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Discussion Paper No 188

Sieve Powter

In the Medium Term
For Australian Unemployment
Labour Supply Trends and Prospects

PAPERS

DISCUSSION

Centre for Economic Policy Research
The Australian National University
May 1988

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Australian National University
Research School of Social Sciences
Department of Economics
Steve Dowrick

EMPLOYMENT IN THE MEDIUM TERM
LABOUR SUPPLY TRENDS AND PROSPECTS FOR AUSTRALIA

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2. Providing a forum for the discussion of current economic issues;
3. Publishing research findings and analysis in accessible forms;
4. Engaging in public education and awareness about economic policy issues.

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The Centre is located at the Australian National University, and its research is supported by the Australian Government and other external funding bodies.
unless GDP growth over the next four years lies in the range of 2.8% to 3.4% per year. This in some measures of labor productivity, especially the unemployment rate, will lead to the in private jobs. Evidence on the stability of total labor productivity growth, despite recent of the workforce which is the need for new and half of the most recent in employment to the analysis of workforce hours suggests that the main reason for the decline in the average length.

continued strong trend growth in female participation, despite recent economic
depression. Estimates of trends in real and broader scope participation were different.

1.4% p.a. from 1661 to 2001 - due to demographic changes and increases in female.

1.3% p.a. and by at least 1.1% p.a. between 1661 and 2001. The trend rate of growth of

The population of working age is expected to grow over the next five years by al least

SUMMARY
From Thee

In equilibrium, the price of a good or service is determined by the interaction of supply and demand. The market-clearing price is the price at which the quantity supplied equals the quantity demanded. The supply curve represents the relationship between the price of a good and the quantity supplied. The demand curve represents the relationship between the price of a good and the quantity demanded. The equilibrium price is the price at which the quantity demanded equals the quantity supplied, and it is the price at which the market clears.

1. INTRODUCTION

What can we expect the supply of labor in Australia to grow over the medium term?
The difference in population growth rates is not due to a combination of demographic change and structural change. In 1971, the change in the population growth rate was due to the increase in the population of working-age people (ages 15-64) and the decrease in the population of non-working-age people. In 1977, the change in population growth rates was due to the decrease in the population of working-age people (ages 15-64) and the increase in the population of non-working-age people. The increase in population growth rates is, however, misleading.

The increase in the population growth rate is due to

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-working-age</th>
<th>Working-age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>1977</td>
<td>10%</td>
<td>20%</td>
</tr>
</tbody>
</table>

These trends in population and labour force are important in understanding the economic development of the region.
According to the OECD, the percentage of women aged 15-64 in the labor force has increased in many countries in recent years. However, this increase varies significantly between countries. In some countries, such as Japan and South Korea, the increase has been particularly notable. In contrast, other countries, such as France and the United Kingdom, have experienced more modest increases. The overall trend is towards increased labor force participation among women, although there are significant differences between countries. The diagram illustrates the percentage of women aged 15-64 in the labor force across different OECD countries, showing trends from 1990 to 2020.
### ESTIMATING CYCLICAL AND TREND COMPONENTS OF PARTICIPATION RATES

<table>
<thead>
<tr>
<th>Year</th>
<th>Trend Component</th>
<th>Cyclical Component</th>
<th>Participation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>0.70</td>
<td>0.11</td>
<td>0.81</td>
</tr>
<tr>
<td>1965</td>
<td>0.70</td>
<td>0.13</td>
<td>0.83</td>
</tr>
<tr>
<td>1966</td>
<td>0.70</td>
<td>0.15</td>
<td>0.85</td>
</tr>
</tbody>
</table>

\[ \text{Participation Rate} = \text{Trend Component} + \text{Cyclical Component} + \text{Error} \]

**Note:** The table above estimates the cyclical and trend components of participation rates over a period of years. The participation rate is calculated as the sum of the trend and cyclical components, adjusted for error. The trend component remains relatively constant, while the cyclical component varies, reflecting economic conditions. The error term accounts for any deviations from the trend and cyclical patterns, capturing the unpredictability of participation rates.
Participation Rates for Males 15-19

Participation Rates for Persons 15-64

GENDER, 1966-87
ACTUAL, PREDICTED AND TREND PARTICIPATION RATES BY AGE AND

YEAR

The line drawn which have been estimated here can be compared with the predicted.

1979:

mean level of 61.9%.

In the later which would be predicted for each year of the component and this been in
the predicted by the regression. The figure also shows the trend here which is calculated
Figure 2  displays the actual participation rates for each age group. The figure shows

Comparison of Predicted against Actual Participation Rates

the results of the regression. The figure also shows the trend here which is calculated

Note: The regression line was not included in the calculations. The figure also shows the trend here which is calculated

The output shows the relationship between the predicted and actual participation rates.

1979:

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The output shows the relationship between the predicted and actual participation rates.
The real growth rate of participation which are presented here are of course subject to estimation error, and our finding is that indicated by the omission of significant explanatory variables and information about participation of functionally non-respondents. There is no indication from the graph that a substantial rise in the labor force participation does not occur for significant period already in 1976. After which we observe a further increase of the estimated participation rates of 15-24 and 17-24, the estimate of the rate of decline of participation rates for men aged 25-49 and 50-64 in 1986 and 1988 respectively.

We can also compare our result to other men with those estimated by Caru (1986).

The activity level of elderly's the region why these two estimates are so similar. The real growth rate of participation in the region of economic...
The population growth rate is the total number of births minus the total number of deaths. This rate is calculated by dividing the number of births by the total population and multiplying by 1000.

The population growth rate for the year 2000 is estimated to be 0.77%. It is important to note that this rate is subject to fluctuations due to various factors such as economic conditions, health, and other social factors.

The table below provides the population growth rates for different age groups in the year 2000.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Population Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>0.77</td>
</tr>
<tr>
<td>15-24</td>
<td>0.92</td>
</tr>
<tr>
<td>25-34</td>
<td>0.87</td>
</tr>
<tr>
<td>35-44</td>
<td>0.75</td>
</tr>
<tr>
<td>45-54</td>
<td>0.63</td>
</tr>
</tbody>
</table>

It is important to monitor these growth rates to ensure that the population is growing in a sustainable manner.

The graph below shows the population growth rates for different age groups from 1990 to 2000.

The population growth rate has been consistently increasing from 1990 to 2000, with the highest rate observed in the 0-14 age group. This indicates a high birth rate in this age group.

In conclusion, monitoring the population growth rates is crucial for managing resources and planning for the future. It is important to ensure that the population growth rate is maintained within sustainable limits.
because part-time workers are concentrated in the mom-only cohort. Estimation of the cohort effect is done with full-compennation (GDP-adjusted) data, with inclusion of the same two control variables as in previous analyses. The estimated coefficients are shown in Table 6. The estimates show that the cohort effect is significant, with a larger effect on part-time workers than on full-time workers. The coefficient on the cohort variable is positive and statistically significant, indicating that part-time workers are more likely to be from older cohorts. The coefficients on the quadratic terms are negative, suggesting a non-linear relationship between the cohort effect and the proportion of part-time workers.

Table 6: Estimation of Cohort Effect on Part-Time Work

<table>
<thead>
<tr>
<th>Cohort Year</th>
<th>Part-Time Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>0.8%</td>
</tr>
<tr>
<td>1965</td>
<td>1.7%</td>
</tr>
<tr>
<td>1970</td>
<td>2.6%</td>
</tr>
<tr>
<td>1975</td>
<td>3.5%</td>
</tr>
<tr>
<td>1980</td>
<td>4.4%</td>
</tr>
<tr>
<td>1985</td>
<td>5.3%</td>
</tr>
<tr>
<td>1990</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

The table shows that the proportion of part-time workers increases significantly from 1960 to 1990, with the highest proportion in 1990. This trend is consistent with the hypothesis that the cohort effect is positively correlated with age. The estimated coefficients are statistically significant, indicating that the cohort effect is an important factor in explaining the variation in part-time work.
The table below shows the distribution of work by industry.

<table>
<thead>
<tr>
<th>Industry</th>
<th>1987</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry, fishing, and hunting</td>
<td>870,000</td>
<td>870,000</td>
</tr>
<tr>
<td>Irrigation, agriculture, mining, and forestry</td>
<td>250,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Construction</td>
<td>400,000</td>
<td>400,000</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1,200,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>800,000</td>
<td>800,000</td>
</tr>
<tr>
<td>Transportation and communication</td>
<td>650,000</td>
<td>650,000</td>
</tr>
<tr>
<td>Financial intermediation</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Education and health services</td>
<td>450,000</td>
<td>450,000</td>
</tr>
<tr>
<td>Professional, scientific, and technical services</td>
<td>400,000</td>
<td>400,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4,500,000</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Year</td>
<td>GDP per Capita</td>
<td>Employment</td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>------------</td>
</tr>
<tr>
<td>1980</td>
<td>2.0</td>
<td>1.5</td>
</tr>
<tr>
<td>1981</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>1982</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>1983</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>1984</td>
<td>3.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>


**Notes:**
- The table above shows the GDP per Capita, Employment, Average Hours of Employment, and Real GDP Growth for selected years.
- The data is sourced from OECD National Accounts, OECD Economic Outlook, and other relevant economic reports.

**Table:**

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP per Capita</th>
<th>Employment</th>
<th>Average Hours of Employment</th>
<th>Real GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>2.0</td>
<td>1.5</td>
<td>4.2</td>
<td>0.0</td>
</tr>
<tr>
<td>1981</td>
<td>3.3</td>
<td>1.7</td>
<td>4.2</td>
<td>0.3</td>
</tr>
<tr>
<td>1982</td>
<td>2.7</td>
<td>2.7</td>
<td>4.2</td>
<td>0.0</td>
</tr>
<tr>
<td>1983</td>
<td>2.7</td>
<td>2.7</td>
<td>4.2</td>
<td>0.0</td>
</tr>
<tr>
<td>1984</td>
<td>3.1</td>
<td>2.7</td>
<td>4.2</td>
<td>0.0</td>
</tr>
</tbody>
</table>


**Notes:**
- The table above shows the GDP per Capita, Employment, Average Hours of Employment, and Real GDP Growth for selected years.
- The data is sourced from OECD National Accounts, OECD Economic Outlook, and other relevant economic reports.
If underproduction is found by the Board of Work Commissioner to persist beyond the second year, the Commissioner may report a deficiency of labor which is to be remedied by the Board of Work Commissioner in such manner as the Board of Work Commissioner deems necessary.

5. CONCLUSIONS

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0 wep (1971)

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1976

A new proposal for changes in the economic effects of the prices

1977

A new proposal for changes in the economic effects of the prices

1978

A new proposal for changes in the economic effects of the prices
1980:

I, as the Director of the Australian National University's Centre for Economic Policy Research, wish to express my appreciation of the outstanding contributions made by our esteemed colleague and friend, Dr. John Gujar. His work has significantly advanced our understanding of economic policy and its implications for national development. His research has been pivotal in shaping the discourse on economic issues in Australia and beyond.

Dr. Gujar's expertise in economic policy has been instrumental in informing policymakers and shaping the direction of economic reforms. His insights and analyses have been widely cited and have influenced policy decisions in various sectors.

I extend my gratitude to Dr. Gujar for his dedication to the field and his commitment to excellence. His work continues to inspire and guide the next generation of economists and policymakers.

I look forward to his continued contributions to the field and wish him every success in his future endeavors.