# CONSUMPTION IN THE FACE OF JOB INSECURITY

*Despite falling unemployment over recent years, measures of job insecurity have been elevated. At the same time, household consumption growth has been muted. This note explores whether job insecurity can explain weak consumption growth. I find some evidence of a negative relationship between job loss expectations and household expenditure. While the findings lend some support to the theory that expectations weigh on consumption, they do not fully explain the recent decline in consumption growth.*

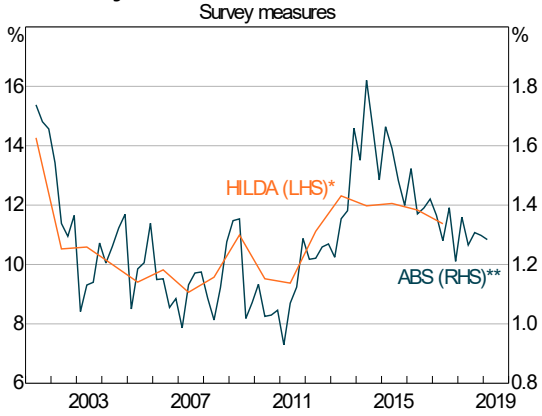
## 1. Trends in employment expectations

The Household, Income and Labour Dynamics in Australia (HILDA) Survey includes various measures of subjective job security (Penrose 2017). This note uses survey respondents' reported probability of losing their job over the next 12 months.[1] This indicator has previously been found to have predictive power for unemployment and wage outcomes.[2]

Subjective probabilities of job loss have been elevated since the GFC (Graph 1), although have declined somewhat in recent years.

Previous work has explored drivers of subjective job loss probabilities, finding the measure highest for those in casual work, in areas of high unemployment and in industries more exposed to global trade. These factors, however, do not fully explain the post-GFC elevation in job insecurity (Foster and Guttmann 2018).

**Graph 1**
**Subjective Job Loss Probabilities**
Survey measures



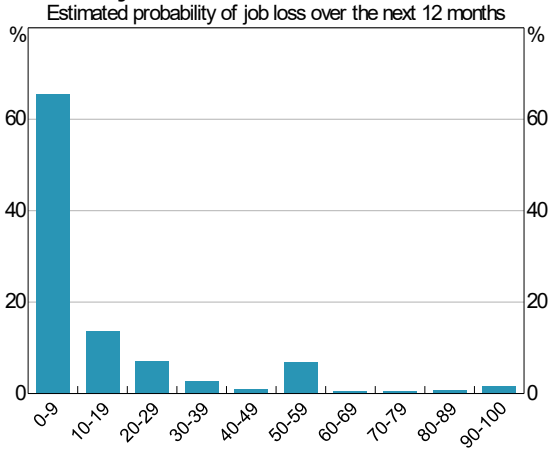

Sources: ABS; HILDA Survey Release 17.0; RBA

## 2. Job loss expectations and outcomes

Most individuals do not report a high probability of job loss (Graph 2), with over 60 per cent of employed respondents reporting probabilities less than 10 per cent. This is consistent with international evidence (Stephens 2003, Pettinicchi et al 2019).

Subjective job loss probabilities appear to hold information about future job loss (Graph 3). This is supported by the literature that finds job loss probabilities to be significant predictors of subsequent job loss, even after controlling for individual and job characteristics (Stephens 2003, Pettinicchi et al 2019).

**Graph 2**
**Subjective Job Loss Probabilities**
Estimated probability of job loss over the next 12 months



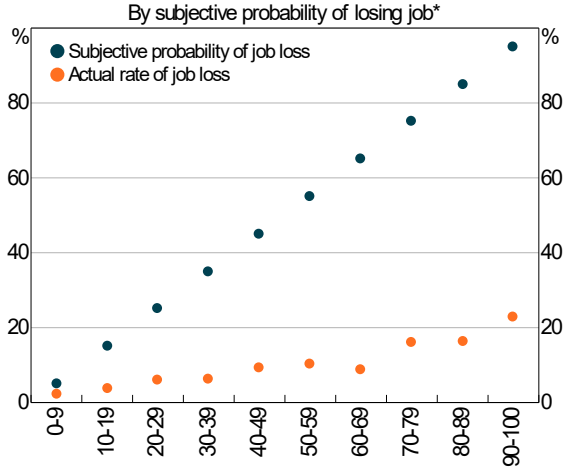

* Employment terminated or contract not renewed
Sources: HILDA Survey Release 17.0; RBA

While subjective job loss probabilities are correlated with outcomes, they also tend to be overstated. Actual rates of job loss are consistently lower than subjective expectations, regardless of the reported probability of job loss. For example, of individuals who gave themselves at least a 90 per cent chance of being fired, only around 20 per cent did lose their job over the year (Graph 3).

1 Here job loss means being fired, laid off or made redundant, or having a contract not renewed.
2 Foster and Guttmann (2017) find high subjective probabilities of job loss are associated with lower wage growth, and Bowman (2013) finds a link between probability of voluntary job loss and consumption.

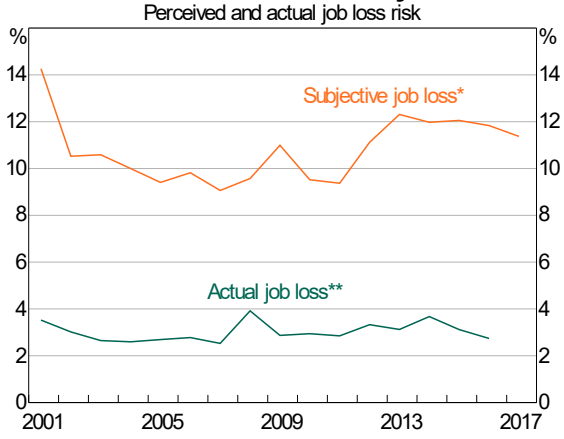
In recent years subjective risk of job loss has been increasingly overstated, with average subjective job loss probabilities rising despite little change in the actual rate of involuntary job loss (Graph 4).

**Graph 3**
**Job Loss**
By subjective probability of losing job*




* Subjective probability of losing job as reported by respondent in the previous year
Sources: HILDA Survey Release 17.0; RBA

**Graph 4**
**Job Loss Probability**
Perceived and actual job loss risk




* Average subjective per cent chance of involuntary job loss over 12 months
** Actual rate of reported involuntary job loss over 12 months
Sources: HILDA Survey Release 17.0; RBA

### 3. Employment expectations and consumption

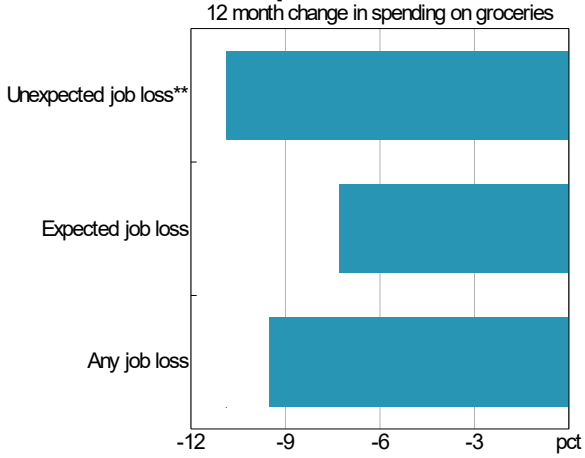
So far this note has considered the predictive power of subjective job loss expectations for future labour market outcomes. Also of interest is how these expectations inform economic behaviour, and if they can explain aggregate trends. In particular, can subjective job loss expectations explain muted consumption growth in recent years? The remainder of this note will address this question.

If households can to anticipate job losses, economic theory suggests they will take steps to ease the consumption losses, and the consumption response to job loss will be milder for households who foresee the event.

Using reported probabilities in the HILDA Survey, I classify involuntary job losses as 'expected' if the individual gave themselves a 30 per cent or higher chance of job loss one year earlier, and 'unexpected' otherwise.[3]

Graph 5 shows the year-on-year change in household grocery expenditure following involuntary job loss.[4] For households who had anticipated job loss, grocery expenditure falls 7 per cent, while households who did not expect job loss reduce their grocery spending by 11 per cent. This result is consistent with findings from the US, and suggests that households lower spending in anticipation of job loss (Karahan et al 2019).

**Graph 5**
**Consumption Effects of Job Loss**
12 month change in spending on groceries




* Change in reported weekly spend, CPI adjusted, unemployed individuals only
** Job loss refers to termination of employment, or a contract not being renewed, and is considered unexpected if the individual's subjective probability of job loss in year t-1 of losing job over next 12 months was less than 30 per cent
Sources: HILDA Survey Release 17.0; RBA

3 Under these definitions 38 per cent of involuntary job loss in HILDA is expected.
4 Only grocery expenditure is considered, as it is one of few weekly expenditure items. As individuals are likely to regain employment within the year, annual expenditure variables do not reflect the contemporaneous effect of job loss on consumption.

While the difference in consumption response is economically significant, it is not statistically significant.[5] The next section of this note will more formally examine the relationship between job loss probabilities and consumption.

## 4. Model

To test if job loss insecurity weighs on household expenditure generally, I estimate a household-level fixed effects model of the following form:

$$\ln\left(food\ expenditure_{h,t}\right) = \beta_1\left(\overline{Job\ loss\ probability_{h,t}}\right) + \beta_2\boldsymbol{\gamma}_t + \alpha_h + \beta_3\boldsymbol{X}_{h,t} + \epsilon_{h,t} \quad (1)$$

Where $food\ expenditure_{h,t}$ is weekly food expenditure of household $h$, $\overline{Job\ loss\ probability_h}$ is the weighted average job loss probability for household $h$, $\boldsymbol{\gamma}_t$ is a vector of year dummies, $\epsilon_{h,t}$ is the error term, and $\boldsymbol{X}_{h,t}$ is a vector of household characteristics including household wages, and recent unemployment.[6] The coefficient $\alpha_h$ fully captures household characteristics that do not vary over time, and which may be correlated with job security and consumption. These may include risk preference, gender, and to some extent education and industry of work.

I also estimate an OLS specification of the following form:

$$\ln\left(food\ expenditure_{h,t}\right) = \beta_0 + \beta_1\left(\overline{Job\ loss\ probability_h}\right) + \beta_2\boldsymbol{\gamma}_t + \beta_3\boldsymbol{X}_{h,t} + \epsilon_{h,t} \quad (2)$$

This specification is similar to Equation 1, with the absence of the fixed effects estimator $\alpha_h$. Comparing estimates from Equations 1 and 2 will give insight into the relationship between unobserved household characteristics and the variables of interest.

## 5. Data

### *5.1 Job loss probability*

The main variable of interest is the subjective measure of job loss probability described in Section 1. This variable is recorded at the individual level in the HILDA Survey. Individual job loss probabilities may not capture household income expectations as there may be multiple wage earners within a household.

I account for this by constructing a weighted average of job security for each household, described in Equation 3. Here $wages_i$ and $wages_h$ are the weekly gross wages of individuals and households respectively, $job\ loss\ probability_i$ is the individuals subjective per cent chance of job loss over the next 12 months, and $n$ is the number of wage-earners in household $h$ at the time of the survey. This variable can be thought of as the average probability of loss of each dollar of household labour income.[7]

$$\overline{Job\ loss\ probability_h} = \frac{\sum_{k=i}^{n} wages_i \cdot job\ loss\ probability_i}{wages_h} \quad (3)$$

The weighted average is scaled to fall between 0 and 1. The coefficient of interest $\beta_1$ (Equations 1 and 2) can thus be interpreted as the per cent change in weekly food expenditure associated with the household-weighted probability of job loss increasing from 0 (no chance of job loss for any wage earner in the household) to 1 (certainty of job loss for all wage earners), controlling for a range of observed and unobserved characteristics.

### *5.2 Consumption*

I create the household consumption variable by aggregating weekly household spending on groceries, and on food eaten outside the home. Food expenditure is preferable to a measure of total expenditure as it is the only suitable consumption item recorded on a *weekly* basis.[8] This assures that there is no time mismatch between consumption and reported job security. In addition, there is some evidence to suggest that reported weekly

5 This is partly the result of a small sample (n=138) of individuals who are unemployed at the time of the survey, and who do not have missing values for any of the variables of interest.

6 Also includes a control for number of persons in the household.

7 Assuming job losses within the household are independent events.

8 Cigarette, alcohol, and public transport expenditure are also recorded on a weekly basis, however they are less suitable than food consumption as proxies for total household expenditure.

expenditure is more accurate than reported annual expenditure (Wilkins and Sun 2010). This variable is available for 2002 to 2005 and from 2011 to 2017.

*5.3 Other variables*

My measure of household labour income comes from weekly gross wages reported as at the time of the survey for all jobs of all household members. I also transform the variable 'per cent of last 12 months spent unemployed' into a household average in a similar way to the job loss probability variable (Equation 3), resulting in a weighted average falling between 0 and 1.[9] Finally I also compute the number of persons in each household, to control for changes in household food needs.

## 6. Results

Table 1 reports model output for both model specifications, presenting estimates both with and without the inclusion of the full set of controls.

**Table 1: Food Consumption on Job Insecurity [(a)] [(b)]**

| | OLS | | Fixed effects panel | |
|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** |
| *Weighted job loss probability* | -0.043*** | -0.009 | -0.006 | -0.004 |
| *ln(Household wages)* | - | 0.224*** | - | 0.138*** |
| *Per cent of year unemployed* | - | -0.075*** | - | -0.043* |
| *Number of persons* | - | 0.163*** | - | 0.167*** |

*(a) *, ** and *** indicate statistical significance at the 10, 5 and 1 per cent levels respectively.*
*(b) All specifications include year fixed effects.*

There is a negative relationship between probability of job loss and food consumption in all specifications, although this relationship is not statistically significant. The estimated effect is small; the fixed effects model with full controls (column 4) indicates that food consumption falls 0.4 per cent when household job loss probability increases from 0 to 100 per cent. This suggests that job loss expectations do not influence food spending over and above the effect of actual job loss.

My results are in line with the existing literature, where evidence is also mixed. Bowman (2013) and Stephens (2003) find no statistically significant relationship between household consumption and job loss probabilities, while Pettinicchi et al (2019) find a negative relationship between job loss probabilities and new car purchases.

Importantly, my model does not explain the recent weakness in aggregate household spending, as the year effects still contain a negative time trend (Appendix A1).

## 7. Conclusion

Evidence for the impact of job security on household spending is mixed. I find a negative relationship between probability of job loss and household expenditure. This suggests it may be the case that households worried about job loss reduce consumption, although this relationship is not found to be statistically significant.

Negative time trends remain in all specifications of my model. This result combined with recent improvements in job security indicates that trends in job security cannot fully explain recent declines in consumption growth.

Although inconclusive, these results warrant further investigation. Forthcoming work will examine further the link between job loss expectations and household economic decisions.

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9 If past unemployment increases the perceived or actual probability of future unemployment, and also depresses income, then exclusion of this control would lead to omitted variable bias.

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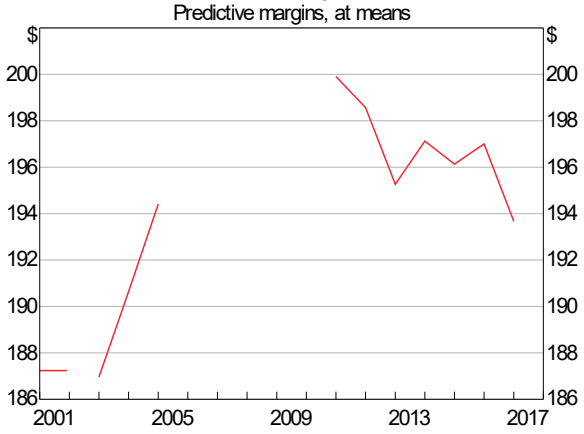
**Pettinicchi Y and Vellekoop N (2019)**, Job Loss Expectations, Durable Consumption and Household Finances: Evidence from Linked Survey Data, *SAFE Working Paper No. 249*

**Wilkins R and Sun C (2010)**, Assessing the Quality of the Expenditure Data Collected in the Self-Completion Questionnaire, *HILDA Project Discussion Paper Series No. 1/10*

## Appendix

**Graph A1**
**Year Effects on Predicted Houshold Consumption Growth***
Predictive margins, at means




* Estimated margins from a fixed effects panel of weekly food consumption on a range of controls. Deflated by headline CPI and adjusted to 2018 prices. Data unavailable for 2002 and 2006 to 2010.

Sources: HILDA Release 17.0; RBA