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# Is there life after downsizing?

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Ultimately, the importance of downsizing from a social policy point of view depends upon its long-term impact on workers. If they find their way back to comparable employment quickly, then downsizing is not much of a concern. On the other hand if downsizing leads to long term unemployment or dimmed career prospects, then there is more reason to monitor it and consider remedial action.

There are diverse plausible arguments about this, some having to do with the composition of the workers shed by downsizing, others to do with the special extra impact that being forced out of one's job might have on people.

Compositional arguments are that workers shed by downsizing will have difficulty locating comparable employment because they are less capable and low skilled workers whom other employers will not want. This argument is basically wrong about the composition of employees forced out by downsizing—downsizing organisations shed people regardless of class—so downsized-out workers do not have especially disadvantageous labour market characteristics. Nonetheless, the compositional arguments alert us to the importance of controlling for individual characteristics in assessing the special impact of downsizing. In particular, downsizing organisations are especially likely to shed their female workers and their older employees (Kelley 2001).

The second family of arguments holding that downsizing has a special extra impact net of pre-existing labour market characteristics include several different possibilities. It could be that the process of being forced out of one's job is psychologically traumatic, impairing the self-confidence and determination in job searches of those who have been downsized out. Alternatively, potential employers may shy away from the aura of failure that surrounds downsizing organisations and their former workers. Another possibility is that firms that had to downsize were especially rigid, inefficient organisations that have taught and entrenched in their workers bad work habits which potential employers shun.

To examine these issues, we model the chances or re-employment among workers shed by downsizing firms compared to those departing from stable or growing firms. We then examine the impact of downsizing on the duration of jobless spells. Among work-

ers who do secure subsequent employment, we examine the impact of downsizing on continuity or change in occupation, on earnings, and on job satisfaction. The data are from the International Social Science Survey Australia's special job biography module (with special reference to downsizing) that was conducted as a part of the IsssA 1999 survey. The IsssA surveys are described in detail on the Data Page XXX and in Kelley and Evans (1999).

## Chances of re-employment

Downsizing firms produce more exits, and especially exacerbate the risk of exit to senior workers and to women (Kelley 2001). Among those who do exit, are those from downsizing firms as likely as their peers exiting from growing or stable firms to secure subsequent employment, or does something about the downsizing experience impair their subsequent employment chances?

## The model

The model for the probability of getting another job, among those exiting a job largely follows the model for the probability of exit in Kelley (2001) including key labour market characteristics and exposure to downsizing, with two important differences. Exploratory analysis showed that, in contrast to the causal structure underlying the probability of exit, the causal structure giving rise to the probability of getting another job involves a main (or general) effect of downsizing, but no interactions of downsizing with age or sex (the change in log likelihood or chi-square that comes about by including these two interaction terms is minuscule and not statistically significant). Because the model is linear in the logit (rather than simply linear), the fact that no interactions are statistically significant does not mean that the impact of downsizing for, e.g. men and women, is necessarily the same in magnitude. (Rather, to oversimplify a bit, it means that the direction of the gender effect, age effect, etc is the same in downsizing and non-downsizing firms.) Because the magnitudes are of central interest—we want to know not just whether the probability of getting a new job is affected by variables such as age and sex, but also by **how much** the

opportunities for older and younger employees or for men and women from downsizing and non-downsizing firms differ. That makes it imperative to examine the simulation's predicted percentages securing subsequent employment.

As a result, we use a slightly simpler model:

$$\begin{aligned} \text{Probability\_of\_Re-Employment} &= f(b_0 + b_1\text{Downsizing} + b_2\text{Age} + b_3\text{Male} \\ &+ b_4\text{Education} + b_5\text{Major\_urban} \\ &+ b_6\text{Time\_1990\_to\_1994} + b_7\text{Time\_1995\_to\_1999} \\ &+ b_8\text{Manufacturing\_industry} + b_9\text{Primary\_industry} \\ &+ b_{10}\text{Government\_sector} + \text{error}) \end{aligned} \quad (\text{Eq. 1})$$

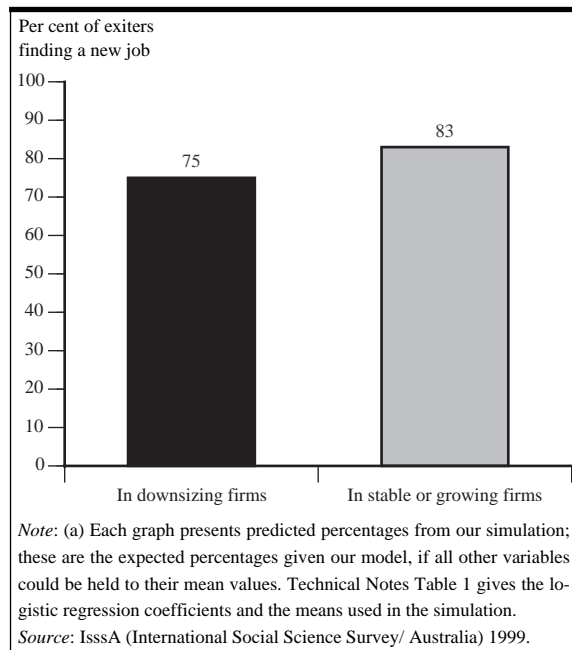
### Downsizing's general impact

A large majority of employees exiting downsizing firms find other work (Figure 1). Nonetheless, workers who exit downsizing firms are less likely than those exiting stable or growing firms to secure subsequent employment, ceteris paribus (Figure 1). In detail:

- 75 per cent of employees exiting downsizing firms get new jobs as do
- 83 per cent of employees exiting stable or growing organisations.

Thus, workers exiting downsizing firms suffer an 8 percentage point disadvantage in securing subsequent

**Figure 1**  
Impact of downsizing on finding new jobs: Percentages re-employed according to whether they left downsizing or non-downsizing firms. Predicted values from logistic regression, 9 other variables controlled<sup>a</sup>



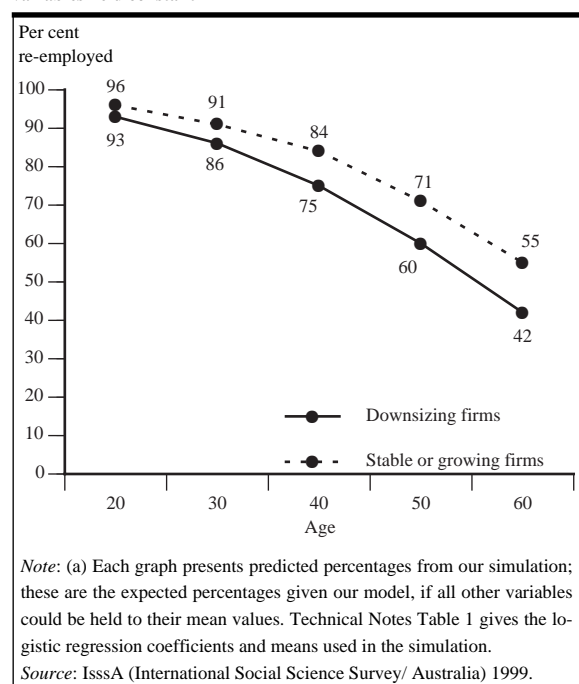
employment, all else equal. Another way of putting it is that the chances that an employee exiting a stable or growing firm will find another job are 112 per cent the chances that an employee exiting a downsizing firm will obtain work.

It is important to note that this pure estimate of downsizing's impact is net of the workers' background characteristics, human capital characteristics, location, and time period. In other words, this effect cannot be explained by the fact that downsized-out workers are older (that is adjusted for in the model), nor that women are especially likely to be downsized out (that too, is adjusted for in the model). This effect means that of two matched employees, one exiting a downsizing firm, one exiting a stable or growing firm, both are highly likely to find jobs, but the downsized-out worker is 8 percentage points less likely than their peer from the stable or growing firm to obtain subsequent employment.

### Downsizing and re-employment by age

Downsizing makes little difference to the young (Figure 2). No matter whether they exit downsizing firms or firms that are stable or growing, of workers aged about 20, more than 90 per cent find another job. There is a very small disadvantage to workers from

**Figure 2**  
Age differences in the impact of downsizing: Percentages re-employed at each age according to whether they left downsizing vs non-downsizing organisations. Only those exiting an employing firm over the period are included. Logistic regression estimates, 9 other variables held constant<sup>a</sup>



downsizing firms with 93 per cent of them securing subsequent employment compared to 96 per cent of 20-year-old workers from non-downsizing firms. That is only a 3 percentage point gap, and the re-employment ratio (per cent of exiters from downsizing firms who find another job divided by the per cent of exiters from non-downsizing firms who find another job) is 0.97. That is very near unity (which would indicate equal probabilities of re-employment).

But the disadvantageous impact of downsizing gets stronger and stronger among workers at higher ages, *ceteris paribus*. From its beginning as a three percentage point gap in the chances of re-employment between 20-year-old employees exiting downsizing firms and their peers from stable or growing firms, the gap grows to

- 5 percentage points among those age 30
- 8 percentage points among those age 40, then widens to
- 11 percentage points for those age 50, and opens further yet to
- 13 percentage points among those age 60.

The re-employment ratios fall from 0.97 among those aged 20 to 0.90 among those aged 40 to 0.77 among those aged 60.

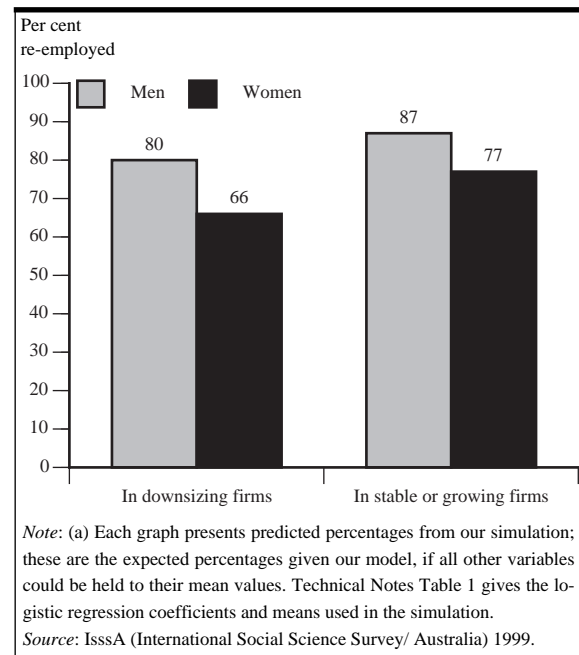
### *Downsizing and re-employment by gender*

Substantial majorities of both women and men who exit downsizing firms are re-employed. That undermines the idea that exit rates from downsizing organisations are elevated for women because the prospect of ‘taking a package’ to facilitate withdrawal from the workforce is especially attractive to them. Nonetheless it is noteworthy that women and men shed by downsizing firms are less likely to be hired into a new job than are otherwise similar people exiting stable or growing firms (Figure 3).

66 per cent of women who exit downsizing firms secure subsequent employment within five years, compared to 77 per cent of their peers who exit from stable or growing firms. That 11 percentage point difference is half again as large as the 7 percentage point difference in re-employment between men who exited downsizing firms (80 per cent) and men who exited non-downsizing firms (87 per cent).

Downsizing exacerbates gender differences in re-employment probabilities. More specifically, men from downsizing firms are 14 percentage points more

**Figure 3**  
Gender differences in the impact of downsizing: Percentages re-employed at each age according to whether they left downsizing vs non-downsizing organisations. Only those exiting an employing firm over the period are included. Logistic regression estimates, 9 other variables held constant<sup>a</sup>



likely to be re-employed than are women from downsizing firms. But among those exiting non-downsizing firms, men are only 10 percentage points more likely to be re-employed.

### *Downsizing and re-employment by education*

Most workers at all educational levels exiting downsizing firms are re-employed (Figure 4). Nonetheless, more educated employees have higher rates of obtaining subsequent employment than do less educated but otherwise similar workers.

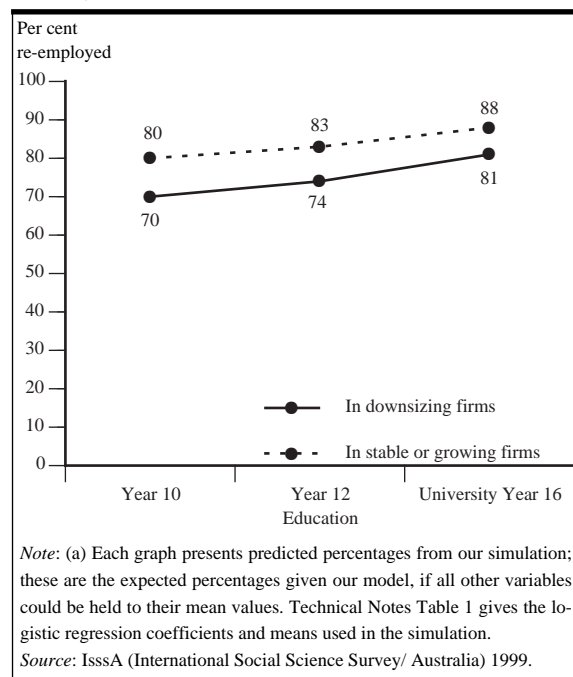
More specifically, finding a new job happens to:

- 70 per cent of early school leavers (who left school after year 10) who exit downsizing firms;
- 74 per cent of secondary school completers who exit downsizing firms, and
- 81 per cent of four-year-university-course graduates who exit downsizing firms,

(with those having intermediate educational attainments also having intermediate re-employment rates).

These rates are all lower than for matched workers in non-downsizing firms, but the disadvantage of

**Figure 4**  
Education differences in the impact of downsizing: Percentages re-employed at each educational level according to whether they left downsizing vs non-downsizing organisations. Only those exiting an employing firm over the period are included. Logistic regression estimates, 9 other variables held constant<sup>a</sup>



downsizing is more marked among the least educated, *ceteris paribus*. Thus, among otherwise similar workers with 10 years of education, the percentage point gap between those exiting downsizing firms and those exiting non-downsizing firms amounts to 10 percentage points. The downsizing-related re-employment gap shrinks slightly to 9 percentage points among employees who completed secondary school. The downsizing-related re-employment gap dwindles somewhat more—to 7 per cent—among university graduates who completed four year courses.

Thus, downsizing reduces the likelihood of obtaining a subsequent job more among early school leavers than among more educated workers, but the difference is not huge.

### Does exit from a downsizing firm mean a longer period out of work?

Thus, workers shed by downsizing firms are more likely to leave the workforce than are their peers who left stable or growing enterprises. This is especially dramatic for senior workers, a moderately important effect for women and a small effect by education. Among those who do exit and are eventually re-employed, do those from downsizing firms experience longer workless spells between jobs?

### The model

The model for the duration of time out of work following exit generally follows equation 1, above. It is estimated by OLS rather than by logistic regression because the dependent variable is continuous.<sup>1</sup> We tested whether the effect of downsizing differed by age and gender (because this is a linear model such differences would show up as interaction terms), but changes in R-squared were minuscule—under 0.001, and thus miles from statistical significance. So there was no reason to keep them in the model. That gives a simple model in which the effect of downsizing is captured by a single coefficient:

$$\begin{aligned} \text{Months\_to\_next\_job} = & b_0 + b_1 \text{Downsizing} + b_2 \text{Age} \\ & + b_3 \text{Male} + b_4 \text{Education} + b_5 \text{Major\_urban} \\ & + b_6 \text{Time\_1990\_to\_1994} + b_7 \text{Time\_1995\_to\_1999} \\ & + b_8 \text{Manufacturing\_industry} + b_9 \text{Primary\_industry} \\ & + b_{10} \text{Government\_sector} + \text{error} \end{aligned} \quad (\text{Eq. 2})$$

Before examining the results from the model, it is worth reviewing the duration of spells to next job in general among re-employed workers.

### Workless spells between jobs

A large minority of re-employed workers, 38 per cent, begin a new job immediately, with virtually no gap

**Table 1**  
How long are workers out of a job after leaving their previous employer? Percentages. Australia: 1985–1989, 1990–1994, 1995–1999

	Per cent
Panel A: Percentages	
No gap—Started new job immediately	38
One month	14
2 months	8
3 months	6
4 months	4
5 months	2
6 months	7
7 to 9 months	3
10 to 12 months	6
More than 1 year	11
Total	100
Number of cases	477
Panel B: Effect of downsizing on length of time before a new job is found (OLS regression)	
Effect, b	0.47
Standard error	1.21
Statistical significance	t = 0.39, not significant
Notes: Respondents who left their first employer and took a new job within the 5 year period. The analysis of panel B controls age, sex, urban/rural, year of survey, and industry.	

between employers (Table 1, Panel A), with some of them presumably having secured the next job before leaving the previous job. By the time one month has passed, another 14 per cent have taken a new job. Thus, a narrow majority of re-employed workers find jobs within a month. By the time six months have passed, 80 per cent have obtained jobs. Within one year, 89 per cent have taken their next job, and 11 per cent take more than one year to find a new job. Thus for most exiting workers who subsequently get jobs, workless spells between jobs are short or non-existent. How does downsizing affect the duration of workless spells among those subsequently re-employed?

### *Downsizing's impact on workless spells between jobs*

Here, for the first time in the chains of events associated with exiting one's employing firm, downsizing does not have a statistically significant impact (Table 1, Panel B). In other words, the regression results say that among matched workers exiting their employing firm and subsequently re-employed, those from downsizing firms took no longer than those from stable or growing firms to locate their next jobs.

### *Downsizing and change of occupation*

After leaving one employer, most workers (55 per cent) shift to another employer but continue in the

**Table 2**  
Switching occupations, among those leaving their first employer and subsequently taking up another job. Percentage changing to a different occupation, and logistic regression analysis of the chances of changing occupation. Australia: 1985–1989, 1990–1994, 1995–1999

	<i>Per cent</i>
Panel A: All	
Switch to a new occupation	45
Take up a new job in the same occupation	55
Total	100
Number of cases	(851)
Panel B: Effect of downsizing on switching to a new occupation (logistic regression)	
Effect, b	0.02
Standard error	0.02
Statistical significance	not significant
<i>Notes:</i> Panel A: Respondents who left their first employer and took a new job within the 5 year period. Panel B controls age, sex, urban/rural, year of survey, and industry, and includes whether the firm was downsizing and whether respondent changed firms as variables. When firm change is included in the model, downsizing's effect is not statistically significant. When we restrict the sample to those who changed firms, and re-run the model the effect of downsizing is still not significant.	

same occupation (Table 2, Panel A). So, for example, welders remain welders, secretaries remain secretaries, and so on. But a large minority, 45 per cent, not only change employers but switch into different occupations.

To see whether the experience of being shed by a downsizing firm encourages occupational shift, we used a simple logistic regression model with no interactions, which is given in detail in the Technical Notes.

The multivariate analysis reveals that workers leaving downsizing employers are no more likely than workers leaving stable or growing firms to switch occupations (Table 2, Panel B). While workers in downsizing firms are a little more likely to leave their employer (and so more exposed to the risk of job changes just because of that), there is nothing else about downsizing workers or downsizing firms that leads workers to shift from their usual occupations.

### *Downsizing and earnings*

Workers who leave downsizing firms and subsequently find new jobs are able, on average, to get jobs that pay just as well as the jobs held by comparable workers in stable and growing firms have (Table 3). This is true of both men and women. So downsizing has no adverse effects on pay for workers who find a new job. All they lose is the pay from the period when they were out of work looking for a new job.

**Table 3**  
Effect on downsizing on the natural logarithm of earnings. OLS regression estimates (complete details in Technical Notes Table 3). Australia: 1985–1989, 1990–1994, 1995–1999

Panel A: All (men and women; N = 2,054)	
Effect, b	0.04
Standard error	0.02
Statistical significance	t = 1.87, not significant
Panel B: Men only (N = 1,237)	
Effect, b	0.01
Standard error	0.03
Statistical significance	t = 0.31, not significant
<i>Notes:</i> Respondents who left their first employer and took a new job within the 5 year period. The analysis of panel B controls labour force experience, its square, sex, urban/rural, year of survey, industry, whether left original employer, and whether took up new occupation.	

### *Downsizing and job satisfaction (utility)*

While downsizing has no effect on earnings of workers who are able to find new jobs, that does not mean they get jobs that they like as well as the ones they left. On the contrary, downsized workers generally do

**Table 4**  
**Effect on downsizing on job satisfaction. OLS regression estimates**  
 (complete details in Technical Notes Table 4). Australia: 1985–1989,  
 1990–1994, 1995–1999

Downsizing (N = 2,427)	
Effect, b	-0.44
Standard error	0.15
Statistical significance	t = -3.02, p < 0.01
Left original employer	
Effect, b	-0.58
Standard error	0.13
Statistical significance	t = -4.28, p < 0.01
Took up new occupation after leaving original employer?	
Effect, b	-0.31
Standard error	0.14
Statistical significance	t = -2.26, p < 0.05
Notes: Respondents who left their first employer and took a new job within the 5 year period. The analysis of panel B controls labour force experience, its square, sex, urban/rural, year of survey, industry, whether left original employer, whether took up new occupation; and earnings.	

not like their new jobs quite as well as the ones they had before (Table 4, Panel A; complete details are in Technical Notes Table 1).

The loss in job satisfaction is not large, but it is not negligible either: about half a point out of 10. By way of comparison, it is well known that workers with a university education get more satisfying jobs than those who only finished year 12. This advantage that university educated workers have—one earned by 3 or four years of full-time study—is, however, just about the same size as the difference caused by downsizing: half a point out of 10.

In addition, downsized workers and anyone else who changed employers is likely to get a less satisfying job as a consequence, again by a little more than half a point out of 10 (Table 4, Panel B). So is anyone who changes occupations, although by only about a third of a point out of 10 (Table 4, Panel C).

## Conclusion

For most workers, downsizing is not a disaster. Most workers in downsizing firms are not pushed out of their firms. Of those who are pushed out (above and beyond normal processes of turnover and retirement), most find jobs. And of those finding jobs, most do so quickly.

That said, downsizing is not without costs to the workers involved. For workers matched on other characteristics, the risk of exit from downsizing firms within five years is 39 per cent, 14 percentage points higher than the risk of exit from stable or growing

firms. 75 per cent of workers who exit downsizing firms are subsequently re-employed, *ceteris paribus*. That is a substantial majority, but nonetheless lower than the 83 per cent achieving re-employment among their peers from non-downsizing companies. Workless spells of re-employed workers between jobs are no longer for employees exiting downsizing companies than for those exiting growing or stable companies.

Employees exiting from downsizing firms who do get new jobs find ones that pay as just as much as employees in stable and growing firms get, *ceteris paribus*. But their new jobs are, on the whole, less satisfying in other ways.

Perhaps the most serious grounds for concern about the impact of downsizing relate not to its general impact, but to its stronger specific impacts on groups of vulnerable workers.

Older workers are particularly strongly affected by downsizing. First, they are much more likely than their younger peers to be in downsizing firms: of working people who are otherwise typical (average on education, industrial location, urban residence etc.), 16 per cent of those age 20 experience downsizing firms, compared to 28 per cent of those age 60. This is not a cumulative ‘ever-experienced’ type measure, but rather a measure of current experience: of employees aged 60, 28 per cent were experiencing downsizing at that age (cumulative measures would show much higher levels of ‘ever-exposure’ to downsizing). Not only are senior workers more likely to be in downsizing firms, but their normal processes of firm attachment and detachment are much more affected by downsizing than is true of younger workers. In stable or growing firms, young people’s exit rates are higher than for older employees, all else equal. Thus, 32 per cent of workers age 20 in non-downsizing firms would leave within a five year period declining to about 19 per cent of workers aged 60. By contrast, in downsizing firms, the exits actually climb from about 36 per cent among workers aged 20 to 42 per cent among otherwise similar employees aged 60. Moreover, re-employment chances for older workers exiting downsizing firms are notably low: the disadvantage of workers exiting downsizing firms in securing subsequent employment is just 3 percentage points among workers age 20, but climbs to 13 percentage points among workers age 60. But of those who are re-employed, the average duration of worklessness between jobs is no higher for workers from downsizing companies than for employees from stable or growing companies.

The impact of downsizing also differs by gender, but with some disadvantages to women, others to

men. Women are less likely than men to work in downsizing companies. But downsizing affects women's exit probabilities more than men's. In stable

or growing firms, women's exit rates are about 6 percentage points lower than men's, but in downsizing firms, women's exit rates are 21 percentage points

#### Technical Notes Table 1

Who finds a new job after leaving their first employer? Logistic regression predicting who gets a new job (among those leaving their first employer) by the respondent's age, education, industry, sex, and time period. N = 887. Australia: 1985–1989, 1990–1994, 1995–1999

Independent variable	B	SE	Wald	Sig	Exp(B)
Downsizing (0 or 1) <sup>a</sup>	-0.52	0.23	4.97	0.03	0.60
Age (years)	-0.07	0.01	62.33	0.00	0.93
Male (0 or 1) <sup>a</sup>	0.70	0.23	8.86	0.00	2.01
Education (years)	0.10	0.04	6.37	0.01	1.11
Large urban (0 or 1) <sup>b</sup>	-0.01	0.23	0.00	0.98	0.99
Year is 1990 (0 or 1) <sup>c</sup>	0.76	0.27	7.89	0.01	2.13
Year is 1995 (0 or 1) <sup>c</sup>	0.61	0.27	5.32	0.02	1.85
Manufacturing industry <sup>d</sup>	-0.10	0.30	0.12	0.73	0.90
Primary industry <sup>d</sup>	-0.12	0.54	0.05	0.82	0.89
Government <sup>d</sup>	-0.64	0.26	5.88	0.02	0.53
Constant	2.61	0.65	15.94	0.00	-

Notes: (a) Reference category is 'female'.  
(b) Reference category is size of place less than 60,000.  
(c) Reference category is '1985–1989'.  
(d) Reference category is 'Other industry', mainly non-government services.  
Source: IcssA 1999/2000 survey.

#### Technical Notes Table 2

Downsizing and occupational change. Logistic regression predicting the probability of changing occupation among those remaining in employment throughout the 5 years, by the respondent's age, sex, education, urban or rural residence, industry, time period, whether they left their 1st employer. Australia: 1985–1989, 1990–1994, and 1995–1999

Independent variable	B	SE B	Beta	T	Sig T
Panel A. Effect of downsizing net of individual characteristics					
Downsize	0.0576	0.0203	0.0604	2.837	0.0046
Age	-0.0075	0.0007	-0.2305	-10.67	0.0000
Male <sup>a</sup>	-0.0789	0.0177	-0.0959	-4.464	0.0000
Education: Years	0.0016	0.0032	0.0109	0.495	0.6210
Urban <sup>b</sup>	0.0107	0.0180	0.0129	0.594	0.5524
1990–1994 <sup>c</sup>	0.0145	0.0206	0.0165	0.701	0.4831
1995–1999 <sup>c</sup>	0.0913	0.0210	0.1040	4.357	0.0000
Manufacturing <sup>d</sup>	-0.0232	0.0262	-0.0200	-0.887	0.3749
Primary industry <sup>d</sup>	-0.0090	0.0346	-0.0058	-0.261	0.7938
Government <sup>d</sup>	-0.0648	0.0200	-0.0742	-3.242	0.0012
(Constant)	0.5088	0.0522			
Panel B. Effect net of exit and variables in Panel A					
Downsize	0.0253	0.0190	0.0266	1.334	0.1824
Age	-0.0059	0.0007	-0.1832	-9.027	0.0000
Male <sup>a</sup>	-0.0566	0.0165	-0.0688	-3.428	0.0006
Education: Years	0.0005	0.0030	0.0032	0.157	0.8755
Urban <sup>b</sup>	0.0032	0.0168	0.0039	0.193	0.8469
1990–1994 <sup>c</sup>	0.0247	0.0192	0.0282	1.285	0.1988
1995–1999 <sup>c</sup>	0.0932	0.0195	0.1061	4.773	0.0000
Manufacturing <sup>d</sup>	-0.0501	0.0244	-0.0431	-2.052	0.0403
Primary industry <sup>d</sup>	0.0018	0.0322	0.0012	0.056	0.9553
Government <sup>d</sup>	-0.0281	0.0187	-0.0321	-1.497	0.1347
<b>Exited</b>	0.3147	0.0173	0.3575	18.159	0.0000

Notes: (a) Reference category is 'female'.  
(b) Reference category is size of place less than 60,000.  
(c) Reference category is '1985–1989'.  
(d) Reference category is 'Other industry', mainly non-government services.  
Source: IcssA 1999/2000 survey.

higher than men's, all else equal. Moreover, women's re-employment rates are more reduced by downsizing than are men's: women exiting downsizing firms are 11 percentage points less likely than their peers from stable or growing firms to be re-employed, but the difference for men is a significantly smaller 7 percentage point gap. Downsizing does not seem to have any extra impact on the duration of spells of worklessness between exit from the original firm and the next job, among those who get another job. Thus, one might say that women are less likely than men to be 'in the wrong place at the wrong time' when it comes to downsizing, but those women who are in downsizing firms are more strongly affected by downsizing

than are their male peers: many more exit, and rather fewer of the exiters get subsequent jobs.

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## Technical Notes

The model for the probability of re-employment is estimated by logistic regression and the model for, and the parameter estimates are given in Technical Notes Table 1.

Technical Notes Table 3

Downsizing and earnings? OLS regression predicting the natural logarithm of earnings for those remaining in employment throughout the 5 years, by the respondent's labour force experience, sex, education, industry, time period, whether they left their 1st employer and whether they took up a new occupation. Australia: 1985–1989, 1990–1994, 1995–1999

Independent variable	B	SE B	Beta	T	Sig T
Panel A: All (men and women; N = 2,054)					
Downsizing (0 or 1) <sup>a</sup>	0.05000	0.02000	0.05	1.87	0.06
Potential labour force experience	0.01000	0.00000	0.25	9.97	0.00
LF experience squared <sup>e</sup>	-0.00045	0.00005	-0.22	-9.49	0.00
Male (0 or 1) <sup>a</sup>	0.26000	0.02000	0.32	14.99	0.00
Education (years)	0.05000	0.00000	0.31	13.65	0.00
Large urban (0 or 1) <sup>b</sup>	0.00000	0.02000	0.00	0.00	1.00
Year is 1990 (0 or 1) <sup>c</sup>	0.09000	0.02000	0.10	4.54	0.00
Year is 1995 (0 or 1) <sup>c</sup>	0.15000	0.02000	0.17	7.45	0.00
Manufacturing industry <sup>d</sup>	-0.04000	0.03000	-0.03	-1.38	0.17
Primary industry <sup>d</sup>	-0.01000	0.03000	-0.01	-0.41	0.68
Government <sup>d</sup>	-0.05000	0.02000	-0.05	-2.43	0.02
Left original employer (0 or 1)	-0.02000	0.02000	-0.02	-0.93	0.35
Interaction: Downsize × Left original employer	-0.08000	0.04000	-0.06	-2.01	0.04
Took up new occupation after leaving original employer (0 or 1)	-0.06000	0.02000	-0.06	-2.60	0.01
Constant	2.66000	0.05000		52.44	0.00
Panel B: Men only (N = 1,237)					
Downsizing (0 or 1) <sup>a</sup>	0.01000	0.03000	0.01	0.31	0.76
Potential labour force experience	0.01000	0.00000	0.31	9.29	0.00
LF experience squared <sup>e</sup>	-0.00062	0.00006	-0.32	-9.60	0.00
Education (years)	0.05000	0.00000	0.32	10.70	0.00
Large urban (0 or 1) <sup>b</sup>	0.01000	0.02000	0.01	0.31	0.76
Year is 1990 (0 or 1) <sup>c</sup>	0.11000	0.03000	0.12	3.95	0.00
Year is 1995 (0 or 1) <sup>c</sup>	0.20000	0.03000	0.22	6.94	0.00
Manufacturing industry <sup>d</sup>	-0.09000	0.03000	-0.08	-2.68	0.01
Primary industry <sup>d</sup>	-0.11000	0.04000	-0.07	-2.43	0.02
Government <sup>d</sup>	-0.14000	0.03000	-0.15	-4.92	0.00
Left original employer (0 or 1)	-0.04000	0.03000	-0.04	-1.14	0.25
Interaction: Downsize × Left original employer	-0.05000	0.06000	-0.03	-0.90	0.37
Took up new occupation after leaving original employer (0 or 1)	-0.09000	0.03000	-0.08	-2.69	0.01
Constant	2.92000	0.07000		43.17	0.00

Notes: (a) Reference category is 'female'.

(b) Reference category is size of place less than 60,000.

(c) Reference category is '1985'.

(d) Reference category is 'Other industry', mainly non-government services.

(e) Defined as (experience - 20) squared (for technical reasons, and without loss of generality: Mosteller, Frederick, and John W. Tukey. 1977. *Data Analysis and Regression*. Reading MA: Addison-Wesley).

Source: IcssA 1999/2000 survey.

Technical Notes Table 4

Downsizing and job satisfaction. OLS regression predicting job satisfaction for those remaining in employment throughout the 5 years, by the respondent's labour force experience, sex, education, industry, time period, whether they left their 1st employer and whether they took up a new occupation. Australia: 1985–1989, 1990–1994, 1995–1999

Independent variable	B	SE B	Beta	T	Sig T
Panel A: Total effect (N = 2,427)					
Downsizing (0 or 1) <sup>a</sup>	-0.42000	0.12000	-0.08	-3.41	0.00
Potential labour force experience	0.05000	0.00000	0.28	10.24	0.00
LF experience squared <sup>e</sup>	-0.00013	0.00028	-0.01	-0.45	0.65
Male (0 or 1) <sup>a</sup>	-0.07000	0.11000	-0.01	-0.61	0.54
Education (years)	0.11000	0.02000	0.13	5.09	0.00
Large urban (0 or 1) <sup>b</sup>	-0.03000	0.11000	-0.01	-0.32	0.75
Year is 1990 (0 or 1) <sup>c</sup>	-0.22000	0.12000	-0.05	-1.79	0.07
Year is 1995 (0 or 1) <sup>c</sup>	-0.30000	0.13000	-0.06	-2.33	0.02
Manufacturing industry <sup>d</sup>	-0.50000	0.16000	-0.08	-3.12	0.00
Primary industry <sup>d</sup>	-0.23000	0.21000	-0.03	-1.08	0.28
Government <sup>d</sup>	0.17000	0.12000	0.04	1.38	0.17
Constant	5.21000	0.31000		17.00	0.00
Panel B: Direct effect & interactions (N = 2,427)					
Downsizing (0 or 1) <sup>a</sup>	-0.44000	0.15000	-0.09	-3.02	0.00
Potential labour force experience <sup>e</sup>	0.03000	0.00000	0.18	6.30	0.00
LF experience squared <sup>e</sup>	0.00086	0.00029	0.08	2.97	0.00
Male (0 or 1) <sup>a</sup>	-0.44000	0.11000	-0.10	-3.95	0.00
Education (years)	0.05000	0.02000	0.07	2.54	0.01
Large urban (0 or 1) <sup>b</sup>	-0.02000	0.11000	0.00	-0.18	0.86
Year is 1990 (0 or 1) <sup>c</sup>	-0.34000	0.12000	-0.07	-2.75	0.01
Year is 1995 (0 or 1) <sup>c</sup>	-0.45000	0.13000	-0.10	-3.60	0.00
Manufacturing industry <sup>d</sup>	-0.39000	0.15000	-0.06	-2.55	0.01
Primary industry <sup>d</sup>	-0.24000	0.20000	-0.03	-1.21	0.23
Government <sup>d</sup>	0.16000	0.12000	0.03	1.35	0.18
Interaction: Downsize × Left original employer	0.26000	0.25000	0.03	1.04	0.30
Left original employer (0 or 1)	-0.58000	0.13000	-0.12	-4.28	0.00
Took up new occupation after leaving original employer (0 or 1)	-0.31000	0.14000	-0.06	-2.26	0.02
Log income in new job	1.14000	0.14000	0.21	7.87	0.00
Constant	2.57000	0.49000		5.25	0.00
Notes: (a) Reference category is 'female'. (b) Reference category is size of place less than 60,000. (c) Reference category is '1985–1999'. (d) Reference category is 'Other industry', mainly non-government services. (e) Defined as (experience - 20) quantity squared (for technical reasons, and without loss of generality: Mosteller, Frederick, and John W. Tukey. 1977. <i>Data Analysis and Regression</i> . Reading MA: Addison-Wesley). Source: IsssA 1999/2000 survey.					

The models for change of occupation (Technical Notes Table 2), earnings (Technical Notes Table 3), and job satisfaction/ employee morale/ utility (Technical Notes Table 4) largely follow equation 2, above. The model for occupational shift was estimated by logistic regression because the dependent variable is dichotomous. We tested whether the effect of downsizing differed by age and gender, but our statistical tests say it does not. That gives a simple model in which the effect of downsizing is captured by a single coefficient:

$$\begin{aligned} \text{Pr}(\text{ChangeOccupation}) = & f(b_0 + b_1\text{Downsizing} + b_2\text{Age} + b_3\text{Male} \\ & + b_4\text{Education} + b_5\text{Major\_urban} + b_6\text{Time\_1990\_to\_1994} \\ & + b_7\text{Time\_1995\_to\_1999} + b_8\text{Manufacturing\_industry} + b_9\text{Primary\_industry} \\ & + b_{10}\text{Government\_sector} + \text{error}) \end{aligned} \quad (\text{Eq. 3})$$

The models for income and job satisfaction are estimated by OLS as they have essentially continuous, well-behaved dependent variables.

## Endnote

<sup>1</sup>Future research might also explore other estimation methods which obtain narrower standard errors in the presence of non-normally distributed residuals, but OLS gives us a good first approximation. There is probably more random measurement error in people's reports of the duration of the spell till re-employment than in many of the other dependent variables we have investigated; future research could also employ methods for correcting for attenuation due to random measurement error.

## References

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