94,68	878	5,35	92,25
55-59	302	2,94	97,62	717	4,37	96,62
60-64	244	2,38	100,00	554	3,38	100,00
Total	10.264	100,00		16.397	100,00	
Total of those who returned	12.363			28.419		

Source: Micro data from the 2000 Demographic Census.

Graph – 2: Brazil: Active Brazilians returning from The United States and Paraguay - 1995/2000



iii) Schooling

As was expected, Brazilians coming from The United States had more schooling than those returning from Paraguay. According to Klagsbrunn (1996), based on writings on the matter, the Brazilian emigration to developed countries is composed of individuals from urban and modern labor markets with more schooling. While 35% of those returning from the United States had a college degree or more, only 2.43% of those returning from Paraguay had the same level. However, approximately 86% of the Brazilians returning from Paraguay had an incomplete elementary schooling, against 13% of those returning from The United States, (see table 2).

Table – 2: Brazil: schooling of the fixed-date immigrants returning from Paraguay and The United States. - 1995/2000

Schooling	United States	%	% Accumulated	Paraguay	%	% Accumulated
Incomplete Elementary School	1.560	12,98	12,98	17.853	85,53	85,53
Complete Elem. School and Incomplete High School.	1.614	13,43	26,40	1.864	8,93	94,46
Complete High School	2.778	23,11	49,51	567	2,72	97,18
Incomplete College Education	1.792	14,91	64,42	82	0,39	97,57
College Education and Above	4.278	35,58	100,00	507	2,43	100,00
Total	12.022	100,00		20.873	100,00	

Source: Micro data from the 2000 Demographic Census.

The low education level of those returning from Paraguay can be explained by the historical context itself during the Brazilian immigrations to the neighboring country. It's possible that because a great part of these immigrants are involved in activities of the primary sector of the economy, especially agriculture, many might have abandoned their studies to become rural workers, leaseholders, small land owners, etc.

iv) Formality and Informality in the Market Place

Almost a third of those who returned from Paraguay were registered employees, along with those who worked on their own, representing 22%, and those unregistered, approximately 20%. In their turn, the participation of Brazilian employers returning from Paraguay didn't even reach 1%. Approximately 40% of the Brazilians returning from The United States were registered employees, followed by those who worked on their own and then the unregistered employees. The figures above are illustrated in table 3:

Table – 3: Brazil: fixed-date immigrants returning from The United States and Paraguay, by occupation - 1995/2000

Occupation	United States	%	% Accumulated	Paraguay	%	% Accumulated
Registered domestic worker	16	0,22	0,22	282	2,26	2,26
Unregistered domestic worker	9	0,12	0,34	1.256	10,08	12,35
Registered employee	2.739	37,69	38,03	2.557	20,52	32,87
Unregistered employee	1.706	23,47	61,50	4.010	32,19	65,06
Employer	747	10,28	71,78	95	0,76	65,82
On their own	1.897	26,10	97,88	2.775	22,27	88,10
Apprentice	93	1,28	99,16	23	0,18	88,28
Without pay	54	0,74	99,90	1.112	8,93	97,21
Production for one's own consumption	7	0,10	100,00	348	2,79	100,00
Total	7.268	100,00		12.458	100,00	

Source: IBGE. Demographic Census from 1991 and 2000.

v) Minimum Wage Income with the Main Job

Almost 50% of those returning from The United States received more than 10 minimum wages in their main job, while not even 2% of those returning from Paraguay received the same amount. On the other hand, more than 50% of the latter received up to one and a half minimum wage. Most of those returning from The United States received more than 20 minimum wages. As opposed to these, most of those returning from Paraguay received one and a half and two minimum wages, (see table 4).

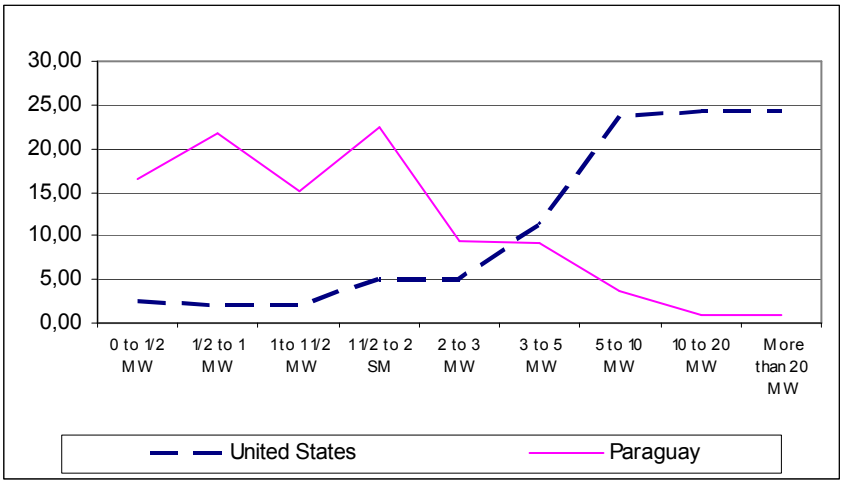
Table – 4: Brazil: fixed-date immigrants returning from The United States and Paraguay - total income in main job, in minimum wages - 2000

Amount of Minimum Wages (SM)*	United States			Paraguay		
	N. Abs.	%	% Accumulated	N. Abs.	%	% Accumulated
From 0 to 1/2 minimum wages	172	2,42	2,42	1.691	16,59	16,59
More than 1/2 to 1 minimum wages	141	1,99	4,41	2.207	21,66	38,25
More than 1 to 11/2 minimum wages	151	2,13	6,54	1.550	15,21	53,46
More than 11/2 to 2 minimum wages	354	4,99	11,53	2.278	22,36	75,82
More than 2 to 3 minimum wages	354	4,99	16,52	968	9,50	85,32
More than 3 to 5 minimum wages	792	11,16	27,68	941	9,23	94,55
More than 5 to 10 minimum wages	1.680	23,68	51,36	382	3,75	98,30
More than 10 to 20 minimum wages	1.725	24,31	75,67	88	0,86	99,17
More than 20 minimum wages	1.726	24,33	100,00	85	0,83	100,00
Total	7.095	100,00		10.190	100,00	

Source: IBGE. 2000 Demographic Census.
* The minimum wage in 2000 was R 151, 00 (which at that time corresponded to 83, 67 USD).

Notice that in the third graph the difference between those returning from The United States and Paraguay becomes clearer.

Graph – 3: Immigrants Returning from The United States and Paraguay: Total Income in Main Job in Minimum Wages (MW).



4. Materials and Methods

4.1 Considerations on the Data Base

The Demographic Census 2000 was obtained from the Brazilian Institute of Geography and Statistics (IBGE), having Brazil as its reference. The relative participations of the fixed-date immigrants from The United States and Paraguay, within a total of international immigrants from 1995 to 2000, range from approximately 11.62% to 24.67%, respectively. Returning Brazilians from both countries analyzed in this paper, on the other hand, represent 74.2% and 80.2% of these immigrants.

The identified characteristics refer to people and not to their residences, since the objective of this paper is to draw income equations for the immigrants based on individual characteristics, as well as to do a counter-factual micro-simulation with the variable "years of study".

According to Soares (2000), the classic model that relates differences in qualification and other personal characteristics is a variant in the mincerian income equation:

$$Y = \beta X + \varepsilon$$

This expresses a log-linear relation between the wage logarithm Y and various productive attributes X, such as age, schooling and activities that have a strong influence on a worker's productivity. The β coefficients can be interpreted as implicit prices of each attribute which implicate an increase of the worker's productivity. Still according to the author, if the market place functioned without discrimination, such prices, these attributes, would be the same for all of the individuals.

For Coelho and Corseuil (2002), it's common for economists to consider schooling and time of experience as basic determining characteristics of the human capital stock. It is expected that a worker with more schooling be more productive, that his remuneration be higher, contributing to the wage difference between workers with distinct levels of schooling. Based on the work of Cavalieri and Fernandes (1998), who investigated wage differences in Brazilian metropolitan areas according to genre and color, we have also included these two important non-productive attributes in the equation. Therefore the information from the 2000 Census was:

- Total income in main job;

- Hours worked per week in main job;

- Sex

- Age, disposed in 4 groups: from 15 to 24 years-old, from 25 to 34 years-old, from 35 to 44 and between 45 and 64 years of age;

- Race / color, grouped in whites (white and yellow) and non-whites (blacks and mulattos) and, later on, transformed in a dummy variable. The variable non-whites was used as a reference.

- Years of study;

- Experience, calculated by extracting the years of study of an individual plus six from his age, which presumably corresponds to the approximate time this individual lived before entering the educational system, in Brazil's case);

- Activity, primary and secondary sectors being grouped together, the third sector becoming a dummy;

- Formality and informality in the market place. Unregistered domestic workers were grouped with unregistered employees as well as those who work on their own. This group of workers was classified as informal. Registered domestic workers were put together with registered employees and classified as formal. The employers were considered separately. The apprentices or in-turns without pay and those working for their own consumption were considered missings. All three variables were converted in dummies.

4.2 Methodology

4.2.1 Wage equations

Initially, wage equations were estimated for those returning from Paraguay and The United States through linear regressions. To this end, the answer variable of the regression was considered a neperian logarithm (In) of income/hour. The week work hours were multiplied by 4 to estimate the monthly value and then divided by the main job's wage. It then became a base 'e' logarithm.

The destination regions of the international immigrants were initially included in the regressions; however, since they were not even 10% significant to defining the neperian logarithm of wage/hour they were withdrawn from the equation.

Two models are presented, one concerning the fixed-date immigrants from Paraguay and another concerning the Brazilian immigrants returning from the United States. Based on research on the labor market and on Sala (2005) the variation of the logarithm of income/hour will be estimated along with the years of study, age, experience (to the fourth power), sex and race, such as in the following equation:

$$\ln renda = \beta_0 + \beta_1 * sexo_{masc.} + \beta_3 * idadeagrup1 + \beta_4 * idadeagrup2 + \beta_5 * idadeagrup3 +$$
$$+ \beta_6 * escolaridade \beta_7 * cor1 + \beta_8 * \exp eriencia2 + \beta_9 * trab\_formal + \beta_{10} * empregador + \beta_{11} * setor\_terc.$$

In which,

- In renda is the neperian logarithm of the total income from the main job divided by four times the total hours worked a week (the research reference date being the week from 23 to 29 of July 2004);

- $sexo_{masc.}$ Corresponds to the male sex (the female sex was categorized as a reference);

- idadeagrup1 idadeagrup2 and idadeagrup3 refer to the age groups of 15 to 24, 25 to 34 and 35 to 44, respectively (idadeagrup4 was used as reference, from 45 to 64 years-old);

- cor1 are white individuals (cor2, non-whites who were used as reference);

- experiência2 is the experience to the second power;

- trab_formal are registered workers;

- empregador are the employers (informal work was used as reference);

- setor_terc. Is the third sector of the economy (the first and second were grouped together and used as reference);

- ε refers to the stochastic error term.

4.2.2 Counter-factual Micro-simulation

Based on the income equations previously presented, a hypothesis was drawn as to how the income of those returning from Paraguay would be had they been given the same schooling as the Brazilians returning from The United States and vice-versa. In other words, the aim was to estimate the variation in the income logarithm of the immigrants from each of the countries included in this study through a counter-factual exercise. This exercise consists of switching the distribution of a certain characteristic observed in the population (in this case it being the schooling of the immigrants) for another considered standard.

Through the use of the STATA 9.1 statistics package it was possible to create a simulated distribution for the immigrants' years of study through a methodology of counter-factual micro-simulation known as Empirical Technique of Decomposition.

According to Barros et all (1995), the Empirical Technique of Decomposition consists of a method which allows the identification of variables in a certain result of a system, related to the modifications in the characteristics of its components.

The first conscious step consists of determining an aggregated scale result, Z, its alterations then becoming the object of analysis. Secondly, the components of the system and the X_i characteristics of each of these components are identified and will be analyzed in the Z alterations. Note that Z is a function of the X_i characteristics, as in the formula below:

$$Z \equiv f(X,...,X_n)$$

In the third step the identity above is determined and in the fourth step, given two systems A and B, it's dependant variables being Z^A and Z^B and its characteristics (X^A_1, ..., X^A_n) and (X^B_1, ..., X^B_n), the $\Delta_Z = Z_A - Z_B$ must be determined, providing us with the variation in the wages' value caused by the modification in a characteristic of the system (in this case, a switch of the schooling levels between the two considered countries).

5. Results

Table 4 presents the coefficients of the income equation of the immigrants returning from Paraguay from 1995 to 2000.

The equation model chosen to establish a relationship between the logarithms of income/hour revealed itself as quite significant, with statistics F= 50.34, meaning a good adjustment. The R^2 e $R^2_{ajustado}$ values were of 32% and 31%, respectively. Although they are low, they are not evidence against the model. According to Gujarati (2000), the most important aspect is the logical or theoretical relevance of the explicative variables to the dependant variable and its statistical meaning.

Table – 4: Immigrants returning from Paraguay: income regression coefficients

In income	Coefficients	Standard error	t	P>|t|	95% Significance level	
$Sex_{masc.}$	0,3605775	0,0531879	6,78	0,000*	0,2562129	0,4649422
Age group 1	-0,8200697	0,1938055	-4,23	0,000*	-1.200.352	-0,439787
Age group 2	-0,4505816	0,1669848	-2,7	0,007*	-0,7782372	-0,1229261
Age group 3	-0,1315608	0,1325537	-0,99	**0,321**	-0,3916561	0,1285345
Schooling	0,0603412	0,0073625	8,2	0,000*	0,0458946	0,0747878
Whites	0,0726658	0,0518138	1,4	**0,161**	-0,0290027	0,1743343
Experience2	-0,0003384	0,0001065	-3,18	0,002*	-0,0005474	-0,0001295
Formal employment	0,1038896	0,0555861	1,87	0,062**	-0,0051808	0,21296
Employer	1,252767	0,1509859	8,3	0,000*	0,9565039	1,549029
Third sector.	0,2754912	0,0524272	5,25	0,000*	0,1726192	0,3783632
_cons	2,946530	0,2271547	12,97	0,000*	2,5008100	3,392250

Note: * 1% significance level and ** 10% significance level.

Note that most of the coefficients are significant at the level of 1%, with the exception of *formal-work* which was significant at the level of 10%, and the *agegroup3* and *color1* variables which were not significant. According to the Human Capital Theory, with schooling the income of the workers is positive and increasing, for the higher the schooling, the higher the chances of taking part in the labor market, the higher the gains and the lower the unemployment. As was expected, the schooling coefficient was positive, although quite low, contributing to a wage increase of those returning. The Human Capital Theory also considers that a worker's wage will increase in time, especially after he/she has left school, as a result of the training received at work. The negative sign for the experience variable to the fourth power was already expected since the wage values of the workers are positive and decreasing along with the experience.

Since the feminine sex was used as a reference, it could be observed that men have a wage advantage of 36%.

The variable *whites* was quite significant. To understand this result many other regressions were done. Initially a regression was done only with the independent variable *whites* (*non-whites* was used as reference). This variable's coefficient was significant to the level of 1%, its value being 0.2505. The other variables were added on one by one (stepwise inclusion). All the *whites* variables' relevant coefficients were significant, however, when schooling was added to the regression, this last coefficient was no longer significant. This is a curious

result which indicates discrimination neutralization by race and schooling of those returning from Paraguay.

The average wage/hour of Paraguay's date-fixed immigrants, after receiving the same schooling of the immigrants from The United States increased 13.8%, going from R$3,10 to R$3,60 an hour.

Table 6 shows the coefficients of the wage equations of those returning from The United States from 1995 to 2000.

Most of the coefficients were significant to the level of 1%, with the exception of *experience 2, formal work* and *age group 2*, which were significant to the level of 5%. *The third sector* variable was not significant. The value of F was 24.94 and the values of R^2 and $R^2_{ajusted}$ were about 26% and 25%, respectively. The signs of the coefficients of the variables *schooling, age* and *experience 2* were expected, but the variable *whites* was negatively associated with the wages.

In order to investigate this result the same stepwise selection procedure of the regression of those returning from Paraguay was done. A regression using only *whites* was first done, as an independent variable. The value of the coefficient of the variable *whites* was significant to the level of 1%, its value being 1.038 without having controlled the wages of those returning from The United States through other variables. The wage of the whites returning from this country was 103% greater than that of non-whites also returning in 2000. Then other variables were added in the equation one by one. The coefficients of the variable *whites* were all positive and significant. However, when the variable schooling was added to the regression the variable sign of *whites* became negative. This result can be explained by the fact that schooling more than neutralizes the effect of race in the wages of those returning from The United States, meaning that there is no discrimination of race in the labor market within the group of those returning from this country.

Once more the men had a wage advantage compared to the women, this time one of 37%. According to Oliveira (2001), the wage differences continue even when the women have the same capacitation level as the men.

Table – 5: Immigrants returning from The United States: coefficients of wage regressions

In income	Coefficients	Standard error	t	P>|t|	95% Significance level	
$Sex_{masc.}$	0,3562729	0,0714749	4,98	0,000*	0,2159367	0,4966092
Age group 1	-0,7847959	0,2618765	-3	0,003*	-1.298.973	-0,2706188
Age group2	-0,5210176	0,2073665	-2,51	0,012**	-0,9281679	-0,1138673
Age group3	-0,3465744	0,1590229	-2,18	0,030*	-0,6588053	-0,0343436
Schooling	0,1345554	0,0147689	9,11	0,000*	0,1055577	0,163553
Whites	-0,7910524	0,2930563	-2,7	0,007*	-1.366.449	-0,215656
Experience 2	-0,0004621	0,0002236	-2,07	0,039**	-0,0009012	-0,0000231
Formal employment	0,1646373	0,0734207	2,24	0,025**	0,0204806	0,308794
Employer	0,4925609	0,1166471	4,22	0,000*	0,263532	0,7215897
Third sector	0,1873419	0,1312698	1,43	**0,154**	-0,0703976	0,4450814
_cons	4,09291	0,4667778	8,77	0,000*	3,176423	5,0093970

Note: * 1% significance level and ** 5% significance level

The schooling of those returning from The United States is more relevant to their average wages per work hour than for those returning from Paraguay. If the former were to have the same schooling as that of the Brazilians returning from Paraguay, their average wage per hour would be 25% lower.

The effect of each year of schooling increases the average wages of those returning from The United States by 13% and only 6% of the same figures of those returning from Paraguay. According to Sala (2005), the Human Capital Theory considers that wages vary between different workers due to the differences in their innate and acquired habilities and capacities. Thus, schooling raises the chances of participating in the labor market, contributing to lower unemployment and better wages. However, after having done the counter-factual, the average wage per hour of those returning from Paraguay suffered an increase of 14%, whereas the same figures of those returning from The United States decreased aproximately 25%.

Since the average schooling of those returning from Paraguay is aproximately 3.5 years while that of those returning from The United States is 11, 14 years, it would be expected that when switching both figures the wage of the former would increase more significantly than 13%. It is possible, however, to consider that most of those returning from Paraguay in 2000 were in the primary sector of the economy, whereas aproximately 92% of those returning from The United States found themselves in the third sector.

Moreover, factors such as time spent abroad, cultural assimilation and the learning of the language in the destination country influence the relationship between wages, qualification and habilities of the migrants (Sala, 2005, p.182). Actually the more time Brazilians spend in The United States the better their work perspectives in Brazil. The same can't be said for Brazilians who lived or are still living in Paraguay. Most of the Brazilians in the bordering country continue using Portuguese in their day to day and work activities.

5 Final Considerations

The results found confirm the traditional implications of the Human Capital Theory, which establishes a direct relationship between schooling and the work wage of an individual.

It is necessary to highlight that the methodology adopted – counter-factual micro-simulations – ignores the complexity existing in the Brazilian labor market, once it isolates a component of the system that ought to be studied (schooling) and takes for granted that changes in this distribution would in fact promote other structural changes in the remaining components of the system Ideally, it would be necessary that these models capture in the most realistic way possible the interaction of the many variables involved in this study. However, simulation offers an easier and more satisfactory interpretation than other methods, such as the decomposing of rates.

Although the results were the expected ones, the magnitude of the wage gains (of those returning from Paraguay) which appeared in the counter-factual micro-simulation wasn't as expected, considering the unfavorable social-economic characteristics of this group of immigrants. This fact demonstrates the need for a deeper understanding of the complex relationship between the social-economic and demographic forces as well as how they influence wages. A more concise investigation of the variables which may explain the results presented remains as a suggestion for future papers.

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8 Appendix

Appendix 1: Brazil: Fixed-date immigrants from the United States and Paraguay- 1995/2000

Residence States in 2000	Residence statesin 1995			
	United States	%	Paraguayi	%
Rondônia	28	0,23	177	0,62
Acre	0	0,00	14	0,05
Amazonas	40	0,32	12	0,04
Roraima	0	0,00	22	0,08
Pará	191	1,54	74	0,26
Amapá	36	0,29	14	0,05
Tocantins	29	0,23	31	0,11
Maranhão	184	1,49	12	0,04
Piauí	40	0,32	0	0,00
Ceará	84	0,68	0	0,00
Rio Grande do Norte	182	1,47	0	0,00
Paraíba	14	0,11	22	0,08
Pernambuco	21	0,17	0	0,00
Alagoas	239	1,93	103	0,36
Sergipe	2.750	22,24	187	0,66
Bahia	391	3,16	23	0,08
Minas Gerais	2.051	16,59	84	0,30
São Paulo	2.998	24,25	1.029	3,62
Paraná	767	6,20	17.069	60,06
Santa Catarina	356	2,88	1.804	6,35
Rio Grande do Sul	478	3,87	741	2,61
Mato Grosso do sul	96	0,78	5.075	17,86
Mato Grosso do sul	102	0,83	1.862	6,55
Goiás	658	5,32	4	0,01
Distrito Federal	628	5,08	60	0,21
Total who returned	12.363	100,00	28.419	100,00
Total of immigrants	16.695	74,05	35.446	80,18

Source: IBGE. Dompgraphic Census from 1991 to 2000.