The Gender Implications of Public Sector Downsizing:

The Reform Program of Vietnam [*]

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Abstract

Men and women may be affected differently by major economic reforms and, especially, by public sector downsizing. Unfortunately the literature is not informative enough to predict the effects of a specific program. This article illustrates several analyses that could precede the launching of a sizeable downsizing operation, taking Vietnam as an example. First, the article uses employment data to assess the prospects for women to get salaried jobs. While these prospects worsened with recent reforms, they are bound to improve in the near future. Second, it estimates Mincerian equations to predict how reforms could affect the gender gap in labor earnings. Reforms are associated with a sharp decline in the gender gap, both in the state sector and out of it. Third, it analyzes the correlation between female employment and indicators of labor redundancy by sector. Over-staffing is concentrated in male-dominated activities, such as construction, mining and transportation, but is smaller in female-dominated activities, such as footwear, textile and garments. Fourth, the article reviews programs that are in place to assist redundant workers, such as early retirement and re-training. It uncovers no evidence of a strong gender bias in them. Finally, the article assesses the potential gender biases of three standard compensation packages for redundant workers. Packages defined as a multiple of earnings would be more favorable to men, whereas lump-sum packages would favor women.

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1.   Introduction

Because development strategies are not gender-neutral, a comprehensive economic reform program can be expected to affect men and women differently. Some of the effects may be indirect. For instance, moving from central planning to a market-oriented economy may change the labor market payoffs to education, and the educational attainment of men and women is not necessarily the same. Similarly, trade liberalization may change the composition of labor demand, hence the gender structure of employment. Other effects are much more direct, especially when the reform program includes massive public sector downsizing. The burden of job separations may not be borne evenly by male and female workers. And the welfare impact of these separations could differ by gender too.

While it is increasingly accepted that policy making has to pay especial attention to social impacts, including gender impacts, the conceptual framework and the information needed to assess the gender impact of reform programs in general, and of public sector downsizing in particular, are not readily available. Gender issues have been analyzed in some depth in industrial countries, but much less is known about developing countries and transition economies. At the risk of simplifying, the scant literature on the gender implications of economic reforms, and especially of public sector downsizing, can be summarized under the form of four propositions. The empirical support available varies depending on the propositions, but it can never be considered overwhelming.

First, reforms aimed at shifting the economy from central planning and self-reliance to market orientation and exposure to international markets should offer better prospects of salaried employment for women. This is because capital-intensive, heavy industries are more likely to

employ male workers, whereas labor-intensive, light industries are more likely to employ female workers. Heavy industries are favored by state-led development strategies, as a symbol of national pride and self-reliance. Capital-intensive industries are also promoted by import-substitution policies, as the latter shift the allocation of resources away from a developing country's comparative advantage, which rests on the abundance of unskilled labor. Export-oriented growth, on the other hand, relies on light, labor-intensive industries. Support for the hypothesis that economic reforms are associated with a feminization of employment is mainly provided by the East and South Asian experiences (World Bank, 2001).

Second, economic reforms could also affect the gender gap in labor earnings, although the sign of this effect is a priori ambiguous. A frequent outcome of the transition to a more market-oriented economy has been the "decompression" of labor earnings in general, and of wages in particular. This decompression results from increases in the market returns to various skills and productivity characteristics. If women have a lower level of education than men, the gender gap in labor earnings could increase. This has been observed in countries like Russia and the Ukraine (Rodgers, 1999). On the other hand, economic reforms also reduce the scope for employers to "discriminate" against women. Faced with increased competition, employers have a stronger incentive to hire more lower-priced female labor, which in turn should reduce the gender gap in earnings. The experience of Mexico during a recent period of trade liberalization is consistent with this hypothesis (Artecona and Cunningham, 2000).

The third proposition emerging from the existing literature is that women are more likely to experience a larger drop in earnings than men in the event of downsizing. The gender gap in labor earnings tends to be smaller in the public sector than out of it, implying a bigger loss, in relative terms, for separated women. The gender gap in private sector earnings has been

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documented by several studies dealing with developing countries (for instance, Psacharopoulos and Tzannatos, 1992, and Appleton, Hoddinott and Krishnan, 1999). Other studies suggest that the drop in earnings subsequent to public sector downsizing is larger for women than for men (see Mason, 1997, and Rama, 1999). Moreover, the public sector usually offers benefits that are highly valued by women, such as maternity leave, flexibility in the hours of work, and daycare facilities. These benefits are more rare in the private sector, and generally unavailable in the informal sector, where most of the new jobs taken by separated workers are. The loss in total compensation experienced by women is thus potentially larger than the more easily observable loss in earnings.

Finally, the fourth proposition is that women are more likely than men to withdraw from the labor force after downsizing. From this perspective, the drop in earnings is even larger than suggested by the previous paragraph, as many separated women end up with no earnings at all. However, the labor force withdrawal is sometimes voluntary. A tracer study of separated central bank employees in Ecuador found that the earnings loss was significantly larger for women than for men. But the study also included questions on subjective wellbeing, taking into account the compensation received, the change in leisure time associated with the withdrawal from the labor force, and other adjustments in the life of the household subsequent to the job separation. The tracer study found that the net change in wellbeing was not significantly different for men and women (Rama and MacIsaac, 1999).

While these propositions provide interesting insights on the expected gender impacts of economic reforms, and especially of public sector downsizing, they are not detailed enough to inform economic policy in a particular country at a particular point in time. Depending on the magnitude of the gender impacts on employment, earnings and wellbeing, additional measures

may be needed. These measures could be specific programs targeted to women; particularly to those who lose their jobs as a result of downsizing. They could also take the form of adjustments to specific aspects of the economic reform program that are gender-neutral on the surface, but do have different impacts on men and women.

The aim of this article is to illustrate some of the additional analyses that could precede the launching of economic reforms entailing public sector downsizing in a developing country or a transition economy, in order to assess their gender impact. These analyses aim at predicting how trends in salaried employment by gender will be affected by the reform program, at quantifying the potential changes in the gender gap in labor earnings, at evaluating the impact of the operation on job losses by gender, and at assessing whether the programs that are in place to assist and compensate redundant workers affect the wellbeing of men and women differently. Some of these analyses rely on barely more than educated conjectures, whereas others require more rigorous quantitative work. Despite their individual weaknesses, these analyses may provide a sensible picture of the effects of public sector downsizing.

The example chosen in the article is that of Vietnam. The interest of this country is twofold. First, a major downsizing operation is about to be launched, whereby up to 5,740 state-owned enterprises (SOEs) will be liquidated, divested or restructured over the next decade. Those enterprises currently employ 1.68 million workers, amounting to roughly 5 percent of the Vietnamese labor force. About 450,000 of these workers may lose their jobs, and many others may take early retirement. Job losses could in principle affect women disproportionately. This article was actually prepared as an input for the Vietnamese reform program. Second, the data available in the case of Vietnam is similar to the data that can be found in other developing

countries and transition economies. From this point of view, the article could also be relevant when designing public sector downsizing programs elsewhere.

2. Impact on Salaried Employment

The potential gender impact of the reform program on salaried employment can be assessed based on the actual implications of the economic reforms undertaken in Vietnam over the last few years. In 1986, the 6th National Congress of the Communist Party adopted the Doi Moi, or renovation process. Since then, several reform policies have been implemented, and the country has been moving steadily from a centrally planned to a market-oriented economy. In 1991, the pace of reform was dramatically accelerated by the disintegration of the Soviet Union, which entailed the loss of the main trading partner and about one billion rubles a year in aid. The result was a collapse in economic growth and high inflation, peaking at about 450 percent per year. Confronted with this situation, the government decided to launch a massive restructuring of loss-making SOEs, leading to the separation of about one-third of the public enterprise workforce.

Elements for an assessment of the gender impact of these reforms can be found in a variety of studies on the condition of women in Vietnam (see the overview by Long *et al.*, 2000, and the comprehensive bibliography by Pham, 2000). Those studies do not always allow to disentangle the effects of economic reforms from those of other, more permanent factors affecting gender relations. Still, they prove interesting when combined with data on employment from the 1992-93 and 1997-98 rounds of the Vietnam Living Standards Survey (VLSS).

One striking fact, when analyzing the VLSS data, is the slow growth of salaried employment among women, relative to men. This fact is at odds with the first proposition emerging from the literature on the gender implications of economic reforms, according to which women should face better employment prospects that men. It is worth noting that the employment pattern is not due to a decline in female participation rates, like the one observed in many countries in Eastern Europe and the former Soviet Union. Labor force participation rates are very high for women in Vietnam, and they have increased over the 1990s, as shown by Table 1. At the end of the decade, the percentage of women of working age who were employed was almost the same as the percentage of men. Moreover, women were less likely than men to be unemployed. Despite all this, the number of women in wage employment expanded at a much slower pace than the number of men. The growth rates between 1992-93 and 1997-98 were 10.1 and 25.6 percent respectively.

One natural candidate to explain this striking trend is, of course, the massive downsizing program of the early 1990s. The total number of employees in the state sector was reduced from 3.86 million in 1985 (about 15 percent of the labor force) to 2.92 million in 1992 (or 9 percent). As public sector jobs account for a larger share of wage employment among women than among men, even a gender-neutral downsizing would lead to a larger drop in wage employment (in relative terms) for women than for men. In the case of Vietnam, downsizing was not gender-neutral, though, as roughly 70 percent of the separated workers were female. In 1990-91 alone, some 553,000 women workers were laid off from SOEs (Beresford, 1994). This figure amounts to 19.7 percent of all female wage employment in 1992-93.

Over time, however, the first proposition emerging from the literature is likely to be verified in Vietnam as well. In 1998, SOEs represented 46.2 percent of industrial GDP, but they

accounted for only 24.2 percent of industrial employment. On the other hand, private firms in manufacturing were clearly labor intensive and export-oriented (Belser, 2000). The economic reform program of Vietnam should lead to a gradual contraction of the former sector, and a fast expansion of the latter. Belser estimates that given Vietnam's endowment of natural and human resources, manufacturing exports could triple over a five-year period, generating on average about 300,000 direct jobs every year. Jobs in exporting firms often carry the benefits associated with participation in the formal sector of the economy.

A majority of the jobs to be created as a result of the reform program could be held by women. A survey of 1,294 enterprises carried out by MOLISA (1998) provides valuable insights in this respect. The sample included 408 SOEs, 761 private firms and 125 enterprises with foreign investment capital. While the sample was not intended to be representative, all of the enterprises in it were presumably formal. An interesting finding of this survey is that the highest proportion of female workers can be found in private firms (55.6 percent), followed by enterprises with foreign investment capital (48.8 percent). The lowest proportion, 39.7 percent, is in SOEs. This ranking is observed despite a government policy that encourages SOEs to employ as many female workers as possible (ILO, 1998). If the ranking holds over time, a contraction of the state sector, followed by an expansion of private firms and enterprises with foreign investment capital, should lead to better employment opportunities for women.

3.   Impact on Labor Earnings

Mincerian equations, or earnings functions, are a useful tool to assess the impact of economic reforms on the gender gap in labor earnings. These functions, usually estimated using

records from household surveys, link (the log of) individual labor earnings to a variety of individual characteristics, such as educational attainment, work experience or region of residence. Earnings functions can be estimated separately for men and for women, in which case the gender gap in earnings can be decomposed into two effects: differences in endowments (for example, in educational attainment) and differences the in returns to these endowments (in the example, the increase in earnings associated with one additional year of education). An intuitively simpler way to assess the gender gap is to estimate the earnings function pooling together workers of both sexes, but including a gender dummy among the explanatory variables. The coefficient multiplying this variable indicates whether two workers who have the average educational attainment, experience, etc., but are of different sexes, have different earnings.

Table 2 reports the coefficients of these simpler earnings functions at two points in the reform process of Vietnam. These coefficients were estimated using individual records for salaried workers of both sexes, obtained from the 1992-93 and 1997-98 rounds of the VLSS. Many things might have changed between these two periods. Differences in the skill composition of the labor force, in the terms of trade faced by the country, in the world interest rate, or even in weather conditions, could account for some of the change in the coefficients. But in the case of Vietnam, the effects of these genuinely exogenous differences are probably dwarfed by those of the economic reforms launched under the Doi Moi.

The earnings functions reported in Table 2 do not correct for potential self-selection biases. Women who hold salaried jobs could be different, in some systematic way, from other women. For example, they could be more talented. And the same applies to men who have salaried jobs. More talented workers are also likely to have a higher educational attainment. Earnings functions could attribute to educational attainment what is in reality due to talent, thus

biasing upwards the corresponding coefficient. The coefficients on other individual characteristics could be biased as well. But if the self-selection biases are stable over time, the comparison between the coefficients obtained for 1992-93 and 1997-98 should still be informative regarding the changes elicited by economic reforms.

Econometric techniques can be used to correct for self-selection. These techniques rely on assumptions regarding the self-selection mechanism at work, and are particularly effective if one or several variables exist that affect the selection into salaried work, but not labor earnings. Unfortunately, there are no obvious variables with these characteristics. For this article, the 1992-93 and 1997-98 earnings functions were re-estimated using the Heckman selectivity correction, without using additional explanatory variables for the selection into salaried work. The results yielded no evidence of significant self-selection bias. The corrected coefficient on educational attainment was slightly lower in 1992-93, and slightly higher in 1997-98, compared to the ordinary least square estimates.

According to the second proposition emerging from the literature on the gender impact of economic reforms, an increase in the returns to education should be expected. In Vietnam, this increase is observable both in SOEs and in the private sector, as shown by the coefficients multiplying the education variable in Table 2. Although returns to education appear to be substantially lower than in other countries, they almost doubled over a five-year period. For instance, in the private sector the contribution of each additional year of education to earnings increased from 2.34 percent to 3.98 percent. Because women have lower levels of education than men, this "decompression" of earnings must have been at their disadvantage. However, this effect is probably small, as the difference in average levels of education between men and

women is only about one year. The earnings decompression could then be associated with an increase in the earnings gender gap of less than two percentage points.

On the other hand, the 1990s witnessed a substantial decline in the gap in earnings between men and women, as measured by the coefficient multiplying the gender dummy variable. As expected, Table 2 shows that the gender gap in earnings is larger in the private sector than in the public sector. But it also shows a dramatic decline in this gap in the two sectors. Other things equal, in 1992-93 women workers in the private sector used to earn 38.9 percent less (= [exp(-0.4919)-1]*100) than men. By 1997-98 the gap had shrank to 26.1 percent (= [exp(-0.3025)-1]*100). The trend is similar in SOEs, with the gap falling from 28.8 to 18.5 percent. This second effect of economic reforms more than offsets the effect of increased returns to education. It follows that the reforms launched under the Doi Moi have reduced the gender gap in earnings, and this trend can be expected to continue with the new wave of reforms that is about to be launched.

Admittedly, the comparisons in Table 2 refer to wage earners only, as data on the earnings of the self-employed are not available. Few of the women who lost their jobs in SOEs are likely to have found salaried jobs, and many actually ended up doing unpaid work, as shown by Table 3. The figures in this table were constructed by Rodgers (1999), using data from the 1992-93 round of the VLSS. This survey contains detailed information on employment at the time of the survey, employment in the previous 12 months, and work performed prior to the job held in those 12 months. Although many SOE workers lost their jobs before the survey took place, the recall questions on employment history cover at least some of the retrenchment period. Rodgers' analysis focuses on respondents who report a change in jobs. The top panel of Table 3

refers to job switches that took place within the 12 months preceding the survey, whereas the bottom panel refers to switches prior to those 12 months.

The results in Table 3 show that during the first 12 months after a job change many more women than men withdrew from the labor force. But to a large extent, this withdrawal appears to be voluntary, as unemployment rates are low for all groups. At a first glance, this result is consistent with the fourth proposition emerging from the literature on the gender impact of economic reforms in developing countries. However, after 12 months, the share of men and women out of the labor force becomes substantially smaller, and actually comparable to the share observed for the population at large (see Table 1). It is thus unlikely that the downsizing operation about to be launched in Vietnam will have a lasting effect on the labor force participation rate of women.

The decline in the share out of force observed after 12 months is largely associated with an increase in unpaid work. This is actually the main activity of most of those who change jobs, regardless of whether those jobs were in the public sector or out of it. Table 2 also reveals a substantial increase in the share doing paid work. This share is roughly twice as large after 12 months from a job change than within the immediate 12 months. But paid work remains more prevalent among men than among women, even after 12 months, regardless of whether jobs were in the public sector or out of it.

4.   Impact on Job Losses

In the early 1990s, public sector downsizing affected women disproportionately. Will this be the case again in the early 2000s? According to Hyun et al. (2000), "it is safe to assume

that the gender division of labor in these industries will remain largely the same if privatized".

There are some grounds to share this assumption. As Table 4 shows, the average characteristics

of men and women employed in SOEs are similar. This table was constructed based on

individual records from the sample of the 1997-98 round of the VLSS. This sample contains 451

persons whose main occupation was in an SOE. Although the 1997-98 VLSS sample was not

drawn proportionally, there are no reasons to believe that its sampling fractions are correlated

with the individual characteristics of SOE workers. Therefore, the figures reported in Table 5

are non-weighted averages across those 451 persons.

According to Table 4, female SOE workers differ from male SOE workers in two main

respects. First, and not surprisingly, they earn less. The annual basic salary is more than one

million dong lower for men than for women. When bonuses, allowances and payments in kind

are taken into account, the gap climbs to roughly two million dong. And it widens by an extra

half a million dong when extra earnings in secondary and tertiary occupations are considered.

Given the similarity of average age, education and seniority, this gap confirms the existence of a

"gender gap" in labor earnings, as had already been suggested by the regressions in Table 2. The

second difference between male and female SOE workers is that the former are more likely to be

married.

These two differences could have opposite effects on the probability of being declared

redundant. Other things equal, female workers are "cheaper". From a purely economic

perspective, it could therefore be in the interest of the SOEs, or their new owners, to cut on male

employment first. On the other hand, male workers are more likely to have dependents, and

there could be an understandable reluctance to fire a "breadwinner". From a social perspective,

then, the SOEs or their new owners could prefer to cut on female employment first. It is difficult

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to tell, on a priori grounds, whether the economic or the social considerations will prevail in practice.

Unfortunately, it is not possible to analyze the link between labor redundancy and gender at a disaggregated level, because there are no matched data for enterprises and individuals in Vietnam. In particular, none of the available enterprise databases provides a breakdown of employment by gender. However, data for enterprises and individuals can be matched at the sector level. For this article, the female share of employment by sector of activity was estimated based on the 451 persons whose main occupation was in an SOE, according to the sample of the 1997-98 round of the VLSS. The source of the data was thus the same as in Table 4. The female share of employment was in turn matched to sectoral indicators of labor redundancy, estimated using enterprise-level data. The results are reported in Figures 1 and 2.

Figure 1 plots the female share of employment in SOEs against the fraction of workers who are redundant, by sector of activity. The fraction of workers redundant was estimated by Belser and Rama (2000), comparing employment levels across enterprises with different degrees of state ownership. The comparison by Belser and Rama controls for sector of activity, region and age of the enterprise, among other variables. It measures the drop in employment that would occur if all SOEs in the sector were to operate as privately owned enterprises. In practice, the number of job separations will be smaller than suggested by this fraction, as some enterprises are bound to remain (at least partially) in state hands, others will be divested or restructured only gradually, and some labor redundancies will be handled through natural attrition. Still, the indicator in the vertical axis of Figure 1 should be highly correlated with the (smaller) fraction of workers who could be declared redundant.

Figure 1 shows that over-staffing is not prevalent in sectors of activity where female employment is dominant. Belser and Rama found that SOEs in footwear and leather, in food and beverages, and in textile and garments are not substantially (or not at all) over-staffed compared to their private sector counterparts. These are the sectors of activity were female employment is more prevalent. On the other hand, a vast majority of SOE workers in transportation, construction, oil and gas, mining, and machinery and equipment are redundant. Male employment is dominant in these sectors. Overall, Figure 1 reveals a strongly negative association between female employment and labor redundancy. The correlation coefficient between these two variables is –0.92.

The nature of the labor contracts used in different sectors of activity also suggests that female workers are in higher demand than male workers. Figure 2 plots the female share of employment against the fraction of SOEs workers who are employed on short-term or temporary contracts, by sector of activity. Short-term and temporary contracts usually reveal precarious employment conditions. SOEs, or their new owners, could discontinue these contracts on a short notice, by simply not renewing them. Being employed on a short-term or temporary contract can thus be seen as an indication of being productive, from the point of view of the enterprise. It follows that most of the truly redundant workers must be employed on either long-term or open-ended contracts. Information on the fraction of workers who are on short-term or temporary contracts was drawn from the establishment database constructed by Belser and Rama.

Figure 2 shows that short-term and temporary contracts are prevalent in the footwear and leather sector, where more than eighty percent of the workers are female. At the other end, less than a quarter of all workers are on short-term or temporary contracts in sectors such as mining, transportation, construction, oil and gas, and machinery and equipment, where male employment

is dominant. Other sectors, such as food and beverages, and textile and garments, occupy an intermediate position. Overall, Figure 2 suggests that a positive association exists between female employment on the one hand, and short-term and temporary contracts on the other hand. In this case, the correlation coefficient is 0.78.

It is important to stress that the correlations revealed by Figures 1 and 2 do not arise by construction. In estimating the fraction of SOE workers who would become redundant, Belser and Rama do not use information on the female share of employment (which is not available at the enterprise level) nor on the fraction of workers who are on short-term or temporary contracts. The variables in the horizontal and vertical axes of Figures 1 and 2 are, therefore, generated independently. In the case of Figure 1, they even come from different sources, as the estimates by Belser and Rama rely on an enterprise database, which reports no gender breakdown, whereas the female share of employment comes form the sample of the 1997-98 round of the VLSS, which is a household survey. It is thus safe to conclude that there are fewer redundancies among women than among men.

5.   Gender Biases in Assistance Programs

Regardless of the number of female workers to be separated from their jobs, the programs available to assist those who are redundant should not suffer from a gender bias. In some cases, those programs amount to nothing. Workers whose short-term or temporary contracts are not renewed at expiration do not get cash compensation, training or any other form of assistance. But even "nothing" is not necessarily gender-neutral. The third proposition emerging from the literature on the gender impact of public sector downsizing is that women are more likely to

experience a larger drop in earnings than men in the event of separation. Providing the same amount of support (including no support at all) to separated men and women is therefore equivalent to accepting a bigger loss in earnings for the latter. If large numbers of workers hired on short-term or temporary contracts were to be separated in Vietnam, despite their lower redundancy rates, women could suffer disproportionately.

As regards workers on long-term or permanent contracts, a key component of the assistance strategy considered by the government of Vietnam is early retirement. This component is regulated by decree 93/1998/ND-CP, which allows workers to get old-age pension up to five years prior to the "normal" retirement age. In Vietnam, the normal retirement age is 60 years for males and 55 years for females. The old-age pension is reduced by one percent for each year below the normal retirement age. The reduction in retirement age allowed by decree 93/1998/ND-CP is the same for both sexes, so that on the surface this assistance program for redundant workers does not discriminate against women.

In Vietnam, however, the case has been made that women are penalized by their lower retirement age. Being forced to retire, the argument goes, prevents women workers from reaching high echelons in the hierarchy of the enterprises and agencies they work for. This argument is articulated by the Vietnam Women's Union (1998), based on a survey conducted in Haiphong. The sample of this survey includes 302 persons, equally divided by gender. Most of the respondents worked in administrative and production units of SOEs and government agencies; the rest were retirees. This sample is not representative, and the interpretation of some of the questions asked by the survey is difficult. Still, some of the results of this survey are interesting on their own.

Female respondents are more inclined than men to believe that early retirement creates inequalities, and they are also more numerous to claim that it adversely affects the status of women. From a "social" point of view, the early retirement program could thus be detrimental to women. However, this perception is voiced by less than half of the interviewees. Only two assertions get a majority of supporters among women. One is that early retirement leads to a lower pension, which is so by design. The other is that early retirement benefits women more than men. From an "economic" point of view, then, the early retirement program could be favorable to women. Whether the adverse "social" implications are offset by the "economic" implications probably depends on the characteristics of each worker.

While the subjective evaluation of early retirement is unobservable, the implicit transfer of resources created by the program can be quantified. Figure 3 displays the average transfer for all the SOE workers who would have been eligible for early retirement in the sample of the 1997-98 round of the VLSS, had decree 93/1998/ND-CP been in force at that time. To estimate the average transfer, both the full pension at the normal retirement age and the reduced pension at early retirement were computed for all eligible workers, taking into account their earnings and work histories. The average transfer is the outcome of two effects of different sign. On the one hand, workers who retire early receive a pension during all the period below the legal retirement age, up to a maximum of five years. On the other hand, they receive a lower pension over all the years between their legal retirement age and their death. The net transfers reported in Figure 3 are the present value of these two flows of opposite sign, discounted at an annual rate of 10 percent (in real terms), under different assumptions regarding life expectancy. Computations are carried out using the Downsizing Options Simulation Exercise, or DOSE, an Excel-based

application that incorporates the lessons from a broader research project on public sector downsizing (see Rama, 1999).

Based on the results reported in Figure 3, the early retirement program introduced by decree 93/1998/ND-CP entails a net transfer of roughly 14 million dong for the average eligible male worker, and 12 million dong for the average eligible female worker. The ratio between these two figures is very close to the ratio between the average earnings of male and female SOE workers, according to Table 4. From this perspective, the early retirement program of Vietnam could be considered gender neutral. However, this conclusion does not hold if the size of the monetary transfer, rather than its relationship to earnings, is considered. From this other perspective, decree 93/1998/ND-CP is more advantageous for male workers.

Another component of the assistance strategy considered by the government of Vietnam is training. While a variety of training programs already exist, their use may be intensified if separated workers are given a training allowance or a training voucher. These two possibilities are currently under consideration as part of a broader separation package, to be discussed in the next section. The issue in this respect is whether the current supply of training programs in Vietnam is well suited to the needs of female workers. While the ability of training programs to actually improve the skills of trainees is in general unclear, there are grounds to believe that the choices offered in Vietnam do not suffer from a bias against women.

The Vietnam Women's Union has vocational training centers for skills like computer operation, English language, garment manufacture, knitting, lace-making, embroidery, handicraft, beauty treatment and domestic skills. Some of these skills may simply reflect typical gender stereotypes; others appear to be well geared towards the needs of the labor market. The job training centers have often received initial funding from international agencies or from the

national level of the Vietnam Women's Union, but they are largely self-supporting. Trainees are required to pay a fee, usually ranging from 10 to 30 US dollars a month. These vocational training centers could play a key role in assisting female SOE workers who are separated from their jobs.

6. Gender Biases in Separation Packages

Cash compensation for job loss is usually one of the most important components of assistance strategies for redundant workers. Compensation of this sort takes the form of a separation package, generally based on individual characteristics such as salary in the SOE and seniority on the job. Although compensation formulas do not explicitly discriminate by gender, they may treat men and women differently. As women earn less than men, they may get a smaller amount of compensation. Moreover, the present value of the loss in earnings and benefits from separation could be larger for women, at least according to the third proposition from the literature on the gender impact of economic reforms. Compensation formulas should therefore be subject to scrutiny to assess whether they implicitly discriminate by gender.

At present, separation packages in Vietnam are determined by the 1995 Labor Code. At the risk of simplifying, their formula is set by article 42, at half a month of salary per year of service. As this formula is deemed insufficiently generous to handle mass layoffs, other alternatives are currently under discussion. A special fund to pay for potentially more expensive separation packages has even been created, by decision 177/1999/QD-TTg. Specialists from several agencies and institutions, including the Ministry of Labor, Invalids and Social Affairs (MOLISA), the National Enterprise Reform Committee (NERC) and the Vietnam's General

Confederation of Labor (VGCL) have proposed specific formulas. But no decision had officially been made when this article was written. Consequently, rather than focusing on any of those formulas, this article consider three standard packages.

The first package is based on earnings. In this case, the amount of compensation S_i received by worker 'i' is a multiple of his or her total salary in the SOE, W_i:

$$S_i = A\,W_i \tag{1}$$

As parameter A increases, the amount of compensation becomes more generous. Parameter A could be measured in months of total salary. The second package combines current earnings and the number of years of service in the SOE, Y_i. In analytical terms, the amount of compensation received by worker 'i' now verifies:

$$S_i = B\,W_i\,Y_i \tag{2}$$

The generosity of this package hinges on parameter B, which can be measured in months of total salary per year of service. Finally, the third package is a lump-sum payment, not taking into account any individual characteristic of the worker:

$$S_i = C \tag{3}$$

In this case, parameter C directly indicates the amount of compensation received by the worker. Parameter C could be measured in thousand dong.

Because not all SOE workers have the same earnings and the same number of years of service, the three formulas would compensate them differently. For instance, workers whose earnings are higher than the average would receive a higher separation package under the first formula than under the third one. Moreover, different workers have different outside alternatives. Those who have good job opportunities, or want to withdraw from the labor force, may only need a small amount of compensation to be enticed to leave the SOE. Those who would like to continue working, but are relatively "unemployable", may require much larger amounts. Put differently, each of the three packages may look "acceptable" to some SOE workers and "unacceptable" to others. The issue is whether this acceptability is systematically different for men and for women.

To address this issue, this article compares each of the three separation packages to the present value of the loss from job separation, for each of the 451 SOE workers in the sample of the 1997-98 round of the VLSS. The present value of job loss is calculated using a methodology initially proposed by Fiszbein (1994) and subsequently developed by Assaad (1999) and Chong and Rama (2001). This methodology relies on an estimation of the alternative earnings of each SOE worker, given his or her individual characteristics. In practical terms, an earnings function like the one in the last column in Table 2 is used for this purpose.

When comparing these alternative earnings with the actual earnings in the SOE, it appears that a majority of the workers would lose from separation. But there is a large group of workers who apparently could earn more (in some cases, much more) out of the public sector than in it. The fact that these workers did not voluntarily leave their SOE suggests that they attach a high value to non-cash benefits associated with their jobs, such as health coverage, entitlement to old-age pension, or low work effort. However, some of the potential earnings

gains are too large to be credible, implying that they are most likely due to measurement error. The approach developed by Chong and Rama consists of getting rid of these "unrealistic" gains. The highest predicted change in earnings, once these "unrealistic" cases have been removed, is then used as an indicator of the cash value of the benefits associated with public sector jobs. This cash equivalent is added to the actual earnings in the SOE to create an indicator of total compensation. The present value of the loss from separation is calculated as the difference between total compensation in the SOE and alternative earnings, discounted over all the years until the worker reaches the normal retirement age.

Computations are done using DOSE, and assuming that the top ten percent of expected changes in earnings from job separation were too high to be "realistic". Under this assumption, the benefits associated with an SOE job are worth an additional 56.1 percent of the total salary for male workers, and an additional 59.8 percent for female workers. If only the top eight percent had been discarded as unrealistic, the gender gap in the valuation of benefits would have been larger, as the corresponding figures would have been 64.9 and 74.6 percent respectively. A higher figure for female workers is consistent with the fact that some of the benefits that are available in SOEs, but not necessarily elsewhere in Vietnam, are especially appreciated by women. This is obviously the case with maternity leave.

Figures 3, 4 and 5 report the "acceptance rates" of each of the three packages for different values of parameters A, B and C. The acceptance rate is the fraction of the SOE workers for whom the separation package would exceed the present value of the estimated loss from job separation. The range of variation of parameters A, B, and C is such that the highest acceptance rate is close to 20 percent for all three packages. However, the average compensation per worker needed to attain the same acceptance rate is different in all three cases. Overall, the separation

package that combines salary and years of service tends to be the most expensive. The package based on earnings, in Figure 3, displays consistently higher acceptance rates for male workers. At the other end, the package based on a lump-sum payment, in Figure 5, is more attractive to female workers, and increasingly so as it becomes more generous. The package combining earnings and seniority occupies an intermediate position, as revealed by the multiple intersections of the solid and the broken lines. Based on these figures, it is clear that a separation package involving an important lump-sum component is less likely to penalize women.

7.   Conclusions

While the massive downsizing of the early 1990s affected women disproportionately, the new reform program of Vietnam should not have the same gender bias. Employment in SOEs has been shaped by a decade of increased exposure to market competition. In sectors of activity where Vietnam has a comparative advantage, especially in light industries such as footwear and leather, or textile and garments, female employment is dominant. Over-staffing in these sectors is not dramatic. On the other hand, in the sectors of activity that had been favored by central planning, such as transportation, or mining, only a small fraction of the workers are female. It is in these sectors where over-staffing is most prevalent. The nature of the contracts used in different sectors of activity is also indicative of actual demand for female workers. Short-term and temporary contracts are more common in sectors where female employment is dominant, whereas long-term and open-ended contracts characterize the sectors where male employment is dominant. Overall, it appears that in the early 2000s, labor redundancy in Vietnam has become essentially a male problem.

The assistance programs that are currently in place to help redundant workers do not seem to be strongly biased against women either. The net transfer of resources from the current early retirement program is similar for both sexes, if measured as a multiple of labor earnings. It is higher for men when measured in value terms, but this does not necessarily mean that women are penalized. It has been claimed that early retirement is detrimental to female workers, as it prevents them from reaching high levels in the echelons of the SOEs they work for. However, according to the only survey available in this respect, this claim is not universally supported. While a large fraction of female respondents agree that early retirement affects the social status of women, an absolute majority of them says that it is economically beneficial for women. The current supply of training services is also quite well geared to female workers.

Whether separation packages for separated SOE workers will treat women fairly is still an open issue, as no decision has been made in this respect. The simulations done for this article show that the acceptance rate for some of the standard packages could differ systematically for men and women. Separation packages based on a multiple of current earnings would be preferred by men, whereas those based on a lump-sum payment would be preferred by women. Packages defined in months of salary per year of service occupy an intermediate position, but they would be more expensive from the government's perspective. Overall, these simulations suggest that including an important lump-sum component in the formula of the separation package would be key to ensure that separated female workers are not penalized, relative to separated male workers.

Voluntariness would be an additional safeguard. This safeguard is already present in the early retirement program of Vietnam. Redundant workers who qualify for early retirement can make their own judgement, and decide whether they want to take it or not. Depending on the

amount of resources the government of Vietnam is willing to commit to cushion the social impact of the reforms, the separation of many SOE workers who are not eligible for early retirement could be voluntary too. If packages were generous, the number of workers willing to resign could be large enough to deal with most of the labor redundancy problem. It is still possible that among those who accept to retire early, or to take a separation offer, men benefit more than women. But voluntariness ensures that the wellbeing of redundant female SOE workers is not reduced (at least, ex-ante).

Last but not least, the reform program of Vietnam may also affect the wellbeing of women who are not bound to lose their SOE jobs. The experience of the 1990s showed that the reform program was associated with a substantial reduction of the "unexplained" gap in earnings between men and women, both in SOEs and in the private sector. Moreover, a reduction in the size of the state sector should be associated with an expansion of employment in the private sector. Data on large establishments reveals that the highest proportion of female workers can be found in the private sector, and the lowest in SOEs. The reform program of Vietnam could thus increase the opportunities for women to become salaried workers. The combination of a smaller gender gap and a potential expansion in salaried employment suggests that the reform program of Vietnam is to the advantage of women.

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Table 1

Working Age Population by Economic Activity

(Figures in percent)

Status	1992-93			1997-98		
	Female	Male	Total	Female	Male	Total
Active	83.86	87.85	85.74	85.44	86.92	86.14
Employed	80.91	84.49	82.59	83.73	84.79	84.23
Unemployed	2.95	3.37	3.15	1.71	2.13	1.91
Not Active	16.14	12.15	14.26	14.56	13.08	13.86
Attending School	2.12	3.71	2.87	6.27	8.58	7.37
Housekeeping	3.97	0.22	2.20	3.71	0.23	2.05
Other	10.06	8.21	9.19	4.58	4.28	4.43
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Bales (2000). Working age population includes all persons aged 15 to 64.

Table 2

Determinants of Wage Earnings

Explanatory variables	Dependent variable: Log of total earnings in main occupation			
	1992-93		1997-98	
	SOEs	Private	SOEs	Private
Female (yes = 1)	-0.3399 *** (-5.222)	-0.4919 *** (-10.329)	-0.2047 *** (-4.810)	-0.3025 *** (-8.096)
Education (in years)	0.0272 *** (2.737)	0.0234 *** (2.755)	0.0363 *** (3.575)	0.0398 *** (6.031)
Work experience (in years)	0.0017 (0.146)	0.0229 *** (2.846)	0.0001 (0.387)	0.0175 *** (3.097)
Work experience squared	0.0003 (0.922)	-0.0005 *** (-3.498)	0.0001 (0.387)	-0.0005 *** (-4.976)
Married (yes = 1)	0.0938 (0.962)	-0.0955 (1.257)	0.1847 *** (3.196)	0.0990 ** (2.135)
Household head (yes = 1)	-0.0320 (-0.419)	0.0548 (0.843)	0.0474 (0.777)	-0.0043 (-0.093)
Ethnic and religion dummies	Yes	Yes	Yes	Yes
Urban dummies	Yes	Yes	Yes	Yes
Regional dummies	Yes	Yes	Yes	Yes
Community characteristics	Yes	Yes	Yes	Yes
R-squared	0.376	0.217	0.370	0.284
F test	330.76	14.90	20.57	17.53
Number of observations	340	1342	566	1921

Source: Regression coefficients estimated by ordinary least squares, based on individual records from wage earners in the Vietnam Living Standards Survey. Values in parentheses are t-statistics. Significant coefficients at the 10, 5 and 1 percent level are indicated by one, two and three asterisks respectively

Table 3

Public Sector Retrenchment in Vietnam in 1991

(Figures in percent of workers who switched jobs)

Up to 12 months after job switch		Activity at the time of the survey			
		Unpaid work	Paid work	Seeking work	Out of labor force
Previous job in Public sector	Female	47.5	8.8	1.3	42.5
	Male	52.8	11.3	0.0	35.8
Previous job in Other sector	Female	21.5	10.4	2.4	65.7
	Male	23.1	27.5	3.4	46.0
More than 12 months after job switch		Unpaid work	Paid work	Seeking work	Out of labor force
Previous job in Public sector	Female	74.0	14.3	1.3	10.4
	Male	70.0	22.4	0.4	7.2
Previous job in Other sector	Female	71.3	18.1	0.3	10.3
	Male	63.9	27.3	0.7	8.1

Source: Adapted from Rodgers (1999).

Table 4

Employment in State-Owned Enterprises

Variable	Female	Male	All
Age (in years)	35.0	37.0	36.0
Married (in percent)	58.5	71.7	66.1
Household size (number of persons)	5.3	5.1	5.2
Education (in years)	11.0	11.2	11.1
Vocational training (in years)	0.7	0.8	0.8
Seniority in SOE (in years)	10.7	9.5	10.0
Basic salary in SOE (000 dongs per year)	7,311	8,652	8,078
Total earnings in SOE (000 dongs per year)	8,544	10,456	9,638
Total earnings in all jobs (000 dongs per year)	10,000	12,568	11,469
Number of workers (in percent)	42.8	57.2	100.0

Source: Refers to workers whose main occupation was in a state-owned enterprise at the time of the 1998 Vietnam Living Standards Survey, according to the Downsizing Options Simulation Exercise (DOSE) for Vietnam. Earnings figures are adjusted to December 1999 prices.
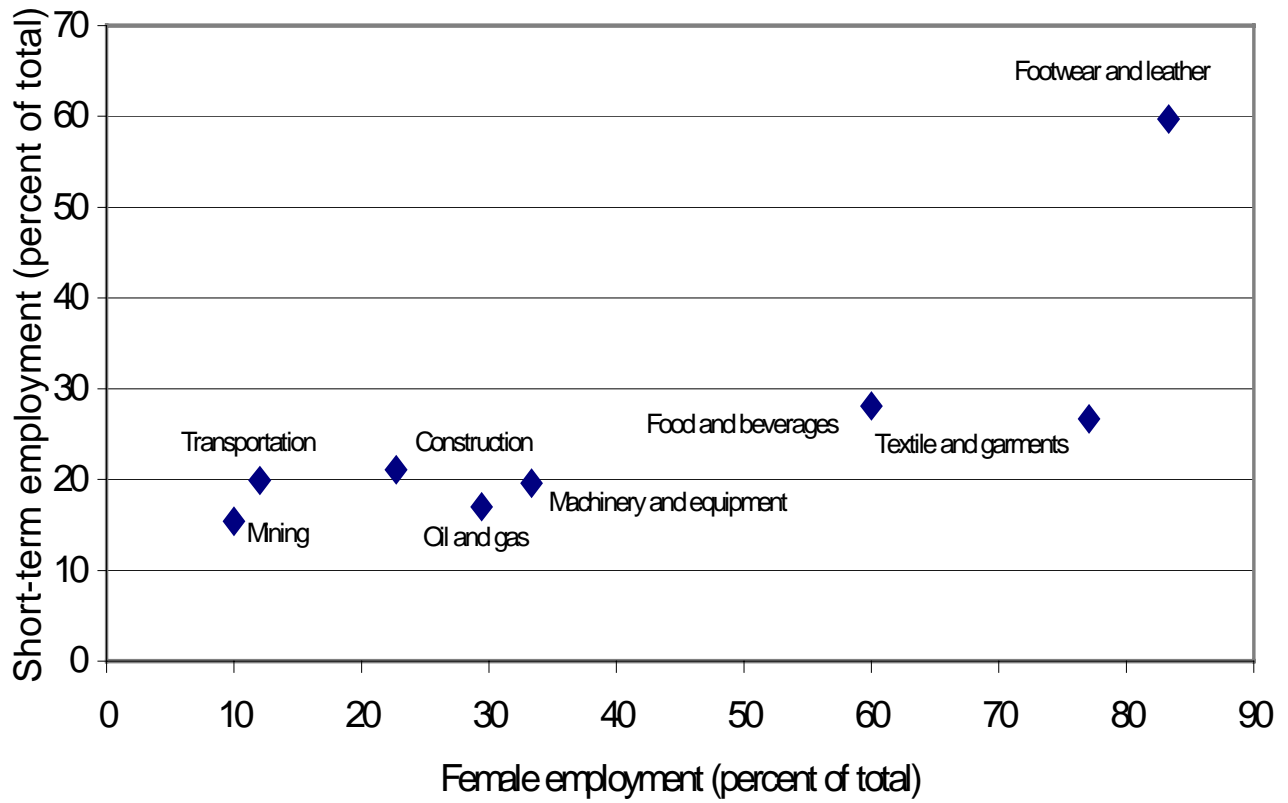
Figure 1

Female Employment and Labor Redundancy
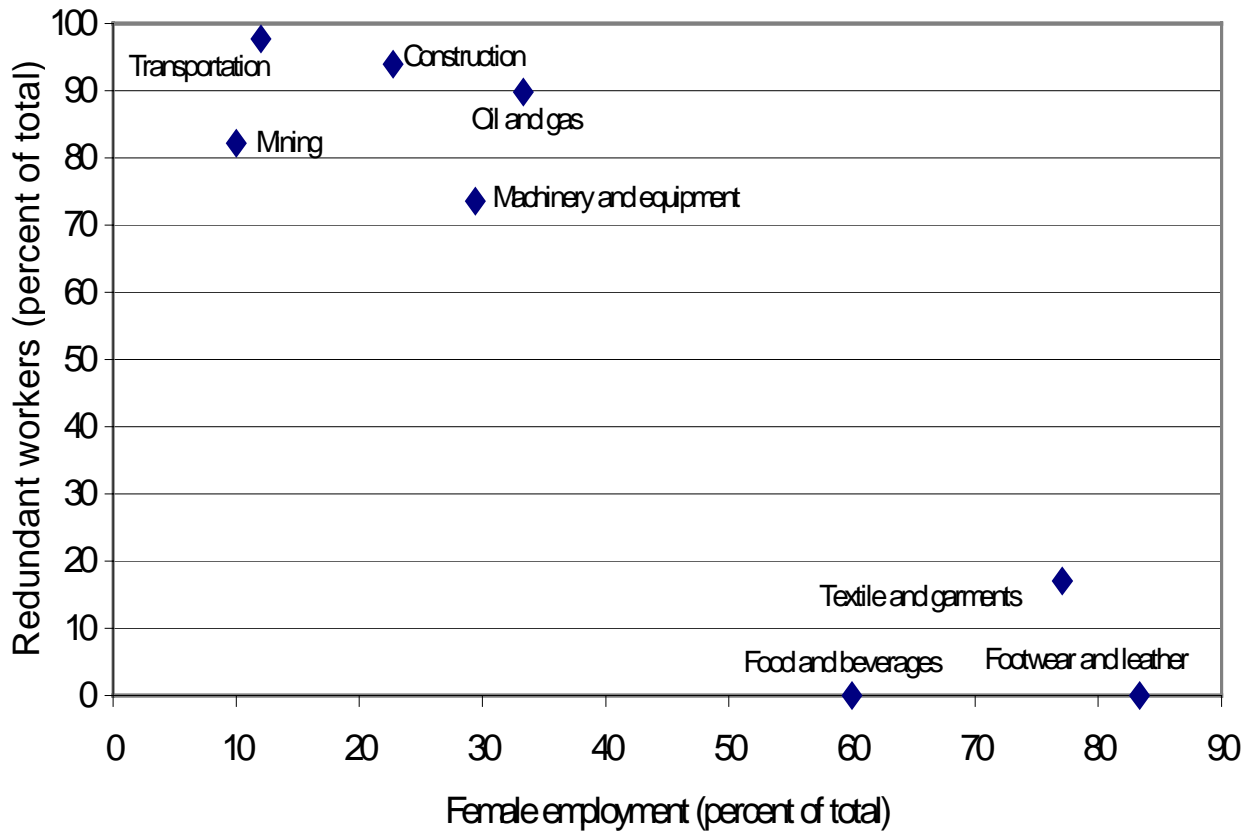
Source: Constructed combining data from the Downsizing Options Simulation Exercise (DOSE) for Vietnam and from Belser and Rama (2000).
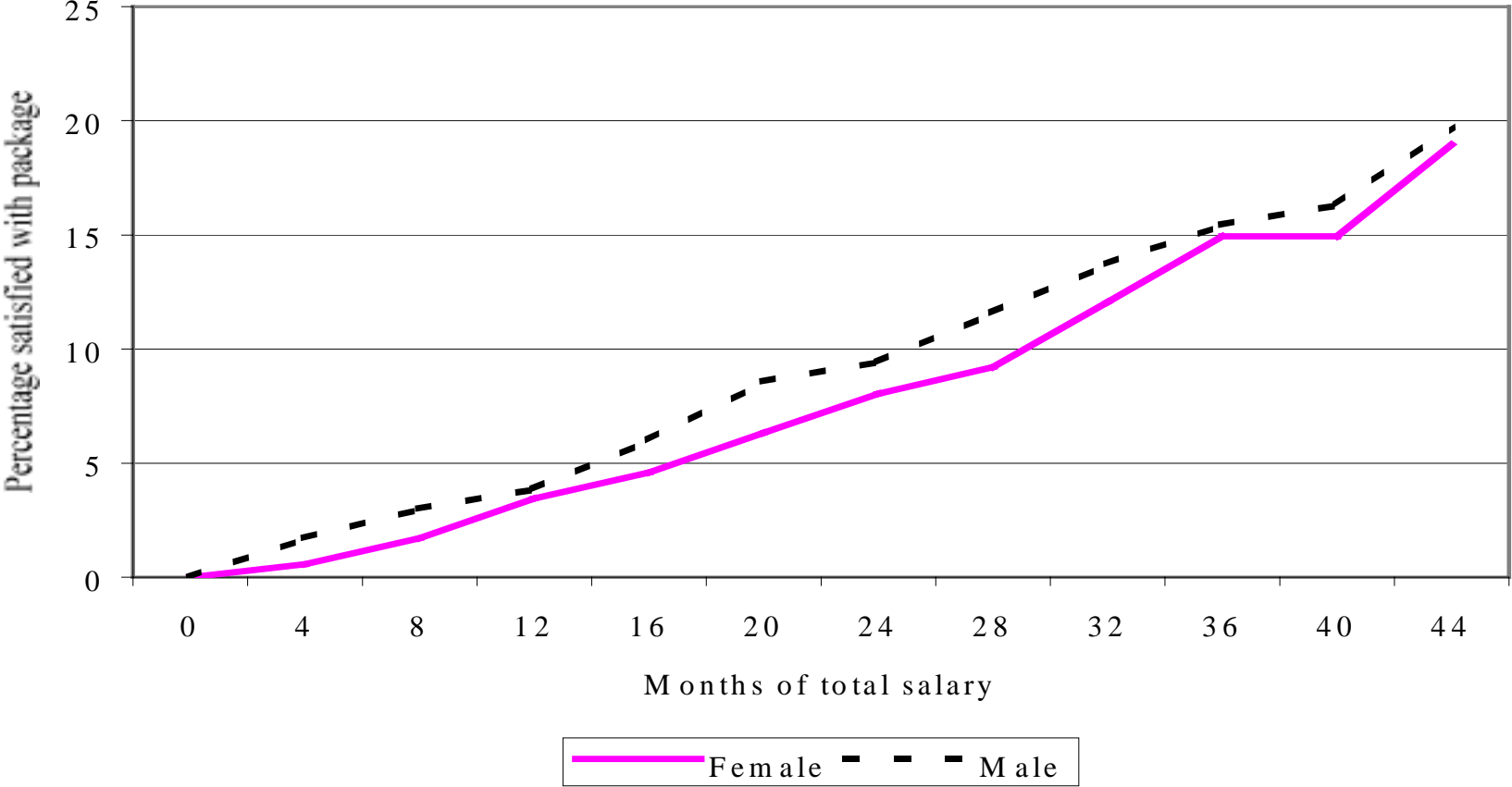
Figure 2

Female Employment and Temporary Contracts

Source: Constructed combining data from the Downsizing Options Simulation Exercise (DOSE)
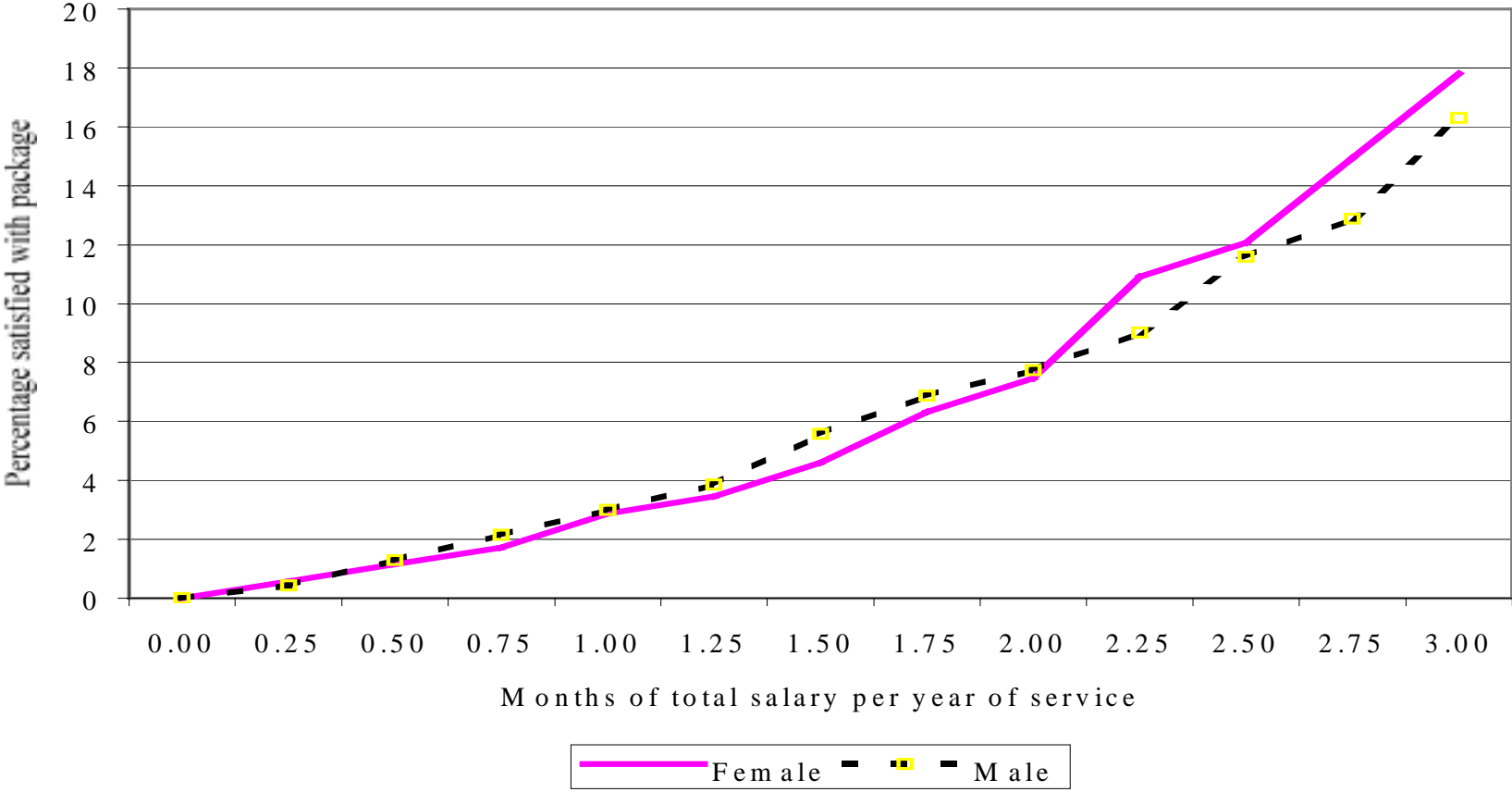for Vietnam and from Belser and Rama (2000).

Figure 3

Acceptance Rate for Separation Package Based on Earnings

Source: Author's calculations using the Downsizing Options Simulation Exercise (DOSE) for Vietnam.
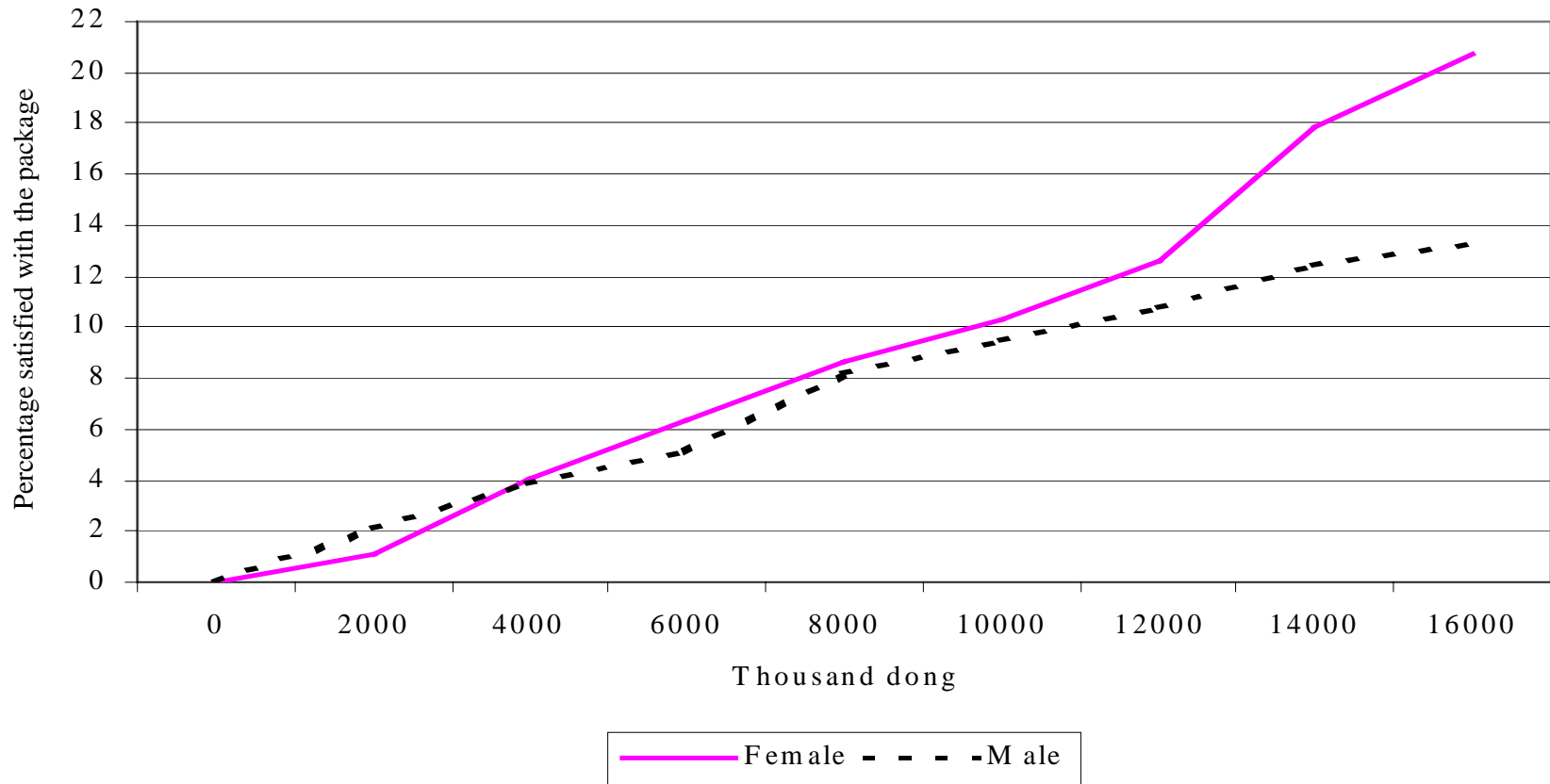
Figure 4

Acceptance Rate for Separation Package Based on Seniority

Source: Author's calculations using the Downsizing Options Simulation Exercise (DOSE) for Vietnam.

Figure 5

Acceptance Rate for a Lump-Sum Separation Package

Source: Author's calculations using the Downsizing Options Simulation Exercise (DOSE) for Vietnam.