

EMPLOYMENT QUALITY IN RURAL AREAS OF THE STATE OF SÃO PAULO, BRAZIL, IN THE 1990'S¹

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Abstract

This text analyzes the quality of agricultural and non-agricultural rural employment (NARE) for the economically active population (EAP) of the state of São Paulo, Brazil, in the 1990s. Considering micro-data from the Brazilian National Households Research Sample (PNAD), we defined three groups of agricultural occupations (Permanent Agricultural Workers, Temporary Agricultural Workers, and Agricultural Operators) and seven groups of non-agricultural occupations (Domestic and Non-domestic Service, Processing Industry, Non-specialized Commerce, Drivers, Teachers, and Civil Construction). In order to compare the quality of these agricultural and non-agricultural groups of occupations, we created the Employment Quality Index – EQI. The EQI is based on calculated partial indexes related to main job income, employee benefits, and degree of job formalization. Our results show that, except for female domestic service providers, all groups of non-agricultural occupations are to be favored by São Paulo's rural residents over agricultural occupations.

Key words: rural employment, employment quality, São Paulo State.

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1. Introduction

Demand for agricultural labor in the state of São Paulo declined during 1990s, due to both the process of agricultural modernization – especially in harvest and post-harvest operations – and a decrease in the cultivated area devoted to the state’s main farm products: coffee, grain, and oil crops (cotton, rice, beans and wheat). As a result, between 1992 and 1998, the state’s EAP employed in agriculture decreased 317,000, from 1,261,000 in 1992- 944,000 in 1998 (PNAD). For the rural population, the best employment alternatives were non-agricultural and could be found in both rural and urban areas. This phenomenon has reached such a magnitude that research carried out by Projeto Rurbano⁴ has shown that, by the late 1990s, more than 50% of the São Paulo’s rural residents included in the EAP were occupied in non-agricultural activities.⁵

The growth of rural resident non-agricultural employment during the 1990s can be explained by the growth and acceptance of commuting from rural homes to jobs in more urban areas. According to Schindegger and Krajasits (1999), increasing mobility is a direct reaction to the process of geographical concentration of labor force demand. According to the authors, this mobility presents two different aspects, migratory relocation and commuting, and has become an important regional employment

⁴ The PNAD data came from a bigger research project, “Projeto Rurbano,” coordinated by the Economics Institute of Campinas State University and involves research entities in ten different Brazilian states (Piauí, Rio Grande do Norte, Alagoas, Bahia, Minas Gerais, Rio de Janeiro, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul, and Distrito Federal). This project not only discuss the relevance of the cuts in rural/urban and agricultural/non-agricultural and rural environment researches, but also analyses the importance of non-agricultural activities for the people that live in rural areas using 1990-PNAD microdata. For more information, access <http://www.eco.unicamp.br/projetos/rurbano> and Campanhola and Graziano da Silva (2000).

⁵ See also: Graziano da Silva, Balsadi and Del Grossi (1997) and Laurent and Del Grossi (1999). Not only São Paulo but also Rio de Janeiro, Rio Grande do Norte and Distrito Federal – among the surveyed states of Projeto Rurbano – had more than 50% of the EAP occupied in non-agricultural activities in late 1990s. Rio de Janeiro non-agricultural rural EAP represented 54% of total rural EAP and 58.6% of occupied rural EAP in 1997 (Teixeira, 2000). Rio Grande do Norte non-agricultural rural EAP represented 48.3% of total rural EAP and 52.2% of occupied rural EAP in 1997 (Silva, 2000). Besides these three states, the same process has taken place in the Distrito Federal. According to Botelho Filho (2000), the non-agricultural rural EAP represented 66% of total rural EAP and 71% of occupied rural EAP in 1997—only 29% of the resident occupied rural workers were working in agricultural activities in Distrito Federal.

market equilibrium mechanism. The authors observe two interesting commuting trends. First, due to the concentration of employment growth, more people commute longer distances and use more time commuting. Second, and more importantly, the percentage of commuters is increasing more rapidly in rural zones as rural residents become more dependent on the employment generated in urban centers.

According to Klein (1992), there are several reasons to explain the importance of non-agricultural occupations for the rural resident: employment and income is generated when agriculture can no longer absorb the entire rural EAP; employment is generated at a lower unitary cost; rural to urban migration is reduced, resulting in rural zone population stability; relative income is increased; regional economic dynamism and linkages are furthered; local raw material production is increased; and idle family farm labor, especially female, is put to use. Thus, non-agricultural occupations play an important role in relieving rural poverty, even though these occupations may demand a higher skill level and entail additional education, capital, and time.

Balsadi's (2000) analysis of PNAD data for the state of São Paulo shows a structural change in the occupations of the rural EAP in the 1990s, a process that began in the mid-1980s. In 1992, 35% of São Paulo's employed rural residents were working outside agriculture; in 1998 this percentage was 53%.⁶

In São Paulo, the rural non-agricultural EAP is mainly formed by employees. Employees accounted for 83.5% of the rural EAP with non-agricultural occupations in 1992, and 75.8% in 1998. Employees also form the majority of the rural EAP working in agricultural occupations, though as a smaller percentage (maximum of 59.1% in 1997).

Over the 1992- 1998 period, there was a great increase in the percentage of rural resident men and women in non-agricultural activities. This resulted in an unaltered distribution of the rural EAP occupied outside

⁶ The metropolitan rural EAP have been strongly non-agricultural since early 1990s. Besides, from 1992- 1998 the rural agricultural EAP decreased from 580 thousands occupied people (65% of total) to 429 thousands (47%). The growth of the occupations in some labor-intensive activities that have had great expansion in 1990s, such as horticulture and fruit farming, hasn't been enough to compensate the decline that has taken place in the sugar cane, cotton, coffee, cereals and oil crops.

agriculture over the six year period: 63.4% male and 36.6% female in 1992; 63.1% male and 36.9% female in 1998.

In 1992, 46% of the employed rural resident men were occupied in non-agricultural activities; in 1998, this percentage was only 30%, as the great majority (70%) worked in agriculture. A similar, though more intense process affected female employment. In 1998, 70% of the employed rural resident women were occupied in non-agricultural activities. In 1992, the situation was more balanced: 52.5% of the employed rural resident women were occupied in agricultural activities and 47.5% in non-agricultural activities.

Though the reduction in the number of agricultural positions has affected all employment levels, the affect on unpaid family members has been much more profound. In 1992, there were 170,822 male and female unpaid family members occupied in agricultural activities; in 1998 this number was only 86,617.

In this paper, we intend to evaluate agricultural and non-agricultural employment to determine which offers the rural resident better opportunities. To accomplish this, the rural resident employee Employment Quality Index (EQI) has been constructed. Among other things, this index considers occupation, employee gender, and the total number of positions available. According to Lanjouw (2000), the great heterogeneity of non-agricultural occupations demands a separate analysis for each segment according to position held and gender. He considers that there are two main types of rural resident non-agricultural employment: wage earning employment and self-employment.

2. Methodological Procedures

Our agricultural and non-agricultural analysis of the state of São Paulo's EAP used PNAD research as the primary data source. The selected activities data refer to the main employment of people 10 years old or older who worked during the reference week, normally the second to last or last week of September. The years selected for data accumulation were 1992, 1995, and 1998. The EAP was restricted to exclude people who are unpaid and working less than 15 hours/week,

people exclusively employed in subsistence farming, and the self-building activities. (Del Grossi, 1999; Campanhola and Graziano da Silva, 2000).

Using the classification system of the Brazilian Institute of Geography and Statistics (IBGE), all references made in our research to “rural residents” are references to “rural non-metropolitan residents” and all references to “urban residents” are references to “urban non-metropolitan” residents. IBGE’s system counts all rural and urban residents living within the area made up of 39 cities situated near the city of São Paulo, as either rural metropolitan residents or urban metropolitan residents. The state’s residents living outside this area live in “non-metropolitan” areas and are classified as either rural non-metropolitan residents or urban non-metropolitan residents. The non-metropolitan region we analyze is responsible for more than 90% of the state of São Paulo’s rural EAP.

According to PNAD-1992, IBGE expanded the Household Situations category to better detail the rural-urban continuum. Thus, households are placed in the following situations:

1. Urban areas: effectively, urbanized areas within municipalities. The urbanized areas are those with buildings, streets, and intense urban occupation; those affected by transformations arising from urban development, such as leisure areas, sanitary landfills, levees, etc; those reserved for urban expansion; and those adjacent to the aforementioned urban areas.
2. Non-urbanized urban areas: areas within the urban perimeter that aren’t urbanized and are occupied by agriculture or lie idle.
3. Isolated urban areas: districts and small towns officially considered urban areas, but not next to the most concentrated urban nucleus.
4. Rural areas - urban extension: urbanized areas next to the municipalities’ urban perimeter (within 1km), resulting from the cities’ horizontal growth and as yet legally unincorporated.
5. Rural areas – small towns: clusters in open space characterized by multiple land owners and administrative bodies, made up of a set of permanent and adjacent buildings with recognizable streets or paths and attended by basic services, such as banking, stores, primary schools, health care facilities, and churches.

6. Rural areas – nucleus: isolated rural cluster (more than 10 and less than 51 households) with only one property owner (farm, industry, factory, etc), attended or not by typical small-town services and facilities.
7. Rural areas – others: plural ownership, administrative clusters with no typical town services.
8. Rural areas – exclusive: areas that have no criteria regarding clustering, services, or population density: a typical rural area.

Projeto Rurbano researchers grouped the new Household Situations categories as follows: Urban: situation 1; Periphery: situations 2 and 4; Districts and Small Towns: situations 3, 5 and 7; Private Rural: situations 6 and 8.

In our study, we consider rural EAP to be made up residents settled in Districts, Small Towns, and Private Rural situations (situations 3,5,6,7,8). It is very important to observe that according to the adopted grouping, some areas officially categorized as urban (situation 3) are considered rural, and one officially categorized rural area (situation 4) is not included in our adopted rural area. We made this choice because situation 3 is an agriculture dependent economy having rural characteristics, and situation 4 is simply part of the urban periphery.

Based on similarities between labor market characteristics (type of activity, skill level demanded, etc), PNAD's declared professions are gathered in our analysis into three agricultural occupation groups (Permanent Agricultural Workers, Temporary Agricultural Workers, and Agricultural Operators) and seven non-agricultural occupation groups (Domestic Services, Non-domestic Services, Processing Industry, Non-specialized Commerce, Drivers, Teachers, and Civil Construction). This was done to minimize the number of samples, allowing for expanded data and safer inferences. These groups are also expressive of the state of São Paulo's employment market.

PNAD micro-data on rural and urban resident populations was then used to create our synthetic employment quality index to order and compare the groups of agricultural and non-agricultural occupations of the rural and urban EAP. Urban residents were included in our analysis so that a more thorough measurement can be made of employment quality among the same occupation groups according to place of residence. This

index allows us to use a single number to present a variable's contribution to the measurement some desirable aspect of any kind of work. While it doesn't add new data, an index offers a more synthetic method for expressing the original data regarding some indicator (Kageyama and Rehder, 1993).

Since the concept of employment quality is open to various definitions, we propose to use the selected PNAD variables to measure some relatively consensual employment quality issues, such as income, the provision of a regular work shift, formalness of the work, the use of non-child labor, and pension, social security, and health plan provisions.

The methodology described by Kageyama and Rehder (1993) provides the basic procedures used to compose our Employment Quality Index (EQI):

a) Acquisition of simple indicators for each occupation group for the years 1992, 1995, and 1998, using PNAD statistics. The simple indicators are: 1) percentage of above 15 year old employees (**NChild**), which represents the employed non-child workers; 2) percentage of employees working up to 44-hours per week (**Shift**), which represents full-time employees; 3) percentage of formally employed workers [employees, as opposed to casual workers] (**Frml**); 4) percentage of employees contributing to Social Security (**Prev**); 5) employees' average monthly income in their main job (**Inc**); 6) percentage of employees earning above minimum wage (**NPoor**); 7) percentage of employees receiving a housing subsidy (**Dwllsbs**); 8) percentage of employees that receive a food subsidy (**Foodsbs**); 9) percentage of employees that receive a transportation subsidy (**Trnsbs**); 10) percentage of employees that receive an education subsidy (**Edcsbs**); 11) percentage of employees that receive a medical treatment subsidy (**Hlthsbs**).⁷

b) Creation of partial indicators based on the original indicators' arithmetic means. These partial indicators capture three employment quality dimensions: how formal the job is, the main-job income, and

⁷ Among all these indicators, only the average monthly income had to be standardized to a figure between zero and 100, according to the formula: $((\text{value}-\text{minimum})/(\text{maximum}-\text{minimum}))$, where minimum and maximum are, respectively the minimum and the maximum income values of the whole series, in order to allow an inter-temporal comparison.

subsidies received by the employees. The three partial indicators were acquired as follows:

FRMLWRK = (NChld + Shft + Frml + Prev) / 4 , this is the estimate for men and reflects how formal the job is;

INCWRK = (Inc_{standardised} + NPoor) / 2 , which combines the two income variables;

SBSWRK = (Dwllsbs + Foodsbs + Trnsbs + Edcsbs + Hlthsbs) / 5 , which combines the employee subsidies.

To not distort the final results, the **FRMLWRK** indicator for women is composed of the **NChld**, **Shft** and **Prev** variables because there were few data separating formal female work from casual female work.

c) Creation of the Employment Quality Index (EQI) based on the calculated means of the partial indicators. These calculations may generate controversy because they always involve a degree of arbitrariness in the determination of the importance of each partial indicator. To reduce this problem, we made three different calculations, each attributed different weightings to the partial indicators:

$$\text{EQI} = 1/3 \text{ INCWRK} + 1/3 \text{ FRMLWRK} + 1/3 \text{ SBSWRK}$$

$$\text{EQI}' = 0.40 \text{ INCWRK} + 0.40 \text{ FRMLWRK} + 0.20 \text{ SBSWRK}$$

$$\text{EQI}'' = 0.50 \text{ INCWRK} + 0.30 \text{ FRMLWRK} + 0.20 \text{ SBSWRK}$$

Since the **FRMLWRK** and **SBSWRK** indicators have no standard maximum or minimum, the obtained EQI is subject to inter-temporal comparison. For this comparison, we designed the Relative Progress indicator, which is determined using the following formula:

$$\text{Index value at } t_1 - \text{index value at } t_0 / 100 - \text{index value at } t_0$$

The denominator shows the maximum possible growth based on the initial year (possible progress) and the numerator shows the actual growth over the considered period (effective progress). The difference between these two values gives an idea of the relative speed of improvement of employment quality (Kageyama and Rehder, 1993).

3. Employment Quality Index Main Results

The following is the male EQI calculated using three equally weighted partial indicators.

Table 1 - Men Employment Quality Indexes by Selected Groups of Occupations São Paulo State, 1992-1998

Groups of Occupations	EQI			Relative Progress (%)		
	1992	1995	1998	1992-98	1992-95	1995-98
Processing Industry (Urb)	62.3	68.2	66.2	10.3	15.7	-6.3
Processing Industry (Rur)	58.2	63.5	65.9	18.6	12.7	6.7
Drivers (Urb)	57.4	65.1	64.2	16.0	18.1	-2.7
Non-specialized Commerce (Rur)	50.2	41.6	60.5	20.7	-17.2	32.3
Non-specialized Commerce (Urb)	52.9	57.8	60.2	15.7	10.6	5.7
Drivers (Rur)	56.7	61.8	59.8	7.1	11.8	-5.3
Non-domestic Services (Rur)	47.0	54.3	58.5	21.8	13.9	9.3
Non-domestic Services (Urb)	53.1	55.6	58.0	10.3	5.3	5.3
Agricultural Operators (Rur)	54.3	57.0	57.2	6.3	5.8	0.6
Agricultural Operators (Urb)	46.2	61.0	51.2	9.3	27.5	-25.1
Domestic Services (Rur)	42.6	40.7	49.6	12.1	-3.3	15.0
Civil Construction (Urb)	41.3	49.5	49.0	13.1	13.9	-0.9
Domestic Services (Urb)	34.1	43.2	47.8	20.8	13.8	8.1
Civil Construction (Rur)	53.3	50.5	46.9	-13.7	-5.9	-7.4
Permanent Agricultur. Workers (Urb)	42.0	50.2	46.2	7.3	14.1	-7.9
Permanent Agricultur. Workers (Rur)	42.9	47.1	43.2	0.5	7.3	-7.3
Temporary Agricultur. Workers (Urb)	29.8	38.7	38.0	11.6	12.7	-1.2
Temporary Agricultur. Workers (Rur)	20.0	21.5	31.2	14.0	1.9	12.3

Source: Balsadi (2000).

The results show that the three best occupation groups for male rural residents during the considered periods were Processing Industry, Drivers, and Agricultural Operators (3rd best in 1992 and 1995, 5th in 1998) or Non-specialized Commerce (2nd in 1998). The Non-specialized Commerce group reached 2nd best in 1998 due to its great relative progress between 1992 and 1998. Agricultural Operator was the only agricultural occupation group considered among the top three occupation groups in terms of the rural employee job quality, but it lost this position over the

1990s.

The groups of occupations with the least satisfactory job conditions for male rural residents were Temporary Agricultural Workers (worst in all years), Permanent Agricultural Workers (7th in 1992, 8th in 1998), Domestic Services (8th in 1992 & 1995, 6th in 1998), rural Non-specialized Commerce (7th in 1995), and Civil Construction (7th in 1998). The Domestic Services group climbed to 6th best due to the Permanent Agricultural Workers and Civil Construction groups drop in rank, making these two groups the worst groups in terms of Relative Progress in the 1992-98 period. During this period, the Civil Construction group (rur) showed the greatest Relative Progress decrease, -13.7%, dropping from 4th best occupation group in 1992, to 7th best in 1998.

Table 2 - Relative Position of the Rural Resident Male Employees Occupation groups São Paulo State 1992-1998

Groups of Occupation	Relative Position		
	1992	1995	1998
Processing Industry (Rur)	1 st	1 st	1 st
Non-specialized Commerce (Rur)	5 th	7 th	2 nd
Drivers (Rur)	2 nd	2 nd	3 rd
Non-domestic Services (Rur)	6 th	4 th	4 th
Agricultural Operators (Rur)	3 rd	3 rd	5 th
Domestic Services (Rur)	8 th	8 th	6 th
Civil Construction (Rur)	4 th	5 th	7 th
Permanent Agricult. Workers (Rur)	7 th	6 th	8 th
Temporary Agricult. Workers (Rur)	9 th	9 th	9 th

Source: Table 1 data.

Based on the selected variables and the synthetic indicator methodology, it was found that occupations in agriculture for male rural resident employees except as agricultural machine operators were worse in quality than all occupations outside agriculture. Restated, our results show that, in the state of São Paulo's rural regions in late 1990s, men working in non-agricultural jobs, even in domestic service (housekeepers),

enjoyed better work conditions than men working in permanent or temporary agricultural positions.

Since the purpose of this section is not to detail urban employees, only two points will be raised. First, for urban employees, agricultural occupations were also in the last positions in 1998 (the occupation groups Permanent and Temporary Agricultural Workers were respectively in the last and second-to-last positions while the Agricultural Operators group was only above the Civil Construction and Domestic Services groups).⁸ Second, and more relevant to our analysis, the occupation groups in which job quality was most similar for both rural and urban employees in 1998 were Processing Industry, Non-specialized Commerce, Non-domestic Services, and Domestic Services. Residence location was not a factor in the employment quality indicators for these types of occupations.

It is important to point out that the EQI similarity among the occupation groups cited above arises from the high relative progress of employment quality for rural residents working in these groups. The employment quality level for the rural resident in these occupations rose to the employment quality level realized by urban residents working in the same occupations. For the remaining groups, there were more emphasized EQI differences.

The rural employee was favored in the Agricultural Operator occupation group, while the other groups of occupations (Drivers, Civil Construction, Permanent and Temporary Agricultural Workers) showed a much higher EQI for urban residents. An analysis of rural residents' Relative Progress indicator shows that the Civil Construction occupation group showed the greatest fall, -13.7%, in the 1992-1998 period.

Concerning agricultural occupations, the groups Permanent Agricultural Workers and Agricultural Operators showed the lowest

⁸ These results are similar to those obtained by Leone (1995) for the cities' resident families whose households were employed in agriculture. According to the author, the 1990 PNAD data for São Paulo State and Brazil's Great Regions showed that these workers' incomes were similar to those occupied in civil construction, as domestics, non-skilled services, commerce and industry. Although, they have had worse living conditions than these poorer urban categories that were measured by dwelling condition, safe water access, sanitation, electrical energy access and durable household goods usage.

Relative Progress indicator values for the entire period under study (0.5% and 6.3% respectively), while the Temporary Agricultural Workers Relative Progress indicator's value was a quite respectable 14.0% over this period. Unfortunately, this group began the 1990s at a very low employment equality level; and this level has remained low.

The occupation groups with the highest EQI for rural resident employees were the Processing Industry, Non-specialized Commerce, Non-domestic Services, and Domestic Services. These groups presented high Relative Progress indicator values in the 1992-1998 period (18.6%, 20.7%, 21.8% and 12.1%, respectively) and had EQI values that were similar for both rural and urban residents in 1998.

The rhythm of EQI growth differed between the groups of occupations in both sub-periods. Fourteen of the eighteen groups presented greater Relative Progress (or a slower decrease in the case of Civil Construction) in the 1992-95 period. The following groups were the exceptions: Non-specialized Commerce (Rur), Domestic Services (Rur), Temporary Agricultural Workers (Rur) and Non-domestic Services. The first three groups showed higher Relative Progress in the 1995-98 period than in the 1992-1995 period, and Non-domestic Services (Urb) showed the same EQI growth in both sub-periods.

Among the female rural resident employees, the best groups of occupations were Teachers, Non-domestic Services, and Processing Industry; though, the female Permanent Agricultural Workers group took the 3rd position in 1995, and the Non-specialized Commerce group took the 2nd position in 1992. The groups with the worst EQI were female Temporary Agricultural Workers (last in 1992 and 1998), Domestic Services, and female Permanent Agricultural Workers (except in 1995).

Table 3 - Women Employment Quality Indexes by Selected Groups of Occupations São Paulo State 1992-1998

Groups of Occupations	EQI			Relative Progress (%)		
	1992	1995	1998	1992-98	1992-95	1995-98
Teachers (Urb)	62.1	67.9	71.1	23.7	15.4	9.8
Teachers (Rur)	66.9	63.4	62.0	-14.5	-10.5	-3.7
Processing Industry (Rur)	35.7	46.4	61.4	40.0	16.6	28.0
Non-domestic Services (Urb)	49.0	54.2	55.4	12.5	10.2	2.6
Non-domestic Services (Rur)	45.1	61.0	54.0	16.3	29.0	-18.0
Processing Industry (Urb)	47.7	53.6	52.8	9.8	11.2	-1.5
Non-specialized Commerce (Urb)	45.0	47.8	49.9	8.8	5.1	4.0
Non-specialized Commerce (Rur)	53.2	31.5	49.8	-7.2	-46.4	26.7
Permanent Agricult. Workers (Urb)	35.5	47.7	47.4	18.4	18.9	-0.6
Permanent Agricult. Workers (Rur)	32.0	47.7	43.2	16.4	23.1	-8.8
Domestic Services (Urb)	31.4	39.4	41.8	15.2	11.7	3.9
Domestic Services (Rur)	31.9	39.2	38.9	10.4	10.7	-0.4
Temporary Agricult. Workers (Urb)	32.9	38.8	38.6	8.5	8.8	-0.3
Temporary Agricult. Workers (Rur)	23.0	32.1	34.0	14.4	11.9	2.8

Source: Balsadi (2000).

It is noted that for São Paulo's female rural residents in late 1990s, non-agricultural employment other than in Domestic Services meant better job conditions than could be found in agriculture. The Domestic Services group showed an EQI lower than the one registered for the female Permanent Agricultural Workers group. It is worrying that the Domestic Services group contains the majority of female rural resident employees working outside agriculture (about 50% of all non-agricultural female occupations). The rest of the non-agricultural occupation groups (Teachers, Processing Industry, Non-domestic Services, and Non-specialized Commerce) presented better indicators than any agricultural group. To reiterate, these results show that after 1992, rural resident women fared better by gaining employment in any non-agricultural occupation other than domestic services provider than by working in agriculture.

Table 4 - Relative Position of the Female, Rural Resident Employees Occupation groups São Paulo State, 1992-1998

Groups of Occupations	Rank		
	1992	1995	1998
Teachers (Rur)	1 st	1 st	1 st
Processing Industry (Rur)	4 th	4 th	2 nd
Non-Domestic Services (Rur)	3 rd	2 nd	3 rd
Non-Specialized Commerce (Rur)	2 nd	7 th	4 th
Permanent Agricult. Workers (Rur)	5 th	3 rd	5 th
Domestic Services (Rur)	6 th	5 th	6 th
Temporary Agricult. Workers (Rur)	7 th	6 th	7 th

Source: Table 3 data.

Concerning the female occupation groups' Relative Progress indicators, it is worth noting that almost all female groups of occupations showed improved indices in the 1992-1998 period. The exceptions were the rural resident Teachers (-14.5%) group and rural resident Non-specialized Commerce group (-7.2%). Among the groups that presented the highest Relative Progress indicators were Processing Industry (Rur), Teachers (Urb), Non-domestic Services (Rur), and Permanent Agricultural Workers (Urb and Rur). The female occupation groups Domestic Services (Rur) and Temporary Agricultural Workers (Rur) also showed positive Relative Progress, but they started from a low base and haven't improved their relative positions. Those groups of female occupations that showed low relative growth for the 1992-1998 period were Non-specialized Commerce (Urb), Temporary Agricultural Worker (Urb), and Processing Industry (Urb).

Between the two sub-periods, we again observed a difference in the behavior of the Relative Progress indicators. Eleven female occupation groups presented much higher growth in the 1992-1995 period and only three presented better behavior in the 1995-1998 period. The groups that showed the most significant female employment quality growth in the first sub-period were Teachers (Urb), Non-domestic Services (Rur and Urb), Processing Industry (Urb), Non-specialized

Commerce (Urb), Permanent Agricultural Workers (Rur and Urb), Domestic Services (Rur and Urb) and Temporary Agricultural Workers (Rur and Urb). In the second sub-period only Teachers (Rur), Processing Industry (Rur), and Non-specialized Commerce (Rur) showed improved Relative Progress indicators from the first sub-period.

There were fewer female groups of occupations with similar EQIs between rural and the urban residents than there were male groups of occupations. Only two groups showed similar EQIs for both urban and rural female workers in 1998: Non-domestic Services and Non-specialized Commerce. The urban resident's EQI values were higher than the rural resident's for all the other occupation groups except the Processing Industry, in which the rural resident was favored.

The results for the two other calculations, calculations that give far more weight to the Income and Formalization indices ($EQI' = 0.40 \text{ INCWRK} + 0.40 \text{ FRMLWRK} + 0.20 \text{ SBSWRK}$ and $EQI'' = 0.50 \text{ INCWRK} + 0.30 \text{ FRMLWRK} + 0.20 \text{ SBSWRK}$), showed little change in the relative positions of the selected groups of occupations from those generated by the EQI calculations, especially for rural residents. This highlights the fact that using different calculations doesn't make agricultural employment appear more favorable. Agricultural occupation groups were in the last positions after the EQI' and EQI'' calculations because they had less favorable partial indicators.

Changing the partial indicators that compose the EQI (EQI' & EQI'') produced the following main effects: a) there were almost no change in the Relative Progress indicator's behavior, as the great majority of the rural and urban resident male and female employees groups of occupations showed continued EQI growth in the 1992-1995 period; b) the biggest change for the state of São Paulo's female rural resident workers occurred between 1992 and 1995 when the Non-specialized Commerce occupation group fell from 2nd to 7th best; c) the biggest EQI'' changes for men occurred in 1992 when the occupation group Agricultural Operators lost position in favor of Civil Construction Workers, and Permanent Agricultural Workers lost position in favor of Domestic Services, indicating a still more unfavorable situation for agricultural occupations when our calculations weighted income more heavily; d)

over time, there was an increase in the differences (“distances”) of the EQI values for rural and for urban residents employed in the same groups of occupations, consequently, reducing the number of rural resident occupations with employment quality index patterns similar to those for urban residents; and finally e) the EQI difference between the groups of agricultural and non-agricultural occupations also widened.⁹

4. Conclusions

The EQI results showed that for rural resident male employees in the late 1990s all the selected non-agricultural groups of occupations presented better working conditions than permanent and temporary agricultural occupations. Only the Agricultural Operators occupation group showed employment quality that exceeded any non-agricultural occupation group, being of better quality than the Domestic Services group and the Civil Construction group.

It was found that in 1998, there was parity between jobs for male rural and urban residents in the processing industry, in non-specialized commerce, and in the domestic and in non-domestic services industries in the state of São Paulo. This similarity was due to male rural resident employees higher relative EQI progress.

In all but one case, employment in non-agricultural activities did not bring female rural residents better working conditions. The one exception was employment in domestic services, which was only better than employment as a temporary agricultural worker. Interestingly, domestic service is responsible for almost 50% of the rural female non-agricultural jobs. Entrance into the processing industry, public and private education, non-specialized commerce, and non-domestic service offered much more favorable employment conditions for females than did agricultural work. Differently from what we observed for male employees, there were significant employment quality differences between female employees living in rural areas and female employees living in urban

⁹ See Balsadi (2000) for more details on EQI' and EQI'' analysis and results.

areas yet working in the same group of occupations in the late 1990s.

The state of São Paulo presents much better working conditions for rural employees occupied in non-agricultural employment than do the Latin American countries analyzed by Weller (1994) and Lanjouw (1999). Except for female domestic services employment, our results were quite positive for the non-agricultural groups of occupations.

The EQI results for both for men and women give insights into potential policies to improve rural resident incomes and rural employment generation. The promotion of non-agricultural activities improves rural employment quality and, consequently, the living conditions of rural resident workers. This provides a dilemma for those of us who work in agriculture and agricultural policy making. We must ask ourselves, “How can policies be defined that generate more employment in agriculture and at the same time improve working conditions?”

This necessary linkage between agricultural and non-agricultural activities – generating better quality employment in local/regional sustainable development projects – creates a public policy challenge. It is quite obvious that these EQI data do not imply that government, society, and worker representatives should change their focus away from agriculture when promoting better job conditions, especially for agricultural workers. On the contrary, they must intensify their efforts to make agricultural employment more rewarding. In 1998, more than 400,000 rural São Paulo state residents were occupied in agriculture. These workers deserve equality, whether in the quality of their employment or in the support of their representatives.

The more favorable (or less unfavorable) Employment Quality Index result for the non-agricultural groups of occupations doesn't signal that single-minded policies directed solely toward non-agricultural-activities is either best or inevitable. Should single-mindedness prevail, another dangerous dualism (agricultural/non-agricultural) could be introduced, taking the place of the old rural/urban one.

Our research should raise new issues that will lead to future surveys employing more profound theoretical and empirical approaches. The following offers some suggestions for future research into employment quality:

Surveys should be made of rural employment in other states, to give a broader picture of the rural residents' non-agricultural employment and of the other big group of rural residents occupied in non-agricultural activities: the self-employed.

Surveys ought to be made to determine the reason for the different behaviors exhibited by the Relative Progress indicator in the 1992-1998 period, not only among the groups of occupations but also within each group (men/women and rural/urban residents). The goal should be to understand the factors that lead to these differences: why did one group of people or occupations benefit and another group not.

The causes for the great majority of the occupation groups in the 1992-1995 period showing higher Relative Progress indicators than in the 1995-1998 period should be identified. Is this fall-off linked with the "Plano Real," which began near the end of this period?

The reasons that some groups of occupations (Processing Industry, Non-specialized Commerce, Non-domestic Services) showed very similar employment quality for both rural and urban resident male employees and others showed great dissimilarity should also be established.

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