Labour Market Responses to the Abolition of Compulsory Superannuation

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Abstract
This paper aims to compare the labour market effects of two alternative retirement income policies: the superannuation guarantee charge; and the higher income taxes that would be required to fund the greater pension expenditure that would be incurred if the superannuation guarantee charge was removed. The labour market effects of the superannuation guarantee charge have already been modelled by Freebairn (1998) by undertaking comparative static analysis of a partial equilibrium model. A similar approach is used to examine the labour market effects of higher taxes. The paper sets out both theoretical models, and then considers a numerical example to compare the policy alternatives.

1. Introduction
The effects of compulsory superannuation on labour markets have been considered by Freebairn (1998). Using a partial equilibrium model, he demonstrated that the long run labour market impact of the Government’s compulsory superannuation levy was reductions in wages, effective wages (defined as wages and superannuation benefits) and employment. A limitation of this approach is that removal of the superannuation guarantee would not undo the labour market effects identified by Freebairn, because such an abolition would result in increased pension payments. The increase in taxes required to fund these pension payments would then distort the labour market. From a labour market policy perspective, the central issue is whether the effects of the superannuation guarantee charge outweigh the effects of increased taxes.

This study compares Freebairn’s findings on the labour market effects of the superannuation guarantee with the labour market effects of increased taxation resulting from the removal of the guarantee. Section 2 provides a brief history of superannuation in Australia. Section 3 sets out the Freebairn model, while section 4 outlines a model of the labour market consequences of increasing income taxes on the current working generation to fund increased pension payments. Section 5 contains a numeric illustration that facilitates ready comparison of the labour market effects of the superannuation guarantee and taxation in the absence of the guarantee. Section 6 concludes, and considers areas where further work is required.

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2. A Brief History of Superannuation in Australia

In the early 1980s ‘superannuation’ was essentially ‘voluntary private pensions provided through employers’ (Congressional Budget Office, 1999, p. 45). Less than 40 per cent of employees were covered; those who were typically earned higher than average incomes, or were employed in the public sector (Congressional Budget Office, 1999, p. 45). In 1985-86 labour unions sought to increase this coverage, though central wage bargaining (Congressional Budget Office, 1999, p.46). The Australian Industrial Relations Commission arbitrated on a claim by the Australian Council of Trade Unions, where it was agreed that, rather than a wage increase, all employees covered by an award would receive a three per cent employer superannuation contribution (Congressional Budget Office, 1999, p. 46). However, a large number of workers were not covered under an award, and therefore were not entitled to these contributions.

In 1992 the Federal Government introduced the superannuation guarantee charge, with mandatory employer contributions for all workers with salary and wages over $450 per month (Gallagher and Preston, 1993, p. 5). This contribution started at three per cent, and increased to nine per cent by 2002-03 (Gallagher and Preston, 1993, p. 10).

As at 2000, 87 per cent of employees were covered by superannuation - between 97 and 98 per cent of employees with leave entitlements, and 72 per cent of ‘self identified casuals’ (ABS, 2000). Coverage of casual employees is relatively low because employers are not required to make contributions for staff who earn less than $450 a month, or who are under 18 and work less than 30 hours per week (ATO, 2005, p. 3).

3. The Freebairn Model: Labour Market Effects of Compulsory Superannuation

When the superannuation guarantee was first introduced in Australia, it was the intention of Parliament that it would not affect employment: ‘There will be no increase in unemployment as a result of this legislation’ (ACCI, 2003, p. 14-5, citing Senator Sherry, on the Superannuation Guarantee Act 1992). However, superannuation does have a distortional impact, as employers see it as an additional cost of employment, whilst for employees it is a form of future income (Freebairn, 2004, p. 191).¹

Freebairn (1998) models the resulting distortions as a net tax on the labour market. He considers a demand and supply model of the labour market, using a comparative static approach to determine the effects of the superannuation guarantee. He considers both a flexible and rigid wage model, and examines three situations - where the employer, the employee or the Government pays the contribution. The situation in which the employer pays is most appropriate to Australia. This paper only considers the long run, flexible case, as this is the most relevant from a policy perspective. The formal specification is shown in appendix A.

¹ In reality, superannuation was introduced as a substitute for wage increases. Assuming the costs of the superannuation guarantee are a direct addition to employers’ wage costs neglects this context – however, this paper will follow the approach taken by Freebairn (1998 and 2004).
When the employer is responsible for contributions, superannuation is a direct addition to labour costs, and thus the demand curve shifts down by the amount of the levy (Freebairn, 1998, p. 61). As the superannuation payment is an additional benefit to workers, the labour supply curve also shifts down, by the present value of the superannuation contribution (labelled R(S)) (Freebairn, 1998, p. 61). This is shown in figure 1. Due to compulsion, liquidity constraints, and interactions with eligibility for the age pension, the employees’ valuation of the contributions may be less than the levy itself (Freebairn, 2004, p. 194). In this situation the labour supply curve will fall by less than the demand curve (Freebairn, 2004, p. 194).

Figure 1 Employer Pays Compulsory Levy: Flexible Wage


In the flexible wage situation shown in figure 1, the introduction of the superannuation guarantee results in both a drop in wages, from W to W₁, and a fall in employment, from E to E₁. Employer labour costs increase from W to C, which is less than the full cost of the levy. Effective employee income (the market wage plus the present value of the superannuation levy) falls from W to Y (Freebairn, 1998, p. 67).

4. Labour Market Effects of Increased Taxation Following the Abolition of Compulsory Superannuation

Freebairn’s analysis is confined to the current labour market effects of the superannuation guarantee. The intergenerational transfer of resources from the working generation to the retired generation through the fiscal system

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2 See appendix A for full specifications.
is implicitly assumed to be constant. However, one policy relevant feature of an ageing population is that the intergenerational fiscal transfer increases with time. The superannuation guarantee is, to some extent, the policy instrument designed to reduce such (ongoing and increasing) transfers, as it represents a private capital accumulation, where each generation saves for its own retirement. Consequently, the insight of Freebairn’s model can be usefully complemented by a comparative static analysis of an alternative policy regime where there is no superannuation guarantee, but higher taxes to fund the greater cost of pensions resulting from the aging of the population.3

_Three issues to consider_

In carrying out this exercise, three issues need to be considered. First, as ageing is a ‘once only phenomenon’ (McDonald and Kippen, 1999, p. 54), to calculate the appropriate tax increase we need to consider when the population and the economy will reach their new equilibria. This is clearly dependent on the mortality assumptions used. Under the ABS assumption that life expectations at birth will increase by ten years over the next century, the majority of adjustments to the population structure should be completed by around 2040 (McDonald and Kippen, 1999, p. 54). This coincides with 2041-42 end point of the forecasting period of _The Intergenerational Report_ (Commonwealth of Australia, 2002), and hence is best for the purposes of this analysis.

The second issue is the changing social expenditures that will accompany the ageing of the population. As outlined in the _Intergenerational Report_, in addition to spending on the age pension, spending on health and aged care are predicted to increase, while outgoings associated with the younger population, such as education and family tax benefits, will fall. Excluding age pension expenditure, Commonwealth demographic spending is predicted to increase by 3.6 per cent of GDP between 2001-02 and 2041-42 (Commonwealth of Australia, 2002, p. 59). However, for the purposes of comparing a situation with superannuation to one with a higher tax rate, this paper will focus solely on age pension expenditure. Because all other changes in social expenditure will occur regardless of whether the superannuation guarantee is in place, and indeed, because there will be a net increase in these expenditures, it seems reasonable to put them aside. With the superannuation guarantee in place, expenditure on the age pension is predicted to rise from 2.9 per cent of GDP in 2001-02 to 4.6 per cent in 2041-42 (Commonwealth of Australia, 2002, p. 59).

The final issue is that of tax concessions. According to Treasury estimates, in 2001-02, superannuation received tax concessions worth $8,745 million, or 1.19 per cent of GDP (Commonwealth Treasury, 2004, p. 161). If the superannuation guarantee were removed, this ‘expenditure’ would also disappear, thereby reducing the tax increase necessary to cover the resulting increase in age pension expenditure.

However, there is some debate over the true value of these tax concessions. The Association of Superannuation Funds of Australia (ASFA) argues that superannuation is actually over taxed, to the value of $4,105 million in 2001-
02 (ASFA, 2003, p. 2). Treasury also notes that its estimates are not indicative of the long-term cost of the concessions (Commonwealth Treasury, 2004, p. 156). Khan (1999, p. 141) concludes that, on balance, it is likely there is some tax expenditure, but that it is probably ‘significantly smaller’ than Treasury’s estimate.

Given the absence of other estimates, this paper will use Treasury’s valuation of the tax concessions. However, it should be recognised that this figure may be significantly overstated, and that this will impact the final estimate of the tax increase required to cover increasing age pension expenditures.5

Calculating the tax increase

As discussed above, the superannuation guarantee charge was introduced in 1992. In that year, roughly 61 per cent of people of age pension age (Commonwealth Department of Family and Community Studies, 2002, p. 208), or 1,445,148 people (Brown, 1996, p. 8), received the age pension. In the same year expenditure on the age pension was 3.1 per cent of GDP (OECD, 2004). In order to estimate age pension expenditure in 2041-42 in a situation without the superannuation guarantee, it is assumed that both the pension rate (an individual pension as a share of GDP) and the share of the aged population receiving the pension would remain constant, at their 1992 levels. It is estimated that there will be 6.2 million people over 65 in Australia by 2041-42 (Commonwealth of Australia, 2002, p. 22). Under the above assumptions, without the superannuation guarantee roughly 3,782,000 people would receive the pension. Age pension expenditure in 2041-42 would therefore be expected to reach 8.11 per cent of GDP, 3.51 per cent of GDP above that predicted by The Intergenerational Report (Commonwealth of Australia, 2002). It is this amount that needs to be considered in a comparison with the superannuation guarantee.

However, as discussed above, it is assumed that the elimination of superannuation tax concessions will increase Government revenue by 1.19 per cent of GDP. Therefore, in order to cover the increase in pension expenditure, Commonwealth revenue would need to increase by an additional 2.32 per cent of GDP by 2041-42. In 2001-02, revenue from income taxation was 11.23 per cent of GDP (ABS, 2004). Assuming the entire fiscal adjustment was to come from higher income taxes, an increase equal to 2.32 per cent of GDP represents a rise in taxation revenue of 20.66 per cent. This would bring the average tax rate of 23.43 per cent in 2001-02 up to 28.27 per cent.6

This paper’s estimate that age pension expenditure will reach 8.11 per cent of GDP in 2041-42 is significantly greater than the 4.76 per cent of GDP predicted by Rothman (1998, p. 9). In addition, Freebairn (2004, citing

4 ASFA’s estimate uses a benchmark where the appropriate point for taxing superannuation is when the benefits are received and spent, meaning taxation of contributions and earnings is actually a tax penalty (ASFA, 2003). Treasury’s estimate, on the other hand, is based on a benchmark where contributions are taxed like any other income, earnings are taxed like any other investment and benefits are untaxed (Commonwealth Treasury, 2004, p. 155).

5 For sensitivity interests, appendix C re-estimates the required tax increase when the value of tax concessions received by superannuation is zero.

6 In 2001-02, net income tax collected was 23.43 per cent of total taxable income (ATO, 2004, p. 15).
Costello, 2002) comments that, while the superannuation guarantee will ‘reduce the required amount of taxation revenue to be collected relative to a scenario absent the superannuation guarantee’, any reduction in income taxes was ‘unlikely to exceed the equivalent of two per cent of wages’ – again, significantly lower than the estimate made in this paper.

Both Rothman’s and Costello’s estimates are based on projections made using Treasury’s RIMGROUP model, which endogenously predicts both pension coverage and expenditure. Rothman’s estimate uses a base situation where pensions are indexed to average weekly ordinary time earnings, and threshold levels for income and assets tests are indexed to CPI (Rothman, 1998, p. 9). This paper makes the assumption that the current pension to GDP burden is an appropriate guide into the future. One argument in favour of this approach is that, as real per capita income grows, increases in retirees’ wealth may, to a significant extent, be concentrated in areas that are excluded from pension means tests (such as owner occupier housing).

**The effect on the labour market**
To illustrate the effects of the increase in taxes on the labour market, a demand and supply model similar to that in Freebairn (1998) can be used. This is formally specified in appendix B. The outcome can be seen in figure 2. Because it is assumed that the entire tax increase would come from personal income tax, the labour demand curve is unaffected. However, the labour supply curve shifts up by the amount of the additional tax. As a result, wages increase to $W_1$ and employment falls to $E_1$. Effective employee income falls to $Y$.

**Figure 2  Increase in Income Taxes**
5. Numeric Illustration of Labour Market Effects for the Two Options

The previous sections lay the theoretical framework to analyse the effects of both the superannuation guarantee, and an ‘equivalent’ tax increase, on the labour market. The purpose of this section of the paper is to carry out a quantitative analysis to allow a comparison of these policy alternatives.

In his paper, Freebairn (1998) constructs a numerical example of the labour market effects of the superannuation guarantee using the demand and supply model discussed in section 3. The formulae used by Freebairn for this example are available in appendix B. He assumes labour demand has an elasticity of -0.7, and labour supply has an elasticity of 0.2 (Freebairn, 1998, p. 64). Freebairn considers four situations, in which the present value of the superannuation contributions to the employee are 0, 33, 67 or 100 per cent of the levy. A valuation of 100 per cent means compulsory superannuation is a perfect substitute for wages, whilst a valuation of zero per cent implies superannuation has no present value (Freebairn, 1998, p. 64). The results for each valuation are shown in table 1.

<table>
<thead>
<tr>
<th>Present Value of Superannuation as a percentage of the levy</th>
<th>Employment</th>
<th>Market wage</th>
<th>Employee effective income</th>
<th>Employer labour cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0.0</td>
<td>-9.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>67</td>
<td>-0.5</td>
<td>-8.3</td>
<td>-2.3</td>
<td>0.7</td>
</tr>
<tr>
<td>33</td>
<td>-0.9</td>
<td>-7.7</td>
<td>-4.7</td>
<td>1.3</td>
</tr>
<tr>
<td>0</td>
<td>-1.4</td>
<td>-7.0</td>
<td>-7.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>


The effects of the superannuation guarantee on the labour market depend largely on how employees value the superannuation payment (Freebairn, 1998 and 2004). In the situation where compulsory superannuation is a perfect substitute for wages, the labour supply curve shifts down by the same amount as the demand curve. As a result wages fall by nine per cent, but employment, effective employee income and employer labour costs are not affected (Freebairn, 2004, p. 193). Alternatively, when, as expected, employees value superannuation at less than 100 per cent of the levy, the distortions to the labour market are more obvious. As demand is more elastic than supply, the cost of these distortions is borne mainly by the employee (Freebairn, 2004, p. 194).

Similarly, the demand and supply model set out in section 4 has been used to estimate the labour market impact of an increase in taxes. An increase in taxes by the amount estimated in section 4 will lead to wages increasing by approximately 1.08 per cent and employment dropping by 0.75 per cent.

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7 The sensitivity of the results to the choice of elasticities is considered in appendix C.
8 In Freebairn’s paper, the employee effective income figure for a present value of 33 per cent was incorrectly inserted in the original table as -4.3.
Effective employee income falls by roughly 3.76 per cent. The formulae used to calculate these changes are available in appendix B.

The effects of the superannuation guarantee and the ‘equivalent’ increase in taxes are compared in table 2. Whilst the superannuation guarantee and the tax change have opposing effects on the market wage, their effect on both employment and effective employee income is in the same direction. Using the formula outlined in appendix B, it can be determined that the distortional effect on employment resulting from the tax change will be greater than that from the superannuation guarantee charge, as long as the present value employees place on their superannuation contributions is above 46.2 per cent.

Table 2  Labour Market Distortions from Superannuation vs a Tax Change

<table>
<thead>
<tr>
<th>Percentage Change in:</th>
<th>Superannuation Levy of 9%</th>
<th>No Superannuation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage Present Value of the Levy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>67</td>
</tr>
<tr>
<td>Employment</td>
<td>0.0</td>
<td>-0.5</td>
</tr>
<tr>
<td>Market wage</td>
<td>-9.0</td>
<td>-8.3</td>
</tr>
<tr>
<td>Effective income</td>
<td>0.0</td>
<td>-2.3</td>
</tr>
</tbody>
</table>

Freebairn (1998, p. 60) argues that for those on high incomes with large voluntary private savings, compulsory superannuation is non-binding, as they are able to substitute some of their private savings for the compulsory superannuation payments. For these people the present value of the superannuation levy is close to 100 per cent (Freebairn, 1998, p. 64). On the other hand, for those with low incomes or broken careers, the present value of the levy is likely to be closer to zero per cent (Freebairn, 1998, p.64). These people are likely to find the lack of liquidity of superannuation constraining, and may lose part of the means-tested age pension due to their superannuation savings (Freebairn, 1998, p. 60). Guest and McDonald (2002, p. 30) assume that the average present value of superannuation is 50 per cent of the levy. Whilst this is not an empirical estimate, they argue that it seems to be a ‘ball-park’ figure (Guest and McDonald, 2002, p. 30).

This paper compares two contrasting options for dealing with increased pressure from growing intergenerational fiscal transfers resulting from the ageing of the population: maintaining the current superannuation guarantee; or abolishing the superannuation guarantee and increasing taxes to fund future pension increases. The numerical example shows that if the present value of compulsory superannuation payments to the employee is

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9 The change in wages of 1.08 per cent is inclusive of the additional taxes. The effective income figure of -3.76 per cent shows the percentage change in wages net of the new tax.

10 As well as reducing the market wage, the superannuation guarantee will also reduce effective employee income (when the present value of the levy is less than 100 per cent). This occurs because the benefit of the levy is less than the reduction in market wages. However, when taxes are increased, labour supply falls and therefore the market wage rises. In this situation, effective employee income will fall because the increase in the market wage is less than the cost of the additional taxes.
above 46.2 per cent of the levy, it appears that the superannuation guarantee has a less distortional effect on employment than increasing taxes.

However, this comparison only applies in the new equilibrium that occurs from 2041-42. It does not consider the transitional period before this equilibrium is reached. The increase in taxes would occur gradually over this period, and as such, at the start of the transition, the distortional effect of the tax change would be less. However, as the taxes continued to rise over the period, their distortional impact would become more significant. A discounted analysis is not considered in this paper because, among other things, information on the elasticities of labour supply and demand for different wages and labour quantities is not available.

6. Conclusion, Policy Considerations and Further Research

Freebairn (1998) demonstrates the distortional impact of the superannuation guarantee on the labour market. However, as shown in this study, these labour market distortions need to be compared to the longer-term distortions in the absence of the superannuation guarantee. That is, the labour market effects of the superannuation guarantee should be compared to those from an ‘equivalent’ change in taxes that would be required to cover the extra expenditure on the age pension, had the superannuation guarantee not been introduced. Although the result does depend on what valuation employees place on their superannuation payments, it appears that superannuation may have a slightly less distortional effect on employment than an ‘equivalent’ tax increase.

More consensus on the true value of superannuation tax concessions, and more empirical work on employees’ valuation of their superannuation contributions, would allow more certain conclusions to be drawn from this analysis. However, in fully evaluating the suitability of a policy, other issues must also be considered. When evaluating the retirement income system, one of those issues is the impact of the system on the savings rates. There is still some debate in the literature regarding the impact of the superannuation guarantee on household savings. The vertical and horizontal equity of the system must also be taken into account. Also of interest is the heterogeneity of the population with regard to labour market responses to taxation and superannuation.

**Appendix A: Full Specification of Freebairn’s Partial Equilibrium Model**

In considering the compulsory superannuation guarantee as a tax, Freebairn (1998) defines the after-tax values of wages used for current consumption, the after-tax value of wages used for saving and the after-tax value of superannuation. His full specifications are as follows:11

i) the after tax value of wages used for current consumption:

\[ R(W,C) = W(1 - t_c) \]

11 These specifications are from Freebairn (1998), pp. 59-60.
ii) the after tax value of wages used for saving and then spent for pre-retirement purposes:

\[ R(W,S) = \frac{W(1 - t_y)(1+r(1-t_i))^m}{(1 + d)^m} \]

iii) the after tax present value of voluntary and compulsory superannuation:

\[ R(S) = \frac{W(1 – t_e)(1 + r(1 - 0.15))^n(1 – t_x)(1 – tr)/(1 + d)^n}{(1 + d)^n} \]

where:
- \( W \) = wages allocated to either consumption, saving or superannuation
- \( t_y \) = income tax rate
- \( r \) = pre-tax return on savings
- \( t_i \) = effective tax rate on savings
- \( d \) = time preference rate
- \( m \) = number of saving periods
- \( t_e \) = tax rate on funds entering superannuation
- \( t_x \) = tax rate on fund withdrawals
- \( t_r \) = effective tax rate associated with withdrawal of aged pension benefits
- \( n \) = number of periods to retirement
- 0.15 = the flat 15 per cent tax rate on fund earnings

**Appendix B: Formulae and Calculations**

**Labour Market Effects of a Tax Change to Fund Increased Pensions**

The formulae used to calculate the labour market effects of the tax change that may be necessary had the superannuation guarantee not been introduced are similar to those used by Freebairn (1998), which are set out below. The required increase in taxes necessary to cover the reduction in pension expenditure from the superannuation guarantee is 20.66 per cent, as calculated in section 4. The elasticity values used were 0.2 for labour supply and –0.7 for labour demand, as in Freebairn (1998).

Before the tax change:

- Employer labour demand: \( Q = a - bW \)
- Employee labour supply: \( Q = c + d(W-T) \)

Where:
- \( T \) = the original tax paid
- \( t \) = the original tax rate (23.43 per cent)
- \( C \) = cost of labour to the employer
- \( R \) = effective return to the employee
- \( b \) = absolute value of elasticity of labour demand
- \( d \) = elasticity of labour supply.
- \( W \) = wages
- \( L \) = the superannuation levy
- \( g \) = the value employees put on future income provided by superannuation (0, 0.33 etc)
After the tax change:
Employer labour demand: \( Q = a - bW \)
Employee labour supply: \( Q = c + d(W - 1.2066T) \)

Using these formulas, the change in wages due to the tax change is:
\[
(W' - W) = \frac{0.2066dt}{b + d}
\]
and the change in employment is:
\[
(Q' - Q) = -\frac{0.2066bdt}{b + d}
\]

**Labour Market Effects of the Superannuation Guarantee**

The effects of the nine per cent employer superannuation contribution on employment and wages were calculated by Freebairn using the following formulae.\(^{12}\)

Employer labour demand: \( Q = a - bC \)
Employee labour supply: \( Q = c + dR \)

Without superannuation: \( C = W \)
\( R = W \)

Therefore: \( W = \frac{(a - c)}{(b + d)} \)

When superannuation is introduced:
\[
C = W + L \\
R = W + gL
\]

Therefore: \( W' = \frac{(a - c)}{(b + d)} - \frac{(b + dg)L}{(b + d)} \)

The change in wages is due to the introduction of the superannuation guarantee is:
\[
(W' - W) = -\frac{(b + dg)L}{(b + d)}
\]

The change in employment can be calculated using the same formulae:
\[
(Q' - Q) = -\frac{bdL(1 - g)}{(b + d)}
\]

**Appendix C: Sensitivity Analysis**

**The Value of Superannuation Tax Concessions**

As discussed in section 4, there is some debate regarding the true cost of superannuation tax concessions. This section considers the sensitivity of the results of this paper to this valuation, by re-estimating the labour market impact of a situation without the superannuation guarantee, assuming the value of the tax concessions is zero.

\(^{12}\) These formulae were provided by Professor Freebairn in personal correspondence.
In this situation, in order to cover an increase in age pension expenditure of 3.51 per cent of GDP, taxation revenue would need to rise from 11.23 per cent of GDP in 2001-02 to 14.74 per cent by 2041-42. This would increase the average tax rate from 23.43 per cent in 2001-02 to 30.75 per cent. The impact on the labour market, calculated using the formulae outlined in appendix B, is set out in table 3.

**Table 3  Impact of a Tax Increase - Sensitivity to the Value of Superannuation Tax Concessions**

<table>
<thead>
<tr>
<th>Value of Tax Concessions</th>
<th>Percentage change in:</th>
<th>Zero</th>
<th>Treasury Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>-1.14</td>
<td>-0.75</td>
<td></td>
</tr>
<tr>
<td>Market wage</td>
<td>1.63</td>
<td>1.08</td>
<td></td>
</tr>
<tr>
<td>Effective income</td>
<td>-5.69</td>
<td>-3.76</td>
<td></td>
</tr>
</tbody>
</table>

Using Treasury’s estimate of the value of the tax concessions, the superannuation guarantee has a less distortional effect on employment than an ‘equivalent’ tax increase, as long as the present value of the employee’s compulsory superannuation payments is above 46.2 per cent. In this situation, where the value of the tax concessions received by superannuation is zero, the present value to the employee may be as low as 18.6 per cent of the levy before the superannuation guarantee has a more distortional impact on employment than the tax increase.

**The Elasticity of Labour Demand and Supply**

It is interesting to consider how sensitive the results of this analysis are to the choice of labour demand and supply elasticities. Freebairn (1998, p. 64) uses a value of 0.2 for the elasticity of labour supply, and –0.7 for the elasticity of labour demand. In the literature, estimates of the elasticity of labour demand tend to range from –0.6 to –0.85 (Humphreys, 2001, citing Dawkins and Freebairn, 1997). Valuations of the elasticity of labour supply are typically between 0.1 and 0.2, although some estimates are as high as 0.4 (Gabbitas and Eldridge, 1998, p. 103).

Table 4 illustrates how sensitive the changes in employment resulting from the superannuation guarantee and the tax increase are to these elasticities. In both situations, the more elastic either curve, the greater the impact on employment.

**Table 4  Change in Employment – Sensitivity to Labour Supply and Demand Elasticities**

<table>
<thead>
<tr>
<th>Elasticity of Labour Supply</th>
<th>Tax Increase</th>
<th>Superannuation Guarantee, ( g = 0.5 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>0.1</td>
<td>-0.41</td>
<td>-0.42</td>
</tr>
<tr>
<td>0.2</td>
<td>-0.73</td>
<td>-0.75</td>
</tr>
<tr>
<td>0.3</td>
<td>-0.97</td>
<td>-1.02</td>
</tr>
</tbody>
</table>
However, the final conclusion of the analysis is not dependent on the choice of elasticities. Regardless of the elasticity of labour demand or labour supply, the superannuation guarantee is less distortionary than the ‘equivalent’ tax increase for all employee valuations of the superannuation guarantee above 46.2 per cent.

References


