

The Costs of Displacement in Brazil¹

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Abstract

This paper uses new data that combines information on workers' education and earnings trajectories with information about their firms to estimate the costs of job displacement in Brazil. We find that high-tenure workers displaced from their firms during mass lay-offs suffer a long-term loss in monthly wages of about 20% per year. We show that this result is robust to different treatment of workers that leave the formal sector of the economy and is driven by the losses suffered by more educated individuals working in big firms at the time of displacement. We conclude that the displacement effects are the result of a combination of the depreciation of firm-specific human capital and the loss of a "good job".

1) Introduction

Job reallocation is extremely high in Brazil in comparison to many other countries (see Ribeiro *et al*, 2003). If firm-specific human capital is important, then reallocation can be very costly to workers and firms. In this paper we examine the costs of displacement for the Brazilian workers and try to relate these costs with firm-specific human capital models.

According to some models, employer-specific human capital exists and is a possible explanation for long-term employment relationships. To the extent that the match between the worker and the firm has a productivity component that is of no value to either the worker or the firm outside their relationship, then the worker will have a decline in productivity when he randomly switches firms. Moreover, in this case the probability of job loss will decline with tenure (Farber, 1999).

Many reasons can account for the existence of specific capital. It could reflect the existence of skills that are only useful to specific employers, due to past on-the-job investments (Becker, 1975) or to investments in searching for a good match (Jovanovic, 1979). Alternatively, firm wage premiums may exist because of unionization (Lewis, 1986) or efficiency wage (Stiglitz, 1974) considerations. Any of these theories are consistent with a drop in wages following a change in jobs.

The negative relationship between tenure and the probability of job changes and between wages and jobs changes could also be explained by other reasons, related to unobserved firm level and worker level heterogeneity. If there are persistent differences in firms with respect to volatility in labor demand, then the ones with less volatility will be more likely to invest more in specific capital, to have high-tenure workers and less likely to lay workers off. Moreover, if there are good jobs and bad jobs for a random worker, the

¹ I would like to thank without implicating, John Haltinwanger, Adriana Kugler, Alexandro Micco and Carmen Pages for detailed comments and Edgar CB and Gilmar Santos for excellent research assistance.

good jobs will pay higher wages and have higher tenure, because of lower quits. This would also imply a sharper wage decline for the high-tenure workers when they change jobs, since both the high and the low-tenure workers are expected to receive the average wage in the new job (Farber, 1999).

On the worker's side, when it is time to lay off workers, firms may select, among the high-tenure, the ones with lower productivity/wage relationships. Kletzer (1989) suggests that a positive correlation between tenure in the previous job and the level of wages in the new job would be evidence in favor of the heterogeneity explanation, since high and low-tenure (but equally productive) workers would be expected to receive the same wage in the new job in expectation. Any systematic differences in the level of wages will be related to unobserved heterogeneity correlated with tenure.

There is plenty of evidence for the United States that changes in jobs are negatively related to changes in wages. Perhaps the most cited work is Jacobson *et al* (1993). In this study, the authors use administrative data on Pennsylvanian workers to compare pre and post-displacement earnings of high-tenure displaced workers with those of workers that remained in the same firm. By focusing on workers that remained attached to the labor market after massive lay-offs, they find that high tenure workers suffer substantial earning losses when they leave their jobs.

The main criticism to their work is that the displaced workers begin to experience earnings losses even before they were laid off. This means that firms might be selectively laying off employees whose performance was unusually poor before the time of separation. The authors themselves state that "the incidence of temporary layoffs increased for these workers before their final separation (p.698)". This favors the heterogeneity explanation for the drop in earnings following job changes, as oppose to the specific capital argument.

In the following sections we use a sample of Brazilian formal sector employees to investigate their labor market transitions and the changes in wages associated with job changes between 1992 and 1998. We firstly intend to describe the changes and then focus on a specific sample of displaced workers, to gauge the long-term impact of job changes on wages. The main advantage of our study is that our data set has information on education, and so we will be able to distinguish, for the first time in the literature, the costs of displacement for skilled and unskilled workers and therefore be able to shed more light on the relationship between cost of displacement and the specificity of human capital.

2) Data

The data set used is the *Relação Anual de Informações Sociais (RAIS – Annual Social Information Report)*, carried out annually by the *Ministério do Trabalho e Emprego (MTE – Labor Ministry)*. It is an administrative report filed by all tax registered Brazilian establishments. The information is collected in the first quarter, referring to the previous year, and it covers the whole country. The data covers approximately two million establishments and twenty four million workers, on average, every year. The unit of observation is an establishment/workplace, be it an individual enterprise or a branch or plant of a large firm. All tax registered enterprises receive a unique tax number, the *CNPJ*. The *CNPJ* is different for different workplaces/establishments from a single firm. This identifier is used to pool the cross-sections.

Since all businesses should file the *RAIS* report, there is no lower bound on establishment size. On the other hand, since the *RAIS* information may be used for inquiries

about labor legislation compliance, businesses that do not comply with it tend to not to file in *RAIS*. Thus, *RAIS* may be considered a census of the *formal* Brazilian labor market.² We understand the formal sector as tax and social security registered establishments only.

As our data represent the whole population of formal sector firms in Brazil, to keep the sample within a manageable size, in this paper we will focus only on the individuals working in the state of São Paulo, which accounts for about 40% of Brazilian GDP. Moreover, we will focus on a specific demographic group, namely men, aged between 24 and 39 and living in the metropolitan region. We prefer to do this because, as this is one of the first studies on the costs of displacement in Latin America, we intend to get a good idea of the results in the group with strong labor market attachment, before extending the analysis to other demographic groups.

For the purpose of this paper we collected data in the following way. One sub-sample is composed of workers that were continuously employed in the same firm from 1991 to 1998. To construct the other sub-sample, of displaced workers, we focused on workers who separated from their firms in Dec/93, Dec/94 or Dec/95. Our data set contains information on average yearly wages and on December wages for each worker. However, because of the extremely high inflation that took place in Brazil the 1980s and 1990s, average monthly nominal wages do not bring any useful information. Therefore, we had to use only December wages to compute pre-displacement wages. Our final sample had 33,080 continuing workers and 82,910 workers that separated from their firms.

The main variables we will use from the *RAIS* survey are education (4 schooling levels), age (two levels), tenure, sector of activity and establishment size. Although we do

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

have information on the reasons for the separation, we will not use it the exercises below, since in Brazil workers that are dismissed have access to a forced savings account called FGTS (Fundo de Garantia por Tempo de Serviço). Therefore, they have every incentive to make an informal agreement with their firms, so that they “pretend” to have fired them, when in fact they quitted. This makes the information on the reason for separation full of measurement error. Moreover, we do not have this information for about 50% of workers in our sample.

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 (PIS), 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.

2.1 - Transitions

We now describe the patterns of the transitions observed in the São Paulo labor market from 1992 to 1998. Figure 1 describes the changes in status observed for prime age males that were employed in December of the base year.³ One can note that in 1992/93 about 50% of these employees were employed in the same firm one year later (EEsf), while 30% were employed in a different firm (EEdf) and 20% were out of the formal sector. One can also note that, despite very marked cyclical fluctuations, there is no well-defined trend in the sample period concerning these transitions

³ On average, we were able to match about 80% of workers from one year to the other.

Brazilian labor market seems to be segmented along tenure and education lines. Figure 2 confirms this, by plotting the percentage of employees that remained employed (in the same firm or not) over time by education group. One can clearly see that the transitions are highly related to education. Among the individuals with college education (4), the percentage that remain employed one year later reached 85% and it varies little over time, while among the lowest education group (1), the share in employment in the formal sector reaches 70% in 1995/96, but it varies substantially over time.

What about the relationship between tenure and transitions? According to the specific capital models briefly described above, the probability of being laid off should decrease with tenure. Figure 3 shows that is indeed the case. Workers that are at least two years with the same employee are about 25% more likely to remain employed one year latter than those with tenure lower than two. This pattern is remarkably constant over the economic cycle. Additional exercises (not shown) show that among the high-tenured employees, the probability of remaining in the same firm is about 60%, whereas for the low-tenured ones it ranges around 30%.

2.2 - The Informal Sector

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 and we do not know the wages of the individuals that transit to the informal sector.

In order to try and give a complete picture of transitions in Brazilian labor market, we briefly explore another data set to this analysis, the Pesquisa Mensal de Emprego – (*PME - Monthly Employment Survey*), a monthly household survey covering six metropolitan regions, also conducted by IBGE (Brazilian Census Bureau), that interviews about 38,500 households 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 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.

In order to draw a comparison with our previous results, we will use only a sub-sample consisting of men, aged between 24 and 39 and working in São Paulo. Figure 4 shows that in 1992, about 25% of employed workers in the formal sector transitioned out of it in the following year, which is remarkably consistent with the percentage in figure 1.⁴ The figure also shows that among those who left the formal sector, about 10% became unemployed or left the labor force and 15% moved to the informal sector.

⁴ The difference between the transitions out of the formal sector in RAIS (30%) and PME (25%) could be related to firm level attrition in the RAIS data set, so that workers may have remained in the formal sector working in firms that did not fill in the questionnaire.

It is important to note that we do not observe the wages of those workers that move out of the formal sector after being displaced. Therefore, we will be assigning missing values to the wages of these workers. In order to deal with the possibility of selection bias in the regressions below, we will compare the results of the regression that uses the whole sample of displaced workers with those obtained after dropping the workers that never reappear in the formal sector after being displaced, and when we use only workers that are employed for the whole period in the formal sector after being displaced. These exercises should give us estimates of lower bounds around the *real* costs of displacement.

2.3 - Descriptive Statistics

Table 1 reports summary statistics on the main variables to be used in the exercises below for the sample of high-tenured workers (more than 3 years in the same firm), and also compares the characteristics of the workers displaced during mass lay-offs, that is, at periods when their firm displaced more than 15% of their work-force, with workers that continued in the same firm throughout the sample period. We present statistics for the displaced workers before, at and after displacement actually took place.

One can notice firstly that average December wages and skill proportion (percentage of workers with more than fundamental education) are much higher in the sample of continuing workers. However, in the regressions below we will control for worker specific effects, which will capture any systematic difference between continuing and displaced workers that are fixed over time. Moreover, it is important to note that the skill proportion among displaced workers has remained relatively stable before and after displacement, which indicates that movements into the informal sector or unemployed does

not seem to be strongly correlated with education⁵. The proportion of older workers (those with more than 29 years of age) is increasing over time, which is not surprising. With respect to the sector of activity, we cannot observe any marked differences in its distribution between displaced and continuing workers nor before and after displacement.

Table 1 – Summary Statistics

Variable	Pre-Displacement	At Displacement	Post-Displacement	Non Displaced
Wages (BR\$)	1,101	1,121	1,190	1,507
Skilled	0.24	0.24	0.23	0.37
Older	0.73	0.81	0.85	0.81
Services	0.31	0.28	0.28	0.28
Agriculture	0.12	0.12	0.12	0.15
Manufacturing	0.32	0.33	0.29	0.36
Retail	0.16	0.17	0.18	0.14
Construction	0.07	0.07	0.10	0.06

Table 2 reports the results of traditional (log) wage regressions on dummy variables indicating size, age, education and tenure, in the periods before displacement, for both displaced and continuing workers polled together. The aim of these regressions is to find out the relative importance of tenure on wage determination in Brazil and to verify which firm and workers characteristics are more importantly associated with tenure, to set the ground for the specifications of the displacement regressions below.

Table 2 – Wages, Human Capital and Size: 1991/1992

⁵ The differences in the summary statistics before and at displacement are due to the composition of the sample of displaced workers, since

Variable	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>
Tenure	0.141	0.096	0.099	0.026	-0.032
	<i>0.011</i>	<i>0.017</i>	<i>0.029</i>	<i>0.017</i>	<i>0.032</i>
Education	0.427	0.391	0.428	0.424	0.399
	<i>0.011</i>	<i>0.016</i>	<i>0.011</i>	<i>0.011</i>	<i>0.016</i>
Age	0.312	0.312	0.293	0.312	0.158
	<i>0.015</i>	<i>0.015</i>	<i>0.019</i>	<i>0.015</i>	<i>0.016</i>
Size	0.256	0.255	0.256	0.155	0.298
	<i>0.011</i>	<i>0.011</i>	<i>0.011</i>	<i>0.016</i>	<i>0.019</i>
Tenure* Education	-	0.075	-	-	0.054
		<i>0.022</i>			<i>0.022</i>
Tenure* Age	-	-	0.048	-	0.036
			<i>0.031</i>		<i>0.031</i>
Tenure*size	-	-	-	0.208	0.202
				<i>0.023</i>	<i>0.023</i>
N	18,884	18,884	18,884	18,884	18,884

The results in column (1) show that tenure (defined as being in the same firm for 3 years or more) is indeed important for wage determination, as are education, age and size⁶. The interaction between tenure and education is estimated to be positive and significant in column (2), which means that the general and the specific forms of human capital are high correlated. However, the interaction of tenure with age is not precisely estimated in column (3). In column (4) one can note that tenure is much more important in bigger firms, defined as those with more than 50 workers, the median firm size in our sample. This suggests that firm-specific human capital is more important in bigger firms,

not all of the workers are observed three years before displacement.

⁶ It is difficult to compare the magnitude of the coefficients, as they are very dependent on how we define the dummy variables. We do not have continuous measures of years of schooling and age.

and that the firm size wage premium increases with tenure. We must be interpret these results with a little bit of care, though, since we are not controlling for worker specific effects so far. In column (5) we include all the interactions at the same time and confirm the previous results that tenure is only important for more educated individual working in bigger firms.

3- Results

3.1 - The Costs of Displacement

We now move on to make an evaluation of the costs of displacement in Brazil. Figure 5 shows the behavior, between 1991 and 1998, of the mean December wage of the high tenured workers that were displaced in a “mass-lay off” in 1993 and compares it with the wages of the workers that remained employed in the same firm for the whole period. While the wages of the non-displaced workers (control group) rose by around R\$500 (US\$200) between from 1991 to 1998, the wages of displaced workers basically fell ay about R\$300. Moreover, it is evident that the major dip in the real wages of displaced workers occurred one years after displacement took place. In what follows, we will subject this finding to more detailed econometric investigation.

The basic specification we will estimate is as in Jacobson et al (1993):

$$y_{it} = \alpha_i + \gamma_t + \sum_{-3}^{+5} D_{it}^k \delta_k + \varepsilon_{it} \quad (1)$$

where y_{it} is the *logarithm* of the worker December wage, α_i is the worker specific effect, γ_t , are the time dummies and $\sum_{-3}^{+5} D_{it}^k$ is a vector of displacement dummies that range from 3

years before displacement takes place to 5 years after that, and ε_{it} is an idiosyncratic shock. In some specifications, we will include worker-specific time trends in the regression and we will do many exercises on selected sub-samples.

Table 3 compares the coefficients of the displacement dummies for two different samples, one with the workers that were employed in the same firm for three years or more, and another with workers that were less than three years in the firm. We present the results in a table so that the reader can gauge the size of the standard errors, but we also present a picture of the displacement effects in figure 6.

The results are quite impressive. For the sample of low-tenured workers, the wages of displaced workers start falling two years before displacement actually takes place (relative to the wages of continuing low-tenure workers), reaching the bottom level one year after displacement and converging to a 10% fall with respect to the initial period. It seems that low tenured workers are basically switching jobs all the time, and are thus unable to establish long term relationships with their firms and gain from “on the job training”.

Amongst the high-tenured workers, wages of displaced workers remain statistically the same as the wages of continuing workers until the time of displacement. However, one year after displacement their wages drop by as much as 50%, recovering after that to reach a level 30% below pre-displacement levels. One should note that we cannot predict which workers are going to be displaced on the basis of their pre-displacement wages, as if displacement occurred randomly.

Table 4 - Costs of Displacement by Tenure

Years After Displacement	High-Tenured	Low-Tenured
-3	-0.020 <i>0.016</i>	-0.023 <i>0.017</i>
-2	0.001 <i>0.015</i>	-0.087 <i>0.018</i>
-1	0.011 <i>0.017</i>	-0.104 <i>0.021</i>
0	0.001 <i>0.017</i>	-0.158 <i>-0.023</i>
1	-0.494 <i>0.018</i>	-0.272 <i>0.024</i>
2	-0.382 <i>0.019</i>	-0.174 <i>0.026</i>
3	-0.271 <i>0.019</i>	-0.095 <i>0.027</i>
4	-0.240 <i>0.022</i>	-0.083 <i>0.030</i>
5	-0.269 <i>0.026</i>	-0.085 <i>0.035</i>

Up to this stage, however, we were not focusing specifically on workers that separated from their firms during mass-lay offs. We do this in figure 7, where we note that workers displaced during mass lay-offs suffer a lower reduction in wages (with respect to continuing workers) than workers that separated during “normal” times. This results suggest that last kind of workers were being selectively laid-off, perhaps on the basis of a wages/productivity ratio and thus suffered a bit more than the ones that we laid-off in a period when their firms were facing difficulties.

If we now turn our attention to the mass lay-off sample, the results suggest that those workers that lost their jobs were not able to recover their average real wages, even 5 years after displacement took place. Since their pre-displacement wages were very close to

the continuing workers', this is strong evidence in favor of the firm specific capital hypothesis, as opposed to worker heterogeneity.

Figure 8 presents some robustness tests related to the treatment of workers that move out of the formal sector. The first exercise was to include a variable indicating the number of years from displacement that elapsed before the displaced worker reappeared in the formal sector. The results were basically the same as in the baseline (high tenured- mass lay off) specification. We then excluded the workers that never reappear in the formal sector again after displacement, which raises a little bit the wages of displaced workers, before and after displacement. Finally, we used a balanced panel, that is, only the workers that we continuously employed in the formal sector. This may be considered as a lower bound estimate of the effects of displacement, as it neglects its unemployment and informal employment effects. The resulting displacement effects were indeed lower, but displaced workers still earn about 20% less than the continuing ones. This last exercise reduces the sample of displaced workers by a significant amount and so we will proceed with the estimation using the unbalanced panel, but controlling for years since reappearance and dropping those that never reappear in the formal sector.

Figure 9 compares the displacement effects of the specifications with and without worker-specific trends in wages.⁷ Because of the degrees of freedom that are lost in computing the worker-specific trends, we could include only four post-displacement dummies. The results look similar to the fixed effects regressions, but because we are netting out any trend in wages, we can observe a rise in pre-displacement wages before and after displacement, with real wages returning to pre-displacement levels four years after

⁷ Computationally this is done by regressing, for each worker, each of the displacement and time dummies on a time trend, computing the residuals from these regressions, which are then used, instead of the original dummies, in the OLS regression, without the worker fixed effects (see Jacobson et al,1993).

displacement. This could mean that the permanent reduction in wages observed in our original specification could in fact be driven by a worker-specific downward trend in wages, occurring independently of displacement. However, we prefer to take this result with caution, since our sample period is not big enough to be able to differentiate short term from long-term effects of displacement. Therefore, in the following exercises we will continue to use the specifications without worker-specific time trend.

3.2 – Firm Specific Human Capital or just Good Firms?

When a worker separates from her previous employers, what exactly is she losing? As we saw in the introduction, many reasons could explain a drop in wages following a change in jobs. Our maintained assumption is that wage reduction is the effect of depreciation of firm-specific human capital. Let us now try to test this hypothesis.

We first examine the effects of displacement in two different samples, one with less and the other with more educated workers (defined as having achieved more than fundamental education). If there is a correlation between the general and the specific forms of human capital (as we observed in the levels regressions above), we expect that the costs of displacement will be higher for more educated workers. Figure 10 shows that this indeed is the case. In the sample of less educated workers, relative wages rise a little bit before displacement, then fall about 20% one year after, and return to pre-displacement levels three years after displacement. For the more educated workers, however, wages remain about 30% lower than their counterparts that remain in the same firm, even 5 years after displacement! Therefore we cannot reject the specificity human capital hypothesis.

We saw in the introduction that other reasons could explain the relationship between wages and changes in job. For example, if there are “good jobs” and “bad jobs” for a random worker, then the good jobs will pay higher wages and have higher tenure, because of lower quits (Farber, 1999). We saw in the levels regressions above that bigger firms tend to pay higher wages in Brazil, and so we will proxy a good job with a job in a big firms (with more than 50 employees). Figure 11 shows that the costs of displacement are indeed much higher for workers that separated from big firms, ranging between 30% and 40% after three years, while for workers of smaller firms, the costs converged to about 8% per month, but not always significantly different from zero.

However, we also saw above that bigger firms also have a steeper wage-tenure relationship. How can we differentiate between the loss of a good job and the depreciation of firm specific human capital? One way is to look only at the individuals working in big firms and compare the costs of displacement between those that changed to a smaller firm with those that moved to a bigger firm. Figure 12 does just that and one can see that the costs of displacement are indeed higher for workers that switched to a smaller firm, perhaps reflecting the added effects of the loss of a good job and of capital. More importantly, the costs are still significant for those workers that switched to another big firm, stabilizing at 20% per year after 5 years. This can be considered as the effect of the loss of firm-specific human capital, net of the “good jobs” effect.

Figures 13 and 14 compare the effects of displacement in small and big firms for workers of different levels of education. Figure 13 shows that even in the big firms the effects are much more persistent for the more educated workers. In the case of individuals working in small firms, figure 14 shows that the short-term effect of a job loss is much stronger among the less educated, but that the long-term effects are basically the same.

It is important to examine whether the effects verified above are observed in all sector of the economy or are driven by the behavior in some specific sectors. The results of this exercise are presented in figure 16. It is clear that there are substantial differences in the costs of displacement among sectors. They are higher and more persistent for the services and retail sector, intermediate and shorter in the manufacturing and agriculture, and pretty low in retail. Figure 17 then shows that the effects of displacement are higher for those individuals that change the sector of employment, but not significantly so.

4- Conclusions

In this study, we investigate the changes in wages associated with changes in jobs, that is, the costs of displacement. We focused on a sample of formal male workers, aged between 24 and 39 and living in the metropolitan area of São Paulo. We find that around 30% of the workers move out of the formal sector after a year, and that about 20% change jobs in the same period. Among those workers that leave the formal sector, about 15% enter the informal sector and 15% become unemployed or leave the labor force. These transitions are strongly associated with individual characteristics, especially education and tenure.

There are substantial wage changes associated with these transitions. A displaced worker experiences on average a reduction of 20% in December wages per year, even five years after displacement. We show that this result is robust to different treatment of workers that leave the formal sector of the economy and is driven by the losses suffered by more educated individuals working in big firms at the time of displacement. We conclude

that the displacement effects are the result of a combination of the depreciation of firm-specific human capital and the loss of a “good job”.

5 – References

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Figure 1 - Labor Market Transitions

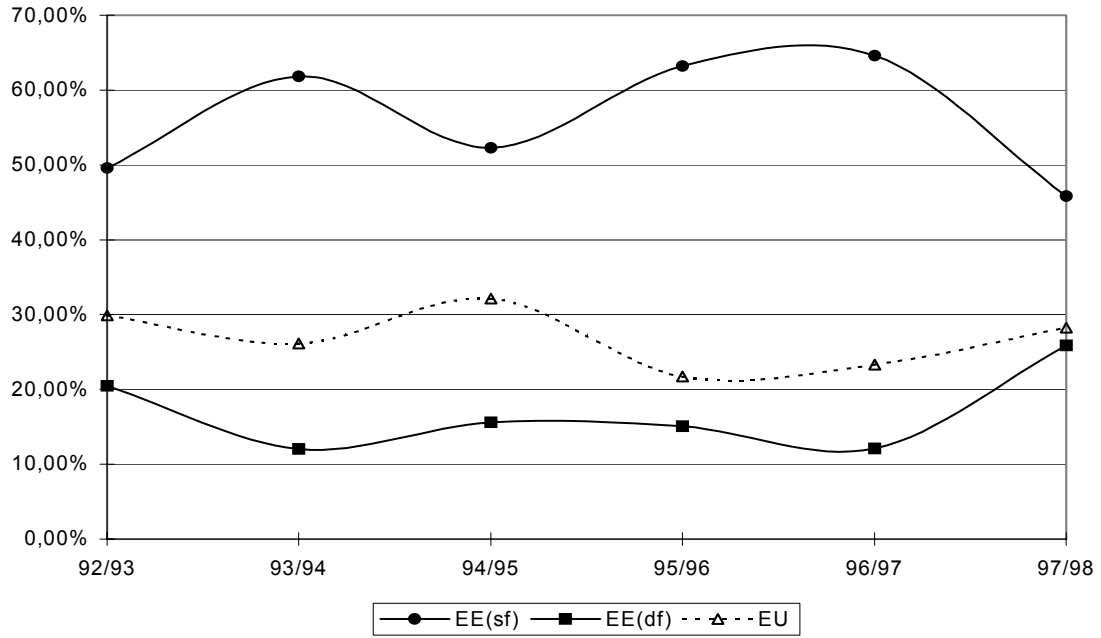


Figure 2 - Transitions out of Formal Sector by Education

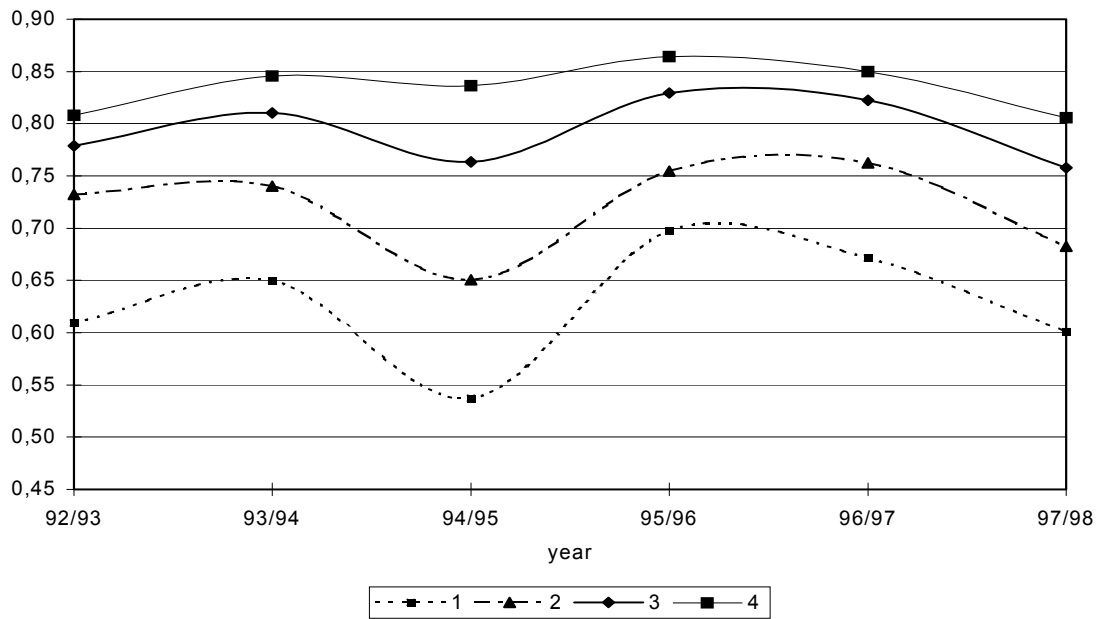


Figure 3 - Transitions out of Formal Sector by Tenure

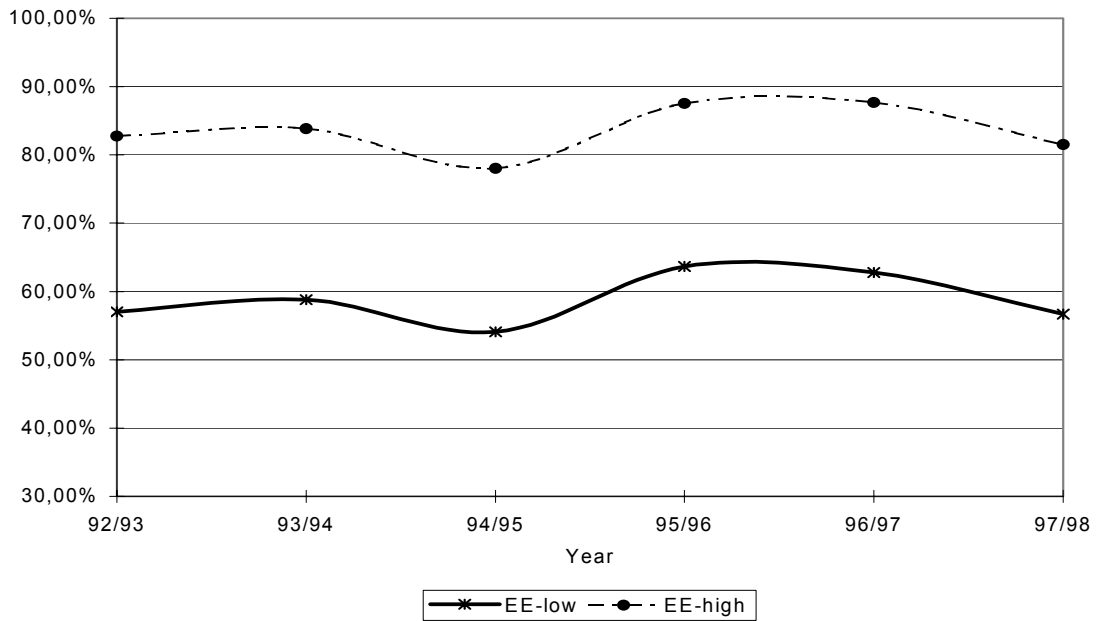


Figure 4 - Transitions to the Informal Sector

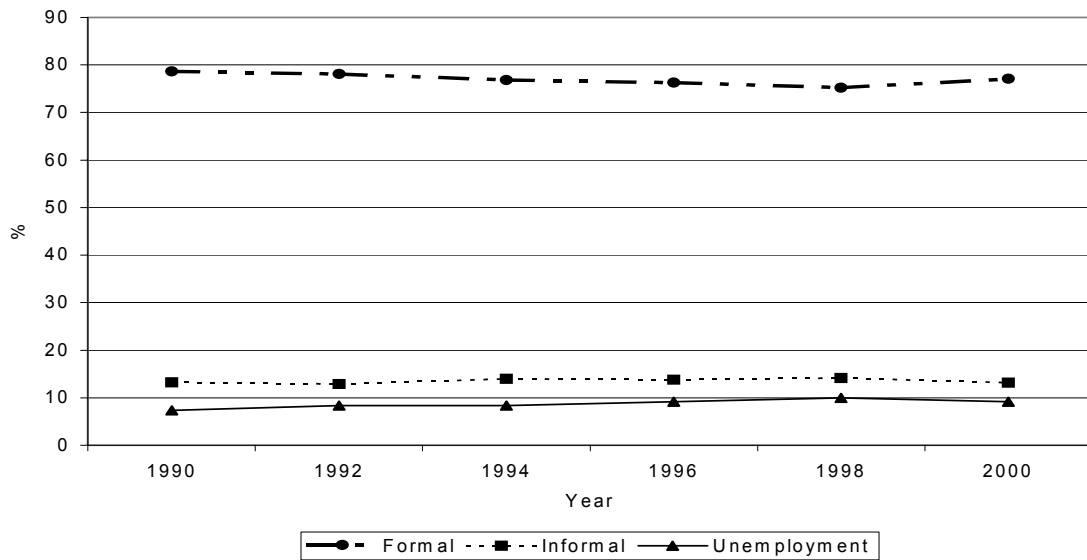


Figure 5 - Wages of Continuing and Displaced (1993) Workers

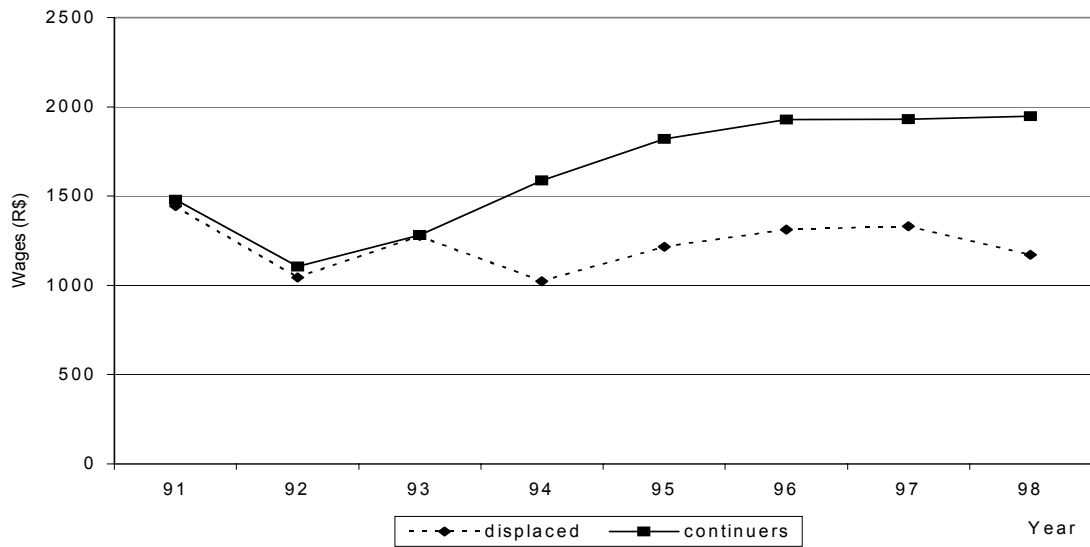


Figure 6 - Costs of Displacement by Tenure

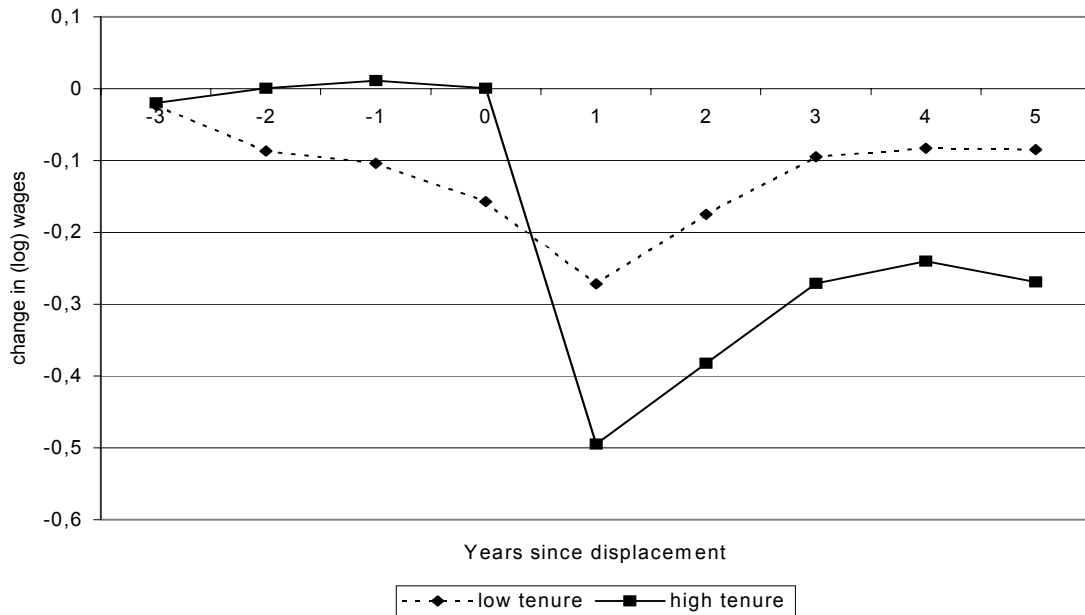


Figure 7 - Costs of Displacement -Different Samples

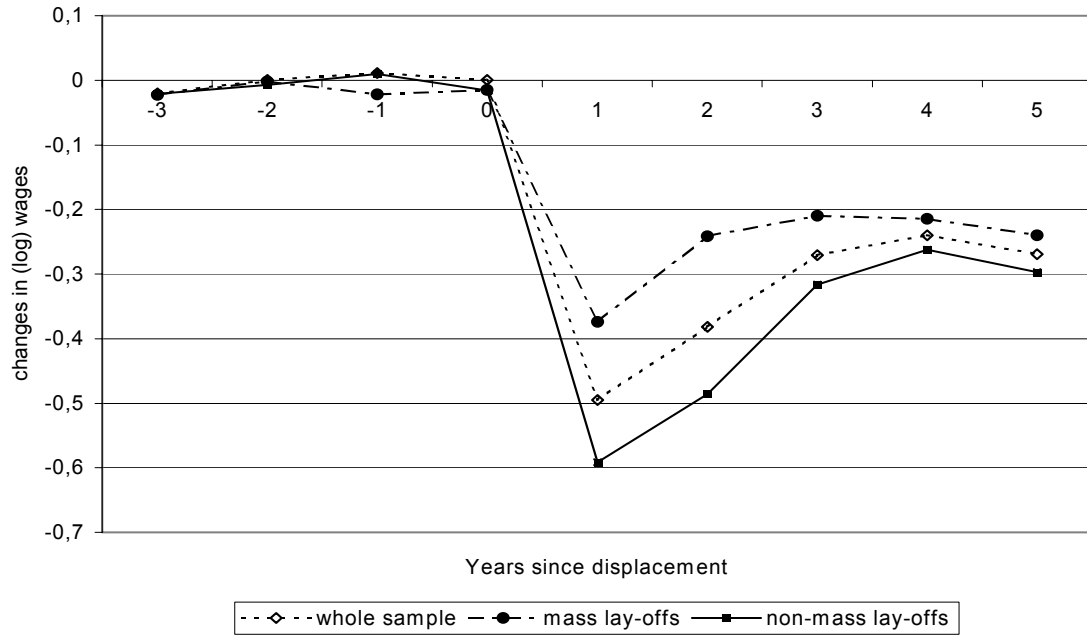


Figure 8 - Costs of Displacement- Robustness Tests

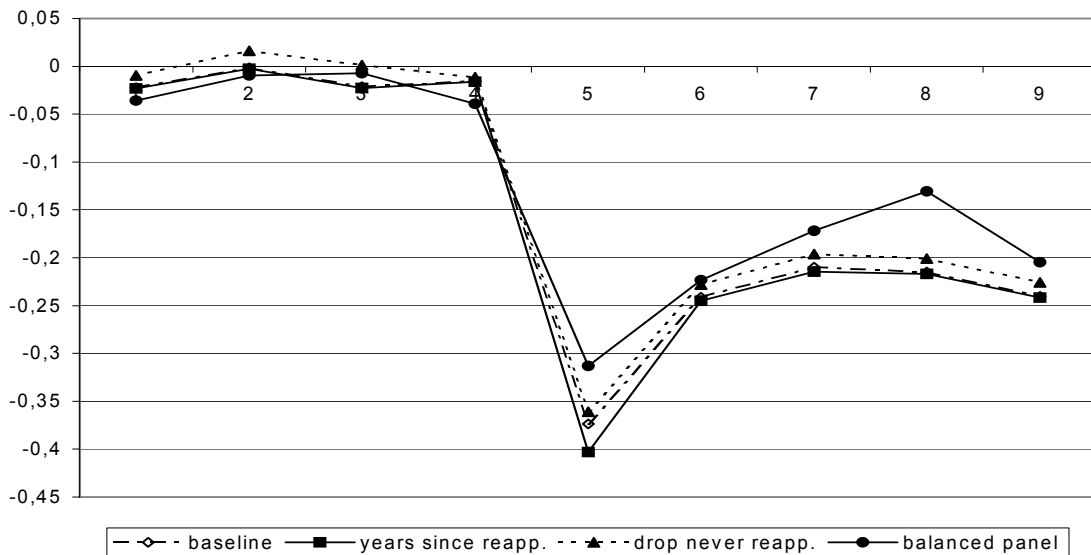


Figure 9: Costs of Displacement with and without trends

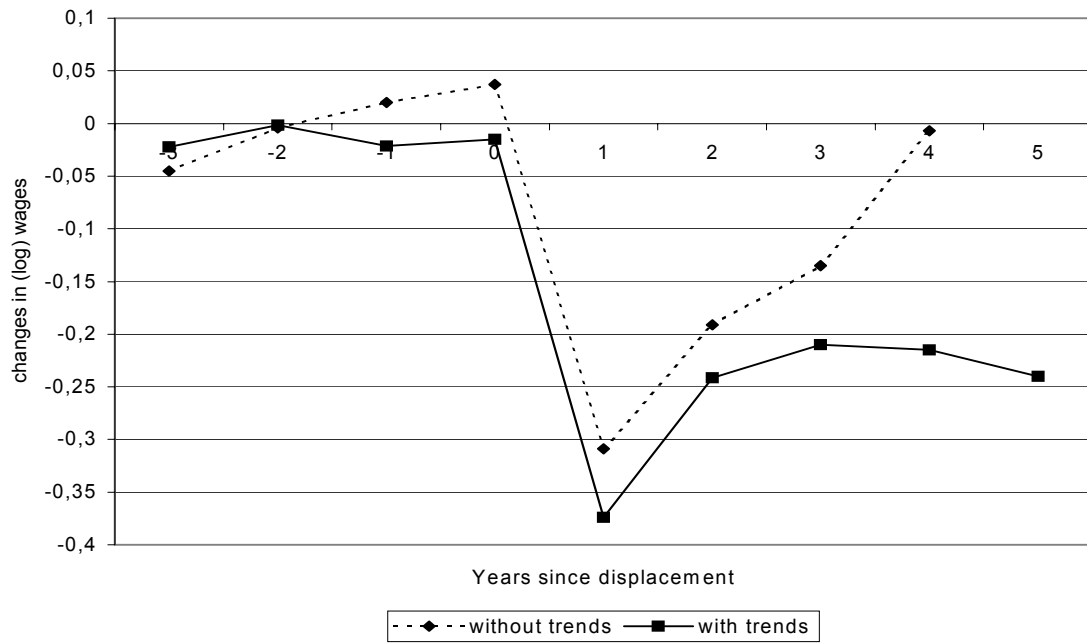


Figure 10: Costs of Displacement by Skill

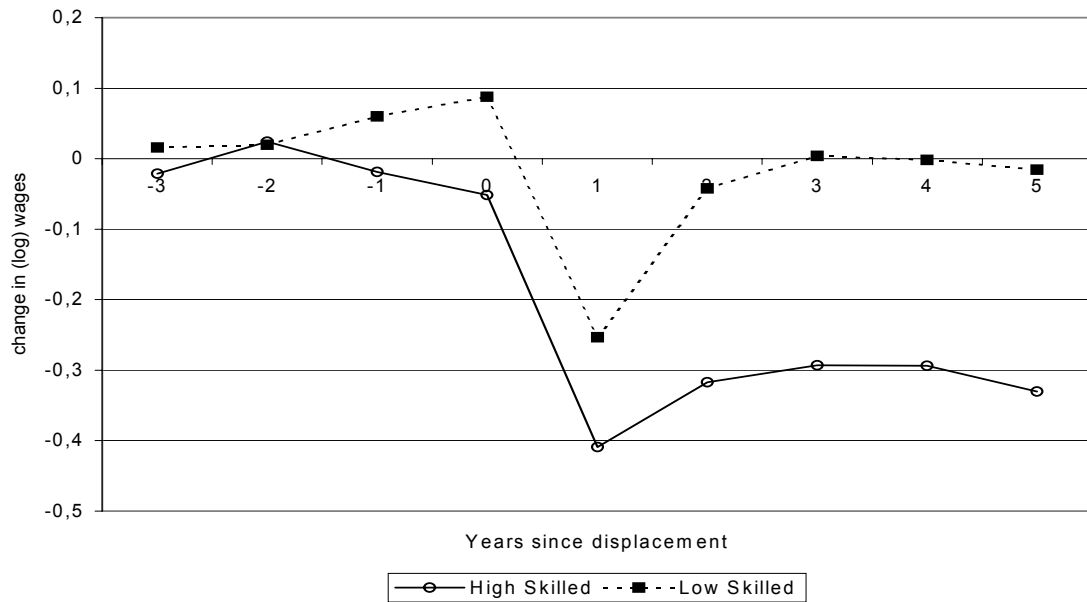


Figure 11: Costs of Displacement by Size of Displacing Firms

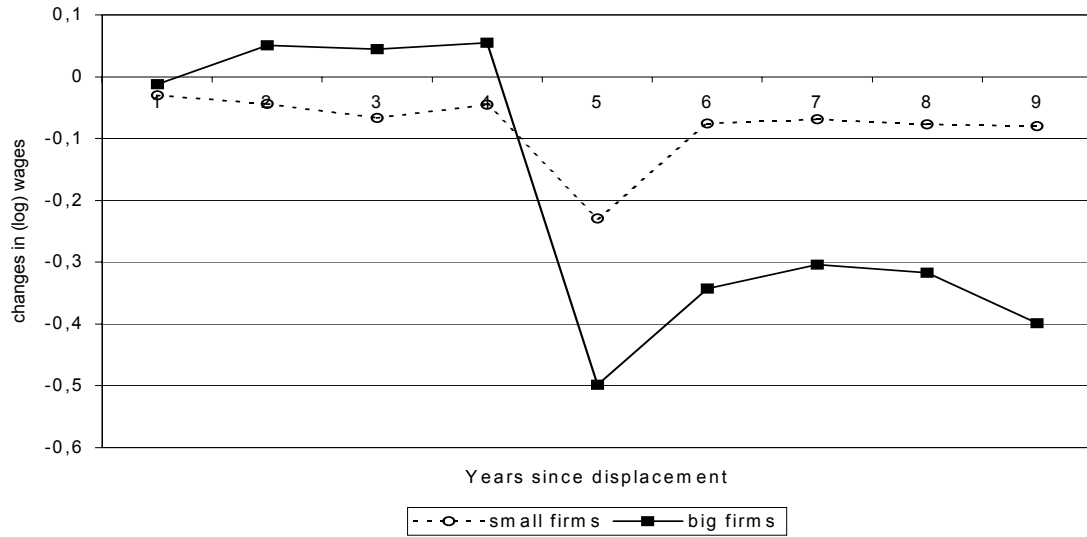


Figure 12: Costs of Displacement and Changes in Firm Size

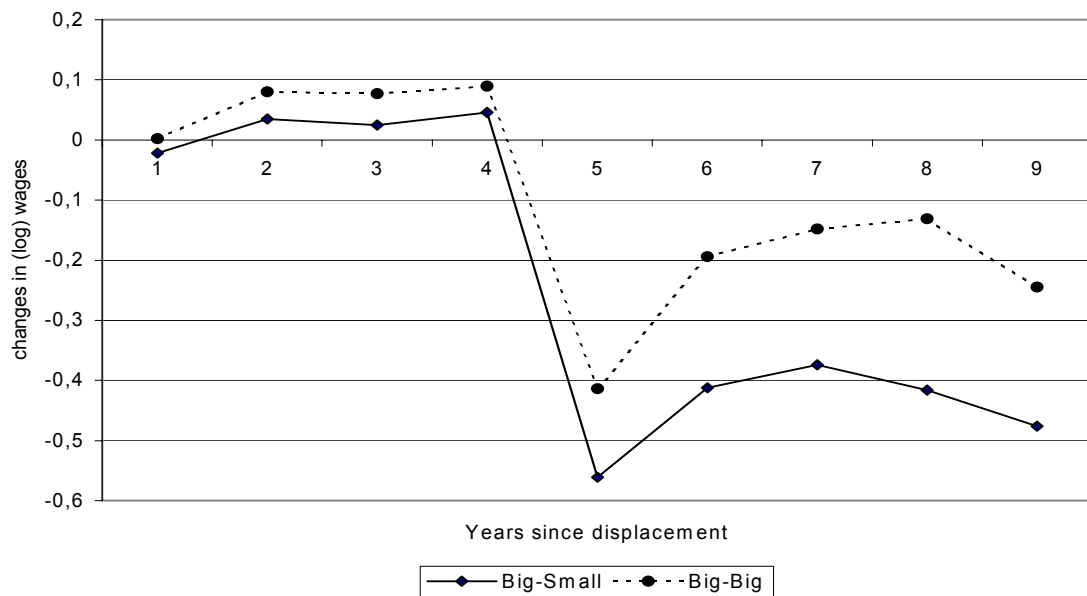


Figure 13: Costs of Displacement in Big Firms by Skill

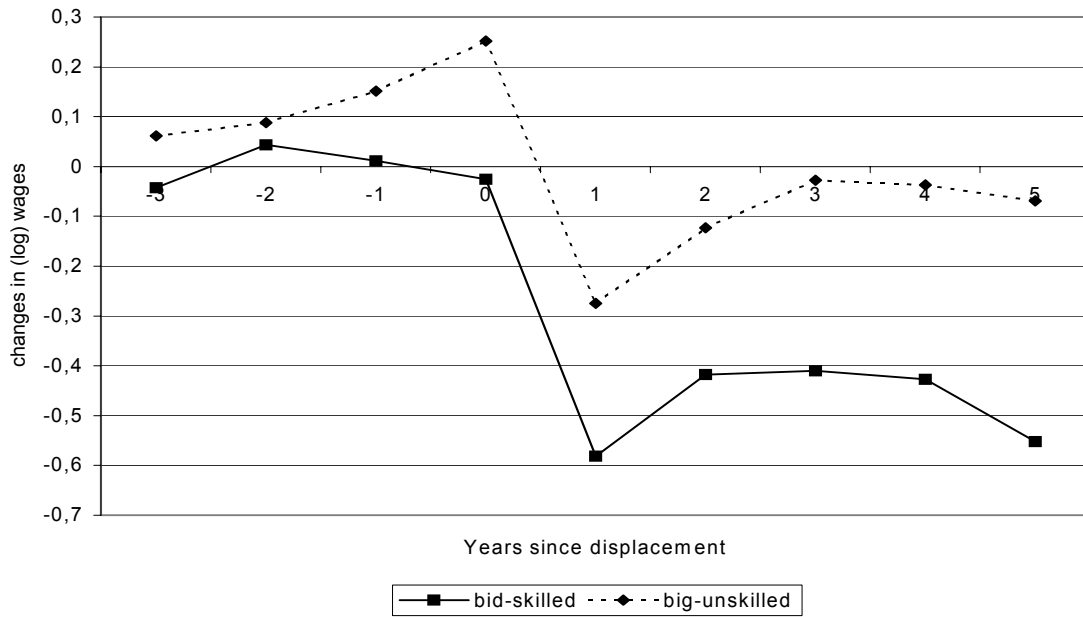


Figure 14: Costs of Displacement in Small Firms by Skill

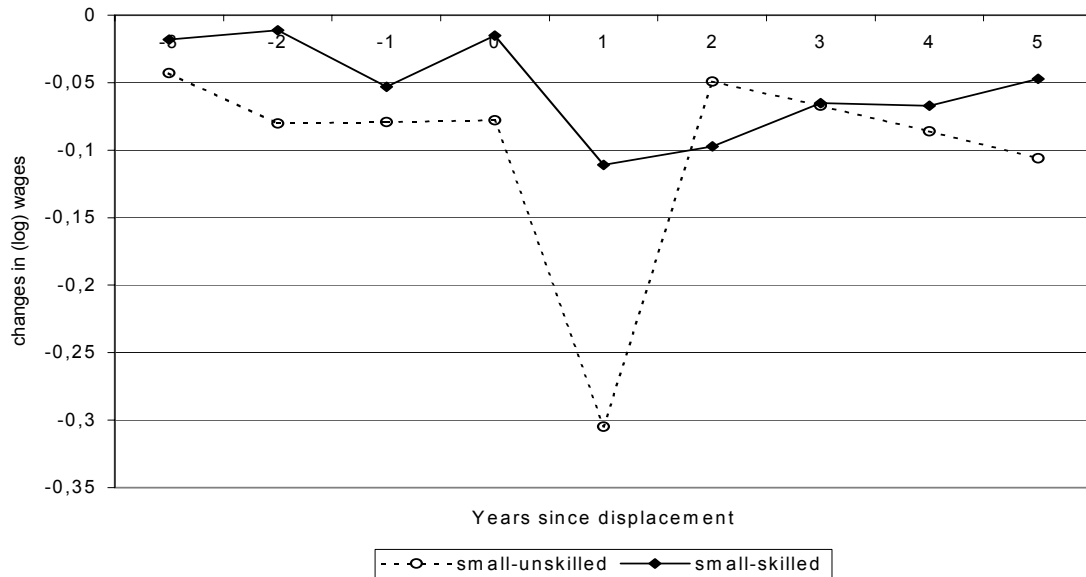


Figure 15: Costs of Displacement by Sector

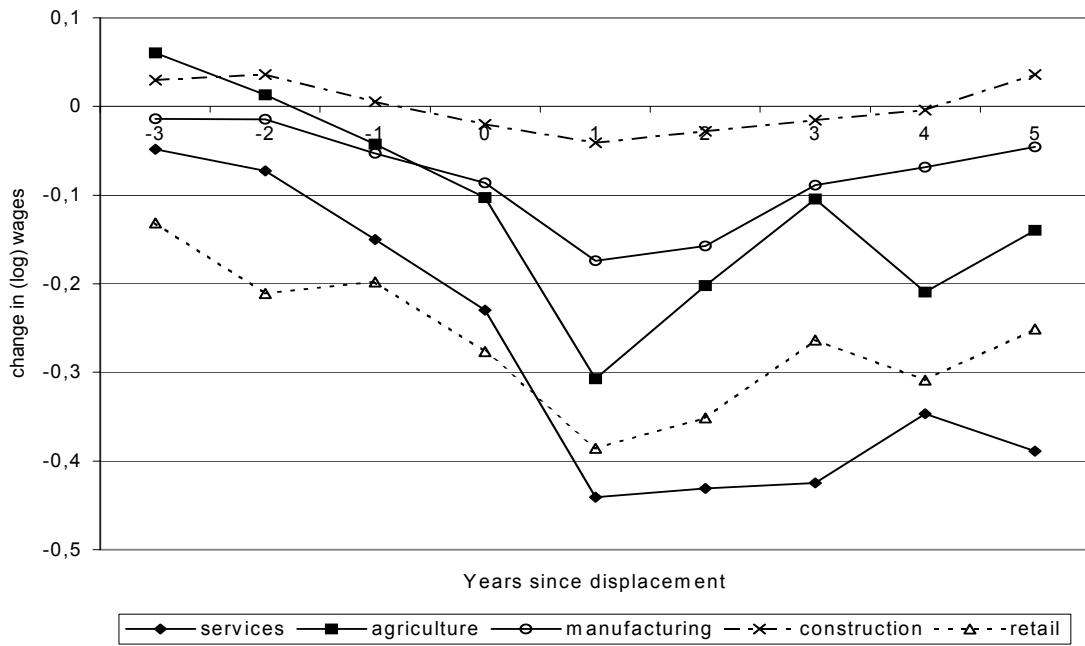


Figure 16 - Costs of Displacement by Change of Sector

