CHAPTER 2

Hidden unemployment in Australia

William F. Mitchell

2.1 Introduction

From the viewpoint of Okun's upgrading hypothesis, a cyclical rise in labour force participation (indicating that the discouraged worker effect is dominant) provides marginal workers with a chance to share in the benefits of the higher output and employment. The workers who only enter the labour force when the probability of gaining work increases are often considered as being *hidden unemployed*. The literature indicates that it is teenagers and to a lesser extent women, who exhibit the largest swings in labour force participation (see Mitchell *et al*, 1995).

In this Chapter, a method developed by Mitchell *et al* (1995) is used to provide estimates of the net discouraged worker effect for Australia from 1978. We approach this issue by initially estimating the responses of labour force participation rates of different demographic groups to changes in the economic cycle. The estimated participation responses are then used to compute potential labour forces for each demographic group. Estimates of hidden unemployment are then calculated as the difference between the actual and potential labour forces. A more complete analysis is contained in Mitchell (1999a) and Mitchell *et al* (1995).

The estimates in this Chapter suggest that hidden unemployment remains a significant problem in Australia despite a long period of employment growth. Moreover, it appears that hidden unemployment rises and falls with aggregate unemployment and may be addressed directly by policies which reduce the latter. In Australia, the recorded unemployment rate in August 2001 was 6.8 per cent. Taking into account the estimated hidden unemployment in the same quarter, the adjusted unemployment rate (calculated by expressing the sum of hidden unemployment and recorded unemployment as a percentage of the potential labour force) would be 9.6 per cent. This gives a significantly different picture of the degree of macroeconomic slack and the extent to which jobs have to be created to absorb the real number of idle workers. The estimates show that for the first 8 months of 2001, on average, for every 2.4 persons who were officially recorded as being unemployed there was another person who was hidden unemployed.

2.2 Cyclical participation effects and hidden unemployment

In this section, we estimate the various demographic labour force participation responses over the business cycle and use these estimates to calculate hidden unemployment for each demographic group. The first issue concerns the derivation of a 'full employment' labour force, which will serve as a benchmark upon which comparisons with the actual cyclically sensitive labour force are based.

Trend extrapolation is a popular method of deriving a benchmark labour force. An estimated trend is combined with an arbitrary full employment level of a variable designed to measure the cycle and the regression simulated to yield labour force estimates at full employment (for example, Simler and Tella, 1968; Gordon, 1971). Typically, linear trend functions are fitted and the simulated results are often unrealistic. Alternatively, some studies have chosen an arbitrary point in time as a full employment observation, and then simply projected a trend from that point to the end of the sample on the assumption that the long-term rate of GDP growth and its relationship to the labour market was stable over the sample period (for example, Stricker and Sheehan, 1981).

We use another approach first developed by Perry (1970). We begin with a set of age-gender regressions estimating labour force participation rates on cyclical and trend factors. The models seek adequate representations of the movements in terms of secular filters and cyclical filters rather than presenting structural explanations for the complex behaviour. The econometric model of labour force participation is:

$$(2.1) \qquad (LFPR_i)_t = \alpha + \beta NPOP_t + \phi T + \sum_{j=1}^{3} \delta_i S_i + + \varepsilon_t$$

where $LFPR_i = (L_i / POP_i)$ and is the labour force participation rate of the i^{th} age-gender group defined as the labour force divided by the total civilian population for that particular group; *NPOP* is non-farm total employment divided by the civilian population between 15-64 years; *T* is a linear time trend; *S* are seasonal dummy variables; and ε_t is a stochastic error term. The trend term was included to add precision to the cyclical coefficient on the *NPOP* variable.

The β coefficient measures the degree of cyclical sensitivity of the labour force participation rate. The participation gap, being the extra labour force participation that would be forthcoming if the economy was at the "full employment" level of the *NPOP*, was calculated by multiplying the β coefficient by the deviation from this full employment *NPOP* in each period. The calculation of the participation gaps is:

$$(2.2) \qquad PRGAP_i = \beta(NPOP^{FN} - NPOP_i)$$

where $PRGAP_i$ is the participation rate gap for the i^{th} age-gender group; $NPOP^{FN}$ is the employment-population ratio at full employment, assuming some arbitrary benchmark unemployment rate as full employment; and $NPOP_i$ is the current employment-population ratio. *PRGAP* thus measures the incremental variation in the relevant participation rate, which would occur if the economy moved from its current level of activity to the defined full employment level of activity.

The process of deriving potential labour forces for each demographic group begins with the regression estimates reported in Tables 2.1 and 2.2. The participation gap for each group is derived by multiplying β by the difference between the full employment employment-population ratio and the actual value of the employment-population ratio. The employment-population ratio at full employment was calculated using the formula:

$$N^* = \frac{(1-x)(L-\beta^* N)}{1-\beta^*(1-x)} \tag{2.3}$$

where N^* is the full-employment level of employment at an unemployment rate equal to x; L is the actual labour force; N is the actual level of employment; and β^* measures the cyclical sensitivity of the overall labour force participation rate (see Appendix for full derivation). The employment-population ratio at full employment is then calculated using N^* and the actual civilian population. The estimation of β^* was based on a regression like Equation (2.1) except that the aggregate labour force participation rate was used as the dependent variable. Once the employment gap is calculated, participation gaps for each age-gender group are calculated using Equation (2.2). The hidden unemployment for each age-gender group was then calculated as the participation gap multiplied by the appropriate civilian population.

This method is arguably superior to the trend simulation method, especially in times when participation rates exhibit trend increases quite unlike previous periods. In such cases, trend simulation would seriously underestimate or overestimate the potential labour force. Using a method that is more sensitive to the actual data variations, the gap approach is better able to accommodate the strong trend variations in the labour force participation rates over time.

2.3 Hidden Unemployment in Australia

Table 2.1 shows the regression results for males for Australia. The labour force participation rates of teenage males and males above 55 years of age are sensitive in varying degrees to the business cycle. For prime-age males (25-54 years of age) there is virtually no participation rate responsiveness detected. All

male participation rates show a downward secular movement over the sample period used. The results are in accord with the prevailing wisdom. Table 2.2 shows the regression results for females, which contrast with the male results. The participation rates for every female age group demonstrate cyclical sensitivity, with females aged between 35 and 54 showing the most responsiveness. Further, while there are variations in the trend behaviour of the different age groups, all exhibit a rising secular trend. Women under 24 and over 60 exhibit modest upward trends over the sample, while prime-age females show pronounced trends towards higher participation rates independent of the business cycle. The results support the net discouraged worker hypothesis.

Table 2.3 compares actual and hidden unemployment for each age-gender group in 1993, a recession year, and 2001 (full results are available in the Appendix, Table A1). The comparison provides some indication of the changes that occur over a business cycle and the proportional impacts on demographic groups. In 1993, the seasonally adjusted aggregate unemployment rate was 10.9 per cent. It then slowly declined over the next six years to reach 6.8 per cent in August 2001. By 2001, however, the growth period was over and the unemployment rate was on the upturn. The period of growth since 1993 shows up in lower total hidden unemployment (455.7 thousand in 1993 compared to 276.7 thousand by in 2001). In terms of recorded unemployment, the relative outcome for women overall has deteriorated (42.1 per cent of total in 2001 compared to 38.9 per cent in 1993), whereas their share of estimated hidden unemployment has remained constant at around twice the share of males. In general, prime-age males (25-54) gained the most in relative terms from the expansionary phase, although under 25 year-old males and females also reduced their share of hidden unemployment (and thus benefited from higher labour force participation). It is also clear from Table 2.3 that women's underutilisation is manifested proportionately more in terms of hidden unemployment while men have a higher tendency to remain in the labour force as unemployed. Teenage males and females, as a group, have experienced a worsening in terms of their share of unemployment but this partially reflects their increased participation (and lower hidden unemployment). It is interesting to note that the position of 45-54 year old males has deteriorated over the period of growth from 1993. Their relative unemployment and hidden unemployment has risen since 1993. The 60-64 year old group has experienced no change in their hidden unemployment share but has improved significantly in terms of unemployment share. The other significant change is the deterioration in unemployment share for prime-age females (25-54 years age group). The results confirm that the benefits of expansion in terms of increased labour force participation and lower unemployment are not distributed evenly across all demographic groups. Chapter 4 considers this issue further.

Table 2.1 Male participation rate regressions, Australia, 1980(2) to 2000 (4)

	15-19	20-24	25-34	35-44	45-54	55-59	60-64	> 65
Constant	-5.19	77.25	93.74	93.24	84.07	31.39	7.73	-2.24
	(0.40)	(14.58)	(34.37)	(27.68)	(14.23)	(2.09)	(0.39)	(0.32)
Trend	-0.133	-0.070	-0.045	-0.048	-0.053	-0.142	-0.082	-0.02
	(7.22)	(13.09)	(15.61)	(13.50)	(6.69)	(7.12)	(1.99)	(1.85)
NPOP	1.24	0.26	0.04	0.05	0.13	0.88	0.76	0.23
	(5.36)	(2.75)	(0.89)	(0.79)	(1.26)	(3.34)	(2.20)	(1.82)
R^2	0.95	0.92	0.94	0.95	0.91	0.94	0.88	0.80
% s.e. *	1.34	0.58	0.28	0.28	0.45	1.13	1.98	4.14
DW	1.98	1.96	1.90	1.99	1.96	1.95	1.89	1.97

Note: All regressions used seasonal dummy variables. All regressions were estimated using an exact Maximum Likelihood Estimator with AR(2) disturbances (see Pesaran, 1972). The figures in parentheses are are *t*-statistics.
* the % s.e. is the standard error as a percentage of the mean of the dependent variable.

Table 2.2 Female participation rate regressions, Australia, 1980(2) to 2000(4)

	15-19	20-24	25-34	35-44	45-54	55-59	60-64	> 65
Constant	29.07	44.74	16.05	20.67	-2.14	-5.86	-9.29	-2.59
	(2.84)	(3.53)	(1.54)	(1.89)	(0.17)	(3.62)	(0.89)	(1.08)
Trend	0.03	0.094	0.217	0.155	0.307	0.202	0.083	0.004
	(2.55)	(3.51)	(6.52)	(3.60)	(15.63)	(9.74)	(7.52)	(1.35)
NPOP	0.64	0.46	0.63	0.66	0.84	0.55	0.36	0.09
	(3.55)	(2.05)	(3.46)	(3.54)	(3.74)	(1.95)	(1.96)	(2.04)
R^2	0.89	0.95	0.99	0.99	0.99	0.97	0.92	0.73
% s.e. *	0.91	0.91	0.97	0.83	1.06	2.91	5.21	6.11
DW	1.98	1.98	1.98	1.98	1.89	1.98	1.96	1.92

Note: All regressions used seasonal dummy variables. All regressions were estimated using an exact Maximum Likelihood Estimator with AR(2) disturbances (see Pesaran, 1972). The figures in parentheses are are *t*-statistics.
* the % s.e. is the standard error as a percentage of the mean of the dependent variable.

Table 2.3 Actual and hidden unemployment by age-gender, Australia, 1993 and 2001 (thousands and percentage shares)

	Males				Females				Total			
	UN	% of Total	HU	% of Total	UN	% of Total	HU	% of Total	UN	% of Total	HU	% of Total
1993												
15-19	89.3	9.5	67.2	14.8	78.8	8.4	33.2	7.3	168.0	17.9	100.5	22.1
20-24	107.4	11.5	15.2	3.3	75.1	8.0	26.6	5.8	182.5	19.5	41.8	9.2
25-34	143.7	15.3	4.9	1.1	85.6	9.1	72.5	15.9	229.3	24.5	77.4	17.0
35-44	104.1	11.1	4.9	1.1	72.4	7.7	72.4	15.9	176.5	18.8	77.3	17.0
45-54	68.7	7.3	11.4	2.5	43.4	4.6	69.5	15.3	112.1	12.0	81.0	17.8
55-59	32.5	3.5	27.9	6.1	8.1	0.9	17.1	3.8	40.6	4.3	45.0	9.9
60-64	27.0	2.9	22.2	4.9	1.5	0.2	10.5	2.3	28.5	3.0	32.8	7.2
Total	572.6	61.1	153.8	33.7	364.8	38.9	301.9	66.3	937.4	100.0	455.7	100.0
2001 (a)												
15-19	79.2	11.8	38.3	13.8	68.6	10.2	18.9	6.8	147.8	22.0	57.3	20.7
20-24	70.0	10.4	8.0	2.9	49.1	7.3	13.7	4.9	119.1	17.7	21.6	7.8
25-34	88.7	13.2	2.8	1.0	59.9	8.9	40.5	14.6	148.6	22.1	43.2	15.6
35-44	67.4	10.0	2.8	1.0	56.4	8.4	43.5	15.7	123.8	18.4	46.3	16.7
45-54	52.8	7.9	7.8	2.8	38.6	5.7	48.9	17.7	91.4	13.6	56.7	20.5
55-59	21.0	3.1	19.7	7.1	8.6	1.3	12.0	4.3	29.6	4.4	31.7	11.5
60-64	10.1	1.5	13.6	4.9	1.3	0.2	6.3	2.3	11.4	1.7	19.9	7.2
Total	389.2	57.9	92.9	33.6	282.5	42.1	183.8	66.4	671.7	100.0	276.7	100.0

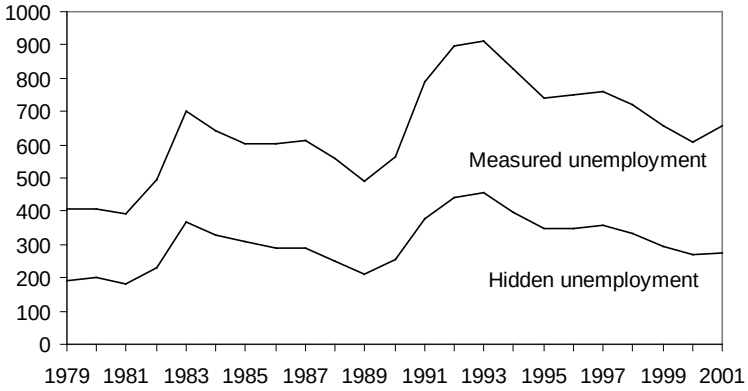
Note: The estimates of hidden unemployment are based on a 2 per cent full employment unemployment rate.
(a) The figures for 2001 are the average to May.

Figure 2.1 charts the course of hidden unemployment in Australia since 1979. The cyclical nature of hidden unemployment is clearly shown with local peaks coinciding with the two major downturns in economic activity over this period. The other disturbing point that emerges from the chart is that the recovery periods following the respective downturns ended with hidden unemployment remaining above its previous low.

Figure 2.2 decomposes the total estimated hidden unemployment into male and female aggregates. Consistent with the results in Table 2.3, females are more prone to hidden unemployment probably because they still face more constraints on their time (combining work and home responsibilities), which means that women's work remains, in part, instrumental. The indication from

the estimates is that with economic slowing in late 2000 and into 2001, hidden unemployment overall is beginning to rise again.

Figure 2.1 Measured and hidden unemployment, Australia, 1979-2001 (thousands)



Source: ABS, *The Labour Force*, 6203.0 and author's estimates (Table A1).

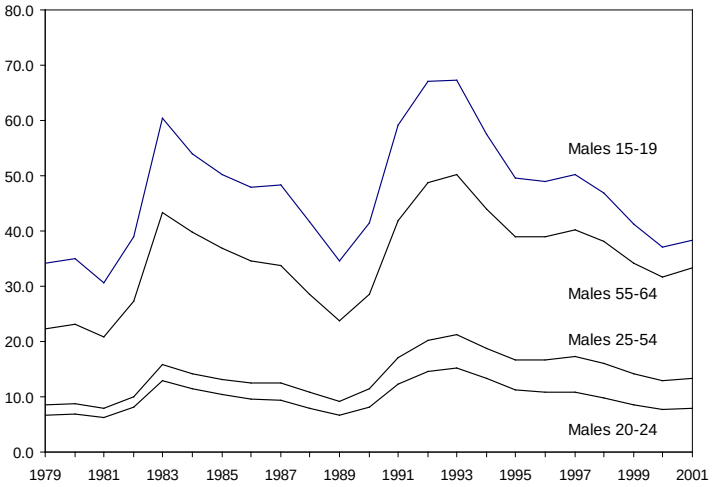
Figure 2.2 Hidden unemployment, Australia, 1979-2001 (thousands)

Source: Author's estimates.

It is instructive to also consider the incidence of hidden unemployment across the age groups by gender. Once we decompose the gender aggregates by age, an interesting picture emerges. Figure 2.3 shows the estimates of hidden unemployment for males in 4 age categories: teenagers (15-19 years); 20-24 years; prime-age (25-54); and older workers (55-64). The aggregations were guided by similar behaviour within the disaggregated groups that comprise the categories shown. The evidence is clear that hidden unemployment for males is confined to the two age extremes: teenagers and older workers. Chapters 6 and 7 examine these age cohorts separately. As indicated by the estimated sensitivities shown in Table 2.1, the cyclical swings for these groups are larger.

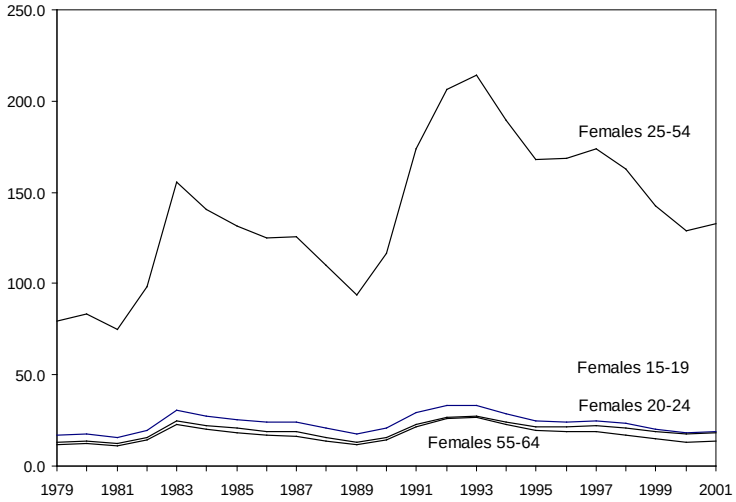
Figure 2.4 shows the estimates for females for the same age categories shown for males. Prime-age females account for most of the estimated hidden unemployment for females: table 3.2 shows that this cohort accounted for around 48 per cent of all estimated hidden unemployment. The cyclical swings are also dramatic.

Figure 2.3 Hidden unemployment for males, Australia, 1979-2001 (thousands)



Source: Author's estimates.

Figure 2.4 Hidden unemployment for females, Australia, 1979-2001 (thousands)



Source: Author's estimates.

To what extent do the estimates change our view of underutilisation? Chapter 3 examines this issue in more detail. Mitchell and Carlson (2000) computed a range of indicators for extending the measurement of underutilisation and underemployment. Table 2.4 is taken from their work. The relevant comparison is between U3, the official measured unemployment rate (depicted in Figure 2.1) and CU4 (from the Centre of Full Employment and Equity's Labour Market Indicators – CLMI), which includes the estimates of hidden unemployment in the numerator and denominator of the unemployment rate calculation.

The results show that when we broaden the measure of underutilisation to include hidden unemployment, the measure of labour resource wastage is 2.6 percentage points higher in the months shown for 2001 than is represented by the official unemployment rate. In Chapter 3 this measure of underutilisation is further broadened to include underemployment and marginal workers. The estimated extent of labour resource wastage rises markedly.

The final column in Table 2.4 expresses the unemployed in thousands as a ratio of the hidden unemployed in thousands. Roughly speaking, for every 2.4 persons who were officially recorded as being unemployed in the first 5 months of 2001, there was another person who was hidden unemployed. Any job creation program designed at reducing unemployment would therefore have to take this relationship into account.

unemployment would therefore have to take this relationship into account.

Table 2.4 Official and adjusted unemployment rates, Australia, 1979-2001

	Official UR (U3) per cent	UR + HU (CU4) per cent	Difference	UN/HU Ratio
1979	6.3	9.0	2.7	2.1
1980	6.1	8.8	2.7	2.0
1981	5.8	8.2	2.4	2.2
1982	7.2	10.2	3.0	2.1
1983	10.0	14.5	4.5	1.9
1984	9.0	13.0	4.0	1.9
1985	8.3	12.0	3.7	2.0
1986	7.9	11.3	3.4	2.1
1987	7.9	11.2	3.3	2.1
1988	7.0	9.8	2.8	2.2
1989	5.9	8.3	2.3	2.3
1990	6.7	9.5	2.8	2.2
1991	9.3	13.2	3.9	2.1
1992	10.5	14.9	4.4	2.0
1993	10.6	15.1	4.5	2.0
1994	9.4	13.4	3.9	2.1
1995	8.2	11.7	3.4	2.1
1996	8.2	11.6	3.4	2.2
1997	8.2	11.7	3.4	2.1
1998	7.7	10.9	3.2	2.2
1999	6.9	9.8	2.8	2.2
2000	6.3	8.8	2.5	2.3
2001 (a)	6.7	9.3	2.6	2.4

(a) Average to May 2001. U3 is the official unemployment rate published by the ABS. CU4 is total unemployment plus hidden unemployment as a percentage of labour force plus hidden unemployment denoted here as UR + HU.

2.4 Conclusion

The estimates of hidden unemployment in Australia are dependent on the benchmark used to define full employment. Consistent with the approach taken in the volume, a 2 percent benchmark is used. Given the estimation technique used, the results are however proportional for any benchmark. This chapter has shown that the problem of hidden unemployment is significant but not

independent of the problem of unemployment in general. The data shows that the two move closely together over the business cycle.

The estimates also reveal disparities for different age-gender groups. Clearly, the highest hidden unemployment is experienced by teenage males and prime-age females. In any job creation scheme, these groups should be targetted.

The estimates also indicate that many more jobs have to be created in order to reduce the true slack in the labour market, which is not adequately captured by the unemployment rate. In this important sense, unemployment is the tip of the iceberg.

Appendix 2.1

Estimating the employment gap requires an assumption to made about the full employment unemployment rate, which then defines the potential employment-population ratio, $NPOP^{FN}$ and implicitly the potential labour force, L^*.

Expressions can be derived for these unknown aggregates. We define the potential labour force as:

(A2.1) $L^* = L + H$

where L is the actual labour force and H is the estimated hidden unemployment.

(A2.2) $H = \beta(NPOP^{FN} - NPOP)$

Hidden unemployment is defined as the cyclical sensitivity of the labour force participation rate, β, times the employment gap.

Substituting and re-arranging A2.1 gives:

(A2.3) $L^* = L + \beta N^* - \beta N$

where N^* is the level of employment at full employment and N is the actual level of employment in any period.

Define the target full employment unemployment rate, x as:

(A2.4) $x = \left(1 - \frac{N^*}{L^*}\right)$

Re-arranging A2.4 and substituting for the potential labour force generates an expression for the potential employment level:

(A2.5) $$N^* = \frac{(1-x)(L-\beta N)}{1-\beta(1-x)}$$

Substituting back into A2.3 provides a straightforward expression for the potential labour force.

Table A2.1 Hidden unemployment estimates by age and gender, Australia, 1979-2000 (at a 2 per cent unemployment rate benchmark)

Gender	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
15-19																						
Males	34.9	30.5	39.0	60.5	54.0	50.2	48.0	48.3	41.6	34.6	41.5	59.3	67.1	67.2	57.5	49.6	49.0	50.1	46.9	41.1	37.1	38.3
Females	17.6	15.5	19.7	30.4	27.1	25.1	24.0	24.1	20.8	17.3	20.7	29.4	33.2	33.2	28.4	24.5	24.2	24.8	23.1	20.3	18.4	18.9
Total	52.5	46.0	58.7	90.8	81.1	75.3	72.0	72.4	62.4	52.0	62.1	88.7	100.3	100.5	85.9	74.1	73.2	74.9	70.0	61.5	55.5	57.3
20-24																						
Males	6.9	6.3	8.2	12.8	11.5	10.5	9.7	9.4	8.0	6.7	8.2	12.3	14.6	15.2	13.2	11.3	10.8	10.8	9.9	8.6	7.7	8.0
Females	12.3	11.1	14.5	22.8	20.3	18.5	17.0	16.5	14.0	11.8	14.4	21.7	25.8	26.6	23.1	19.7	19.0	18.8	17.1	14.8	13.3	13.7
Total	19.2	17.4	22.7	35.6	31.8	29.0	26.7	25.9	21.9	18.4	22.7	34.0	40.4	41.8	36.3	31.0	29.8	29.6	27.0	23.4	21.0	21.6
25-34																						
Males	2.2	2.0	2.6	4.0	3.6	3.3	3.2	3.2	2.7	2.3	2.8	4.1	4.8	4.9	4.3	3.7	3.7	3.7	3.4	3.0	2.7	2.8
Females	31.9	28.8	37.4	58.8	52.9	49.1	46.3	46.3	40.0	34.0	41.5	61.1	71.0	72.5	62.9	54.9	54.3	55.2	50.8	44.1	39.5	40.5
Total	34.0	30.8	40.0	62.9	56.5	52.4	49.5	49.4	42.7	36.3	44.3	65.2	75.8	77.4	67.1	58.6	57.9	58.9	54.2	47.1	42.2	43.2
35-44																						
Males	2.2	2.0	2.6	4.0	3.6	3.3	3.2	3.2	2.7	2.3	2.8	4.1	4.8	4.9	4.3	3.7	3.7	3.7	3.4	3.0	2.7	2.8
Females	24.5	22.5	30.6	49.7	45.8	43.6	42.1	42.8	37.6	32.2	39.9	59.6	70.0	72.4	63.5	56.4	56.4	58.0	54.1	47.3	42.4	43.5
Total	26.7	24.5	33.2	53.7	49.4	47.0	45.3	45.9	40.3	34.5	42.8	63.8	74.9	77.3	67.8	60.1	60.1	61.8	57.5	50.3	45.1	46.3
45-54																						
Males	4.4	3.9	4.9	7.7	6.9	6.4	6.1	6.1	5.3	4.6	5.8	8.8	10.7	11.4	10.3	9.2	9.4	9.8	9.3	8.2	7.5	7.8
Females	26.7	23.4	30.1	46.8	42.1	38.9	36.8	36.9	32.2	27.9	35.0	53.4	65.1	69.5	62.8	56.7	57.9	60.6	57.7	51.4	47.0	48.9
Total	31.0	27.3	35.0	54.5	49.0	45.4	42.8	43.0	37.6	32.4	40.8	62.2	75.8	81.0	73.1	65.9	67.2	70.3	66.9	59.7	54.5	56.7
55-59																						
Males	13.9	12.4	16.0	25.0	22.7	20.8	19.3	18.7	15.6	12.9	15.4	22.5	26.6	27.9	24.9	22.2	22.5	23.5	22.3	20.1	18.8	19.7
Females	8.8	7.8	10.0	15.6	13.9	12.7	11.7	11.3	9.5	7.8	9.4	13.8	16.3	17.1	15.2	13.6	13.7	14.3	13.5	12.2	11.4	12.0
Total	22.7	20.2	26.0	40.6	36.6	33.5	31.0	30.0	25.1	20.7	24.8	36.3	42.9	45.0	40.2	35.8	36.2	37.7	35.8	32.4	30.1	31.7
60-64																						
Males	9.3	8.5	11.3	18.3	17.1	16.1	15.2	15.1	12.9	10.9	13.2	19.3	22.1	22.2	19.0	16.6	16.4	16.8	15.8	14.1	13.0	13.6
Females	4.8	4.4	5.8	9.3	8.5	8.0	7.5	7.3	6.2	5.2	6.3	9.2	10.5	10.5	9.0	7.9	7.8	8.0	7.5	6.6	6.1	6.3
Total	14.1	12.8	17.1	27.6	25.7	24.1	22.7	22.4	19.1	16.1	19.5	28.5	32.6	32.8	28.0	24.5	24.1	24.8	23.3	20.7	19.1	19.9
All																						
Males	73.8	65.5	84.6	132.4	119.4	110.8	104.6	103.8	88.9	74.3	89.7	130.5	150.8	153.8	133.5	116.4	115.4	118.5	111.0	98.2	89.4	92.9
Females	126.5	113.5	148.0	233.3	210.5	196.0	185.3	185.1	160.2	136.2	167.3	248.2	291.9	301.9	264.9	233.6	233.3	239.6	223.8	196.7	177.9	183.8
TOTAL	200.3	179.0	232.6	365.6	330.0	306.7	289.9	289.0	249.2	210.5	257.0	378.7	442.6	455.7	398.4	350.0	348.7	358.0	334.8	294.9	267.3	276.7

Source: Author's calculations. (a) 2001 data is computed using monthly data from January to May.