INFLATION TODAY, INFLATION TOMORROW
AND INFLATION THE DAY AFTER?

Adrian Pagan
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Inflation Today, Inflation To-Morrow and Inflation the Day After?*

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Abstract

This paper considers the likelihood that inflation in Australia will be low in the 1980's. Beginning with the proposition that inflation might be eradicated through tight monetary policy, an investigation is made into whether that is politically possible in a system where the Federal authorities only have a three-year term of office. Data from opinion polls is analysed to show that the level of concern about inflation in the electorate is quite low, and has fallen very sharply since 1977, despite the fact that expectations of continuing inflation have been higher. Analysis of a number of sources of survey data on political attitudes indicates that the electorate do not perceive themselves as being greatly harmed by inflation, and that any opposition to it is based upon a belief that to reduce unemployment requires a reduction in inflation.

Section 3 of the paper shows that the lack of concern over inflation as a personal problem is well founded. Sources of income tend to be indexed, capital losses on assets are only large at the extremes of the income distribution and price indices for different income classes have exhibited very similar movements. But the lack of distributional effects may hide the fact that the aggregate level of income is not invariant to inflation, and sections 4 and 5 consider the conflicting evidence on this proposition.
Section 6 argues that the cost of reducing inflation via demand disinflation would be high, and the weak personal opposition to inflation revealed in the polls suggests that this avenue is unlikely to be tried. Inevitably this means that inflation reduction will be dependent upon external events so that inflation in Australia during the 1980's will largely be governed by policies and political attitudes formed elsewhere.
"The more the evidence in the case is studied, the deeper will grow the public conviction that our shifting dollar is responsible for colossal social wrongs and is all the more at fault because those wrongs are usually attributed to other causes. When those who can apply the remedy realise that our dollar is the great pickpocket, robbing first one set of people, then another, to the tune of billions of dollars a year, confounding business calculations and convulsing politics, and, all the time, keeping out of sight and unsuspected, action will follow and we shall secure a boon for all future generations, a true standard for contracts, a stabilized dollar". (Irving Fisher, Stabilizing the Dollar in Purchasing Power, 1918.)

"There are lessons that I have learned about living under inflation in Israel. Life goes on in the face of inflation. People continue to walk the streets calmly. They do not run with wheelbarrows full of money to the nearest stores; they do not hoard goods indefinitely........There is no sense of panic ........in general, people become accustomed to the situation." (D. Patinkin, in Gapinski and Rockwood (1979p.126)).

".....this progressive deterioration in the value of money through history is not an accident and has behind it two great driving forces – the impecuniosity of government and the superior influence of the debtor class", (J.N. Keynes (1971, p.9)).

"The printing press is the machine gun of the proletariat, mowing down the monied classes", (Sollnikov, quoted in R.J. Gordon (1975)).

"The fluctuation of the standard.......has not only been of unprecedented violence, but has been visited on a society of which the economic organisation is more dependent than that of any earlier epoch on the assumption that the standard of value would be moderately stable", (J.M. Keynes (1971, p.1-2)).

"There are two ways to deal with this problem of conflict over the distribution of national output. The first is to provide ever greater real output, so that all claims are satisfied after all. That is what growth policy was all about. For about a decade Germany, Japan and the United States used rapid growth in output quite successfully to deal with latent conflicts in claims for increased real income", (R.N. Cooper in D.I. Miesesman and A.B. Laffer (1975, p.172)).

"Nevertheless, it may be that while the American people rate the evil of inflation heavily, they are unwilling to pay the price of stopping it. This is only another way of saying we get the inflation we want and deserve", (H. Stein in D.I. Mieselsman and A.B. Laffer (1975, p.202)).
I. Introduction: Theories of Inflation

As exemplified by the two leading quotations, inflation may be viewed (in polar ways) as either an unmitigated disaster and an evil of the most heinous kind or as something that, once it has become familiar, manifests itself in daily life only as a slightly irritating phenomenon. One does not need to look far for representatives of the first view; almost daily the Australian Financial Review laments the weakness of policy against inflation. But it is much harder to discern those holding to the second orientation, as almost by definition they will be silent on the issue. Nevertheless we will argue in this paper that both attitudes do co-exist in Australia today, and that this curious and remarkable feature is a central datum for any political economy of inflation. Throughout our aim will be the assembly of data and the description of items that will help to shed light on any answer to the question posed in the title: sometimes this process leads to the identification of gaps in knowledge that make any answer unusually qualified, but at the end it is hoped to at least express a personal opinion on the topic.

Where should one begin? Hallowed tradition suggests a definition of the phenomenon, and even more hallowed tradition leads us to consult the Oxford English Dictionary. There we find:

"an increase in the volume of money and credit relative to available goods resulting in a substantial and continuing rise in the
general price level”.

It appears that the O.E.D. has been captured by monetarists! Economists have debated the causes of inflation hotly for many years and, although no completely general conclusions have been reached, a fairly good understanding of the ways in which price level rises are initiated and sustained has emerged. Much of the residual controversy revolves around the horizon envisaged for the continuation of inflation: few economists would expect that a rise in the price level could continue indefinitely without some expansion of money or credit, but this period might be so long as to make the appellation "continuous" an appropriate one. After all, if the Treasury only have a time horizon of two years who are we to set a higher one!

To obtain some consensus among economists (at least) it is probably better to engage in lateral thought and ask the question whether restricting the money supply would stop rises in the general price level? Then I think it would be rare to find an economist who did not subscribe to the tenet that, via monetary policy, it is possible to eradicate rises in the general price level. In this sense it is not hard to sympathize with the position that inflation is fundamentally a monetary phenomenon, even if it does not originate with an expansion of money or credit. Sometimes this process is referred to as “validation”:

1. Passions can even be aroused over the seemingly simple act of definition as witness the reaction in Gifford (1965).
those who control the means of credit validate a rise in the
general price level, from whatever cause, by expanding the money
supply.

Looked at in this way the causes of inflation are basically
societal: food price shocks, oil price shocks, trade union
pressures etc., may well trigger the process but none can be
responsible for sustaining it - a point made over and over again
by an early Australian monetarist J.K. Gifford (1965) and also
done very elegantly in Flemming (1978). What is it then in
society which leads to validating policies? One suggestion
revolves around certain conflicts between groups. It is here
that we first arrive at the conflict theories of inflation.
Tobin (1972, p.13) says for example "No one has devised a way of
controlling average wage rates without intervening in the
competitive struggle over relative wages. Inflation lets this
struggle proceed and blindly, impartially, and non-politically
scales down all its outcomes. There are worse methods of
resolving group rivalries and social conflicts."

In Tobin's scenario struggle is over income shares; to the
extent to which different groups fail to be satisfied with the
existing income distribution inflation provides the
"escape valve" whereby these claims are arbitrated. The utility
of this idea derives from its focus on unresolved conflicts
between groups in societies as generators of the demand for
inflation, whereupon it is only the achievement of consensus
between these groups which would reduce it. But as Hirsch
(1977, p.278) says. "A functional view of inflation as a vent
for distributional conflict does not tell us very much in itself"; one seeks the prima causa not the proxima causa.

The search for a set of ultimate factors has not been easy, and even now it is not clear that the destinations reached are those that were sought. One can identify two major approaches. The first concentrates upon rising aspirations of an increasing standard of living being frustrated by slow growth; the gap between aspirations and the means of fulfilling them creates an inflationary gap. Crucial to much of this discussion - Panic (1978) - is the idea that it is relative rather than absolute standards of living which constitute the disequilibrium factor. Thus the prima causa is viewed as a revolution in expectations. Such a viewpoint is echoed in much of the literature on the problem of inflation, albeit not at such an abstract level. Solow (1975) for example conjectures that the inflationary bias comes from the fact that "workers and employers nowadays fear prolonged recession and mass unemployment less than they used to, and they are right" (his emphasis). Mishan (1974) sees it as stemming from the assimilation by the mass of the work-force of the 'spirit of discontent and acquisition' normally associated with the bourgeoisie or managerial classes which, when allied with their tendency for collective action in the pursuit of material betterment and post-war guarantees of economic and social security, leads inevitably to an inflationary environment. From this perspective it is the actual dynamics of capitalism itself that contains the seeds of the conflict that erupts in inflation.
A second approach, particularly associated with Goldthorpe (1978) involves the attempt to create a sociology of inflation. Goldthorpe finds the aspirations approach deficient since it resorts to a "residual psychologism"; that is to a shift "from the assumption of rational actors whose motives are capable of being discussed in terms of the conditions, means and ends of action to the assumption of actors whose motives can rather be understood only in terms of impelling emotions" (p.192-4). Goldthorpe's argument is that the current inflation stems from changes in the form of social stratification which result in greater and more equally-matched social conflict than previously. His case has three strands. Firstly, the erosion of the status order has meant that class inequalities - created by a market economy - are no longer legitimated. As he says (p.280-281) "It is not so much that new influences on wage- and salary-earners need to be recognised, but rather the disappearance of old ones - that is, the weakening of the inhibitions formerly imposed by the status order.....Indeed, it may be held that what the mass of wage- and salary-earners have learnt from capitalism is not acquisitiveness per se - which they probably never lacked - but, of far greater consequence, the practice of exploiting one's market position to the full".

Secondly, the realization of citizenship via the extension to all of a common body of civil, political and social rights, which tends to divorce the welfare of individuals and groups from market outcomes. His attitude here is best summarised in the following quotation (p.282-283)
"....the threat also arises that with the realisation of citizenship, the contrast between the principled equality of rights that it bestows and the unprincipled inequalities thrown up by the market will be highlighted, and that the latter will be increasingly called into question.....So far as inflation is concerned, the main significance of this development lies in the constraints which it imposes on governments seeking to pursue standard deflationary policies.....Workers' expectations that they will not be exposed to unemployment, or at least not of a widespread and long-term kind, have to be seen as one which by now have a normative and not merely an empirical grounding - as one relating to rights and not just to probabilities" (his emphasis).

Finally, he maintains that the working class has become mature, in that its members possess a relatively high degree of homogeneity in their social background and life experience: this cohesion acts to translate the potential for divisiveness above into an actuality. He concludes his analysis (p.298)

"If, therefore, one maintains the view that the current inflation is, generally, an expression of distributional conflict, and then adds the idea of a more mature working class being a crucial element in the inflationary situation.....The problem facing governments has now to be seen as that of coping not simply with inflation but also, and more fundamentally with the conflict that lies behind it".
Goldthorpe's approach is an intriguing one and, presumably, it leads to some testable hypotheses. Cet.par. inflation should bear some relation to the correlation of status and class; one might expect that societies such as the U.S., in which status and economic class are probably more highly correlated than in many others, would tend to evidence a lower rate of inflation. But one cannot escape the feeling that it is too generalised to be of much use in an analysis of actual inflationary experience. Consider Figure 1 which records the rate of change of the G.D.P. deflator for Australia for the years 1962-1982. Two of the features that are present in this history are reversibility and rapidity; some decades instance high inflation but are followed by decades of relatively low inflation while the outstanding fact has been the speed at which inflation emerged at the end of the 1960's. Neither of these characteristics fits very well with Goldthorpe's thesis. By its very nature one would expect the theory to predict an essentially monotonic and slow process, even though some threshold may need to be passed before there is any marked effect.

Perhaps this is an unfair characterisation of Goldthorpe's work as he does not dispute the need for linking his account with the evolution of specific economic variables, but he does see the sociology as ultimate".....my argument that the current inflation derives ultimately from changes in the form of social stratification" (p.211). In this context it is hard not to agree with Rapping's (1979) judgement that the theory fails to address the transition from creeping to rapid inflation. After all the sociopolitical forces at work have been operative for well over a
FIGURE 1: Inflation Rate 1863 to 1982

hundred years; why do they now manifest themselves as rapid inflation? Irreversibility also poses a problem for the theory; none of the changes described by Goldthorpe are presumably reversible in short periods of time, and that would seem to suggest that inflation is an intractable problem. Indeed, this feature worried the participants of the seminar at which Goldthorpe's paper was delivered — see the interchange on p.214-216 of Hirsch and Goldthorpe (1978) — and Goldthorpe's very evasive replies. It might be better to regard Goldthorpe's theorizing as appropriate only to what might be termed a "basic" rate of inflation, with significant deviations being caused by a myriad of factors.

In fact there is one revealing statement in Goldthorpe's replies: That "..... the problem of inflation is a political problem" (p.215, my emphasis). Here is the nub of the difficulties one experiences with Goldthorpe's thesis (and the "aspirations gap" approach as well). They describe the demand for inflation without any reference to the supply, or else implicitly assume an infinitely elastic supply. But it is the need to determine the supply - see Gordon (1975) - that keeps one from closing the economic system and, in democracies at any rate, the supply function will be heavily influenced by the political environment.

This emphasis on the political aspects of inflation brings up the third approach to the explanation of continued inflation: that which concentrates upon it as the outcome of a bargaining mechanism expressed in the political arena. Contributors differ
in their approach. Some - Gordon (1975), Parkin (1975) - work with the economic theory of politics in which government actions reflect vote maximising behaviour on the part of those in power; others such as Crouch (1978) feel this orientation is too narrow - he says (p.230) "In practice democracy is not limited to elections but includes a wide but, it will be argued, inadequate range of participant institutions through which organised interests both express themselves and are controlled.....it is noteworthy that three societies that have been particularly successful in combining high growth, full employment and low rates of inflation also evince advanced, though highly varied, forms of integration of organised social interests: Sweden, West Germany and Japan".

Nevertheless, regardless of how broad the perspective, all agree on the supremacy of the political process as the final arbiter of inflation, and that any resolution to the problem demands the construction of a political economy of inflation. Such a task requires an agenda, and one of the best statements of this that I am aware of is set out by Tufte in his 1980 preface to Tufte (1978).

"Almost all of today's economic warriors agree that inflation is the most serious economic problem at hand; inflation is said to be bad for all Americans, to be corrosive, the cruelest tax, and even a sign of moral rot. Surely it is the broadest consensus achieved in American politics since the Gulf of Tonkin Resolution."
And yet the political economy of inflation is a curious and mystifying puzzle. The important questions remain unanswered:

- Why did three economically conservative presidents in a row fail to whip inflation now (as Mr. Ford's silly button once said)? Such an unblemished record is no accident.

- Whose interests are most served—and least served—by high rates of inflation?

- Have highly successful personal and corporate strategies for coping with inflation—triumphs of rational economic calculation—made serious efforts at inflation reduction an economic and political impossibility?

- Why do the arguments about the putative costs of inflation, even when made by sophisticated policy-makers and economists, quickly reduce to moral rhetoric and distant analogy rather than economic evidence? Is it because evidence demonstrating the costs of inflation is lacking, what with all the strategies now in place for handling high levels of inflation."
The following sections consistute a response to the four queries implicit in the above: Is there a consensus against inflation (section 2)? Who are the gainers and losers from inflation (section 3)? Has the private sector in Australia learned to live with inflation and can it (section 4)? Are the costs of inflation actually quite small (section 5)? Section 6 closes the paper with a look at economic policy towards inflation in the light of the analysis presented.

2. Is there an effective consensus against inflation?

I wish to distinguish here between a consensus and an effective consensus, the latter implying that this consensus is reflected in political action of one sort or another. Such a distinction would seem important if one has a political perspective, since it is conceivable that there is a complete opposition to inflation but that it is also believed that governments are powerless to arrest it; consequently the consensus would not be be reflected in political actions.

Consider first the question of whether there is a consensus or not? Some measure of this is available from the Gallup poll (the Australian Public Opinion Polls version) which presents the percentage of those giving particular replies to the question "which problem have you been paying attention to this day?" Answers to this query are presented in Table 1 from 1974-1982: the percentages referring to unemployment and industrial disputes are given for comparative purposes.
TABLE 1

Percentage of Respondents Citing These as Problems

<table>
<thead>
<tr>
<th></th>
<th>74</th>
<th>75</th>
<th>76</th>
<th>77</th>
<th>78</th>
<th>79</th>
<th>80</th>
<th>81</th>
<th>82</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation</td>
<td>73</td>
<td>55</td>
<td>72</td>
<td>68</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>56</td>
<td>59</td>
</tr>
<tr>
<td>Unemployment</td>
<td>40</td>
<td>72</td>
<td>67</td>
<td>72</td>
<td>76</td>
<td>79</td>
<td>72</td>
<td>72</td>
<td>69</td>
</tr>
<tr>
<td>Industrial Disputes</td>
<td>62</td>
<td>49</td>
<td>46</td>
<td>46</td>
<td>38</td>
<td>45</td>
<td>50</td>
<td>51</td>
<td>55</td>
</tr>
</tbody>
</table>

From this table one might conclude that there is a fairly well-established consensus against inflation, although it is by no means unanimous and at times is not much greater than that against industrial disputes. Probably the major conclusion to be drawn is that the number concerned with inflation is perhaps not as great as the rhetoric which pictures inflation as a grand disaster would suggest, but at the same time a majority of Australians do perceive themselves as being harmed by inflation.

The major inadequacy with Table 1 lies in its failure to capture the intensity of feeling. After all, if I was asked which problems I had been paying attention to, I would probably cite inflation as well, even though I have certainly gained from it (and not because I was paying attention to it). A better measure therefore may come from responses to a question asked in the same poll concerning which one of twelve nominated problems an individual had been most concerned with. Table 2 presents these results.
TABLE 2

<table>
<thead>
<tr>
<th>Problem Most Concerned With (% of Respondents)</th>
<th>74</th>
<th>75</th>
<th>76</th>
<th>77</th>
<th>78</th>
<th>79</th>
<th>80</th>
<th>81</th>
<th>82</th>
</tr>
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<tbody>
<tr>
<td>Inflation</td>
<td>33</td>
<td>34</td>
<td>31</td>
<td>24</td>
<td>12</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>16</td>
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<td>Unemployment</td>
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<td>27</td>
<td>18</td>
<td>23</td>
<td>30</td>
<td>34</td>
<td>26</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>Industrial Disputes</td>
<td>18</td>
<td>12</td>
<td>7</td>
<td>9</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 2 is of interest both for what it reveals about the history of attitudes and current attitudes. It would seem that, after 1977 there was a rapid decline in concern about inflation and it would appear to be currently at fairly low levels (the 1982 result might be influenced by the December quarter CPI increase of 4.2% released in January to substantial publicity). One possible explanation for the historical pattern would be that the low level of concern over inflation from 1978 to 1982 reflected expectations of a low rate of inflation (expectations that would not have been realised as evident from Figure 1). Table 3 therefore presents, as at March of each year, the expectations of respondents concerning inflation (the responses are from a different survey than that yielding Table 2).
The combination of Tables 1-3 make it hard to sustain a case that there is a strong consensus against inflation per se among Australians, although the results for 1974/75 show that they certainly dislike unexpected inflation. How then do these attitudes translate into political action? One possibility involves a politicization of the issue by appealing to fears raised by a potential change of government eg. although in February 1978 only 12% of respondents gave inflation as their number one concern, in November 1977 33% of people nominated inflation as the most important issue for the 1977 election (from the Morgan Gallup Poll). At the same time almost double the number of respondents favoured the coalition's anti-inflation policy to the ALP's, so that the fear of a sharp acceleration in inflation with concomitant uncertainty (as occurred during the ALP's term of office) could well be the major factor explaining this discrepancy. However Table 4 shows that inflation has always tended to be more important as an election issue than as a personal issue.
TABLE 4

Most Important Election Issues (% of respondents)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation</td>
<td>33</td>
<td>53</td>
<td>46</td>
<td>33</td>
<td>26</td>
</tr>
<tr>
<td>Unemployment</td>
<td>46</td>
<td>&lt;16</td>
<td>35</td>
<td>51</td>
<td>41</td>
</tr>
<tr>
<td>Industrial Disputes</td>
<td>23</td>
<td>27</td>
<td>24</td>
<td>25</td>
<td>21</td>
</tr>
<tr>
<td>Inflation No. 1</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>ALP</td>
<td>28</td>
<td>48</td>
<td>34</td>
<td>33</td>
<td>26</td>
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<tr>
<td>L-CP</td>
<td>39</td>
<td>60</td>
<td>57</td>
<td>40</td>
<td>28</td>
</tr>
</tbody>
</table>

In the light of later analysis it is of some interest to determine the characteristics of "inflation firsters", as this may give some perspective on the strength and durability of any political consensus against inflation. The main source of information on this is the Australian National Political Attitudes Survey conducted from September to November 1979 with Don Aitken as its principal investigator. Of the 2016 respondents to the survey 215 cited "inflation, cost of living and wages" as their first choice in answer to the question "In your opinion what are the most important problems the Federal Government should do something about". Such a percentage, 10.7, tallies well with Table 2. Cross-tabulation of the data builds up a picture of inflation opponents as politically conservative preferring taxation reduction, considering the federal government being responsive to all interests, trustworthy, competent, worse off from a labour government; they also tend to be younger, better educated and to be concentrated at either ends of the
income distribution. This last characteristic is particularly interesting. 13.8% of those with zero income and 18.6% of those with income in the top 5% of the population were among "inflation firsters", compared with the average of 18.7% observed above.

Perhaps one of the strongest characteristics of those nominating inflation as the major federal problem is that they perceived themselves as either better off or about the same as 1975/76 - 12.4% were "better off", 11.4% were "the same" and 8.8% were "worse off". Various explanations might be given for this outcome. First, the question asked is not specifically about inflation; it would be possible to hold that "wages" represent a major policy problem without expressing an opinion on inflation per se. Second, respondents might regard themselves as better off since 1975/76 but by not as much as they might have been if inflation had been absent. Nevertheless, the impression one gains from this result is that inflation has not been viewed as being the cause of a decline in living standards for more than a small fraction of the population.

Taking up the theme of personal versus political attitudes to inflation it is noteworthy that, when asked whether the Federal Government should concentrate on solving unemployment or inflation first, some 31% favoured the latter; a statistic closely in accord with the election issues history documented in Table 4. Does this preference differ by partisanship? Table 4 suggests that it does but it is consistent with some convergence in views towards the end of the period. Since 1980 answers to the questions posed in Tables 1 and 2 have been decomposed by
party preference. For the question of Table 1 the ALP/Lib.-NCP percentages are 60/58(1982), 57/55(1981) and 57/55(1980) while those for Table 2 are 17/17(1982), 12/13(1981) and 12/13(1980); voters seeing inflation as a major personal problem seem now evenly spread between the parties. Further evidence of this convergence in views comes from the fact that, when asked in 1972 whether inflation was something "we could live with", 81% of Lib.-NCP voters said "no" whereas only 57% of ALP voters replied thus. The only contrary evidence to the convergence hypothesis is that from the 1979 political attitudes survey, where some 14.8% of those indicating a Liberal-NCP preference nominated inflation as the premier problem as contrasted with 7.5% of those leaning towards Labor. It is hard to reconcile such divergent statistics; the only possible avenue may reside in the large rise in the level of concern registerered over industrial disputes since 1979 (see Table 2), as Liberal partisans are very concerned with this compared to Laborites - in 1980 some 15% versus 6%. It is possible therefore that some of the concern with inflation expressed in 1979 by those oriented toward the government parties had been translated into anxiety about industrial disputes by 1980.

For later reference two other results are worth recording. Firstly, in November 1978 a question was asked concerning whether respondents "agreed or disagreed that Australia will decrease unemployment only if it can beat inflation". 48% agreed, with 59% of Lib.-NCP votes this way. This statistic might imply that,

2. There seems little difference between responses by age or sex as well.
even if respondents were not bothered by inflation personally, they may support an anti-inflation policy because of a supposed link between inflation and a problem they are worried by - unemployment (see Tables 1 and 2). Such a connection would rationalise the election findings but would be curious in that opposition to inflation owing to its national rather than personal consequences seems a rarity elsewhere in the world - on the American situation Business Week (29/3/82, p.27) says:

"Typically, any national sample of Americans polled during a recession will target unemployment as the most serious problem confronting the nation. And just as typically, respondents will claim that inflation is the most serious problem confronting them personally."

Secondly, when given a list of possible sources of inflation - union wage claims, government spending, business profits, overseas factors, public over-spending - by far the most popular cause is the first. Table 5 presents these results.
TABLE 5

<table>
<thead>
<tr>
<th>Cited Causes of Inflation (% of Respondents)</th>
<th>June 74</th>
<th>May 75</th>
<th>April 76</th>
<th>May 77</th>
<th>August 81</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage Claims</td>
<td>36</td>
<td>38</td>
<td>34</td>
<td>43</td>
<td>38</td>
</tr>
<tr>
<td>Govt. Spending</td>
<td>18</td>
<td>29</td>
<td>23</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>Bus. Profits</td>
<td>9</td>
<td>8</td>
<td>11</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Overseas</td>
<td>14</td>
<td>12</td>
<td>17</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Pub. Over-Spend.</td>
<td>9</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Although it is not clear whether the electorate believes that the government has any power over wage claims, it would seem from the response to the second question that they do believe that the government has some power to affect inflation, and it might therefore be expected that some of the concern over inflation in Tables 1 and 2 would become effective. One interesting aspect of Table 5 is how these answers correspond to American responses. To the question "which is the most responsible for inflation - government, business or labor", since 1966 Americans have nominated government as the most responsible party, with the margin over "labor" increasing very rapidly since 1974 (see Nibbs (1981)).

Can all the above be quantified in some way? One procedure for doing so involves assuming that the actual rate of inflation is a good measure of voter's expectations and then to relate political preference to variables such as inflation, unemployment.
etc. A number of studies exist in this tradition, the most recent being by Schneider and Pommerehne (1980). Their conclusion (p. 116) was that "An increase in the rate of inflation of 1 percentage points reduces government's popularity by about .47 percentage points whereas the same increase in the rate of unemployment reduces it by 1.13 percentage points." Generally these results suggest a much more effective consensus against inflation than is gleaned from the surveys themselves. One might also observe that if inflation and unemployment were directly related - as believed by the electorate in 1978 - a party would do very well in the vote stakes by concentrating solely upon the reduction of inflation as a policy objective. It would be of interest to know the responses to the causes of inflation today.

All in all my judgement would be that the political consensus against inflation per se is not very strong, and that what there is seems based on a causal link between inflation and unemployment. This conclusion is at variance with the Schneider/Pommerehne viewpoint above and I am somewhat surprised that there seems to have been little critical comment on that study within the Australian political science literature.

3. Who Gains and Loses from Inflation

The responses documented in the preceding section are aggregate ones capable of classification in only a few ways - by age, sex or political preferences - and this may disguise substantial changes in the relative positions of other groupings as a consequence of inflation; these changes may then set in motion a distributional struggle to regain relative income
status. In fact the problem of classification is vitally important to any analysis of the impact of inflation and is inextricably linked to the nature of the questions we might wish to ask. For an economist interested in the "real effects of inflation" it is natural to classify in a functional way—savers, investors etc.—as the mutual interaction of inflation and the decisions taken by such groups will determine the size of national output. Because the "size of the cake" must eventually assume importance, a functional classification will prove valuable at some point, but use of it is deferred until section 5. There its role in a political economy of inflation is outlined.

There are two major ways in which the re-distributive effects of inflation have been considered: through the sources of income and the size of incomes. Table 6 shows the proportion of income derived from various sources in 1978/9 arranged by income classes.
<table>
<thead>
<tr>
<th>Income from</th>
<th>Wages or Salary</th>
<th>Soc. Security+ Cash Benefits</th>
<th>Super+Int. + Div.</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2000</td>
<td>41.0</td>
<td>42.3</td>
<td>11.69</td>
<td>5.01</td>
</tr>
<tr>
<td>2000-3000</td>
<td>15.1</td>
<td>80.1</td>
<td>2.82</td>
<td>1.98</td>
</tr>
<tr>
<td>3000-5000</td>
<td>30.7</td>
<td>58.6</td>
<td>5.37</td>
<td>5.33</td>
</tr>
<tr>
<td>5000-7000</td>
<td>58.0</td>
<td>21.8</td>
<td>8.70</td>
<td>11.50</td>
</tr>
<tr>
<td>7000-10000</td>
<td>81.2</td>
<td>0.03</td>
<td>4.21</td>
<td>14.56</td>
</tr>
<tr>
<td>10000-12000</td>
<td>82.5</td>
<td></td>
<td>2.30</td>
<td>15.2</td>
</tr>
<tr>
<td>12000-14000</td>
<td>85.4</td>
<td></td>
<td>1.81</td>
<td>12.79</td>
</tr>
<tr>
<td>14000-16000</td>
<td>84.0</td>
<td></td>
<td>1.51</td>
<td>14.49</td>
</tr>
<tr>
<td>16000-18000</td>
<td>85.3</td>
<td></td>
<td>2.04</td>
<td>12.66</td>
</tr>
<tr>
<td>18000-20000</td>
<td>90.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20000-25000</td>
<td>86.3</td>
<td></td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>25000-30000</td>
<td>82.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;30000</td>
<td>53.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Table 14, Income Distribution Australia, 1978-79: Income Units (ABS 6523.0).

From Table 6 it is apparent that across a wide range of the income distribution at least 85% of income derives from wages or benefits. It is unlikely that wages would not respond to inflation, either as a consequence of state-sanctioned indexation provisions or through collective bargaining, and this effectively insulates the income of the majority in the middle of the income distribution against inflation. Of course, from year to year there may be divergences in wage and salary growth relative to prices, but over reasonable periods of time the discrepancy is not likely to be marked.
In the bottom part of the income distribution are those dependent upon pensions (private and public) or welfare payments of one sort or another. The impact of inflation upon this source of income is likely to vary according to the state of inflation; only after inflation has continued for some time is it probable that automatic indexation clauses will be introduced, although the transition period may be marked by discrete changes that effectively achieve indexation. For most public pensions and benefits there has been indexation since 1977, the exceptions being for those aged greater than 70 years and unemployment benefits for those less than 18 or those greater than 18 with no dependents (this last category was indexed from 1977 to 1979). A similar state of affairs might be supposed to exist for private pensions, although data on this is much more limited. One might have doubts moreover whether any lack of indexation in this area would lead to a demand for less inflation rather than a demand for more insulation.

Nevertheless there is one type of inequity that derives from the interaction of pension/benefit rules with inflation, and this refers to the extra income that may be earned without disqualification for a pension/benefit. Suppose that the limit is indexed - say it is a maximum of $50 p.a. to begin with. Now an initial inflation rate of zero and interest rate of 5% p.a. on $1000 of financial assets is consistent with the eligibility conditions. Suppose the inflation rate rises to 10% and the interest rate to 15%. The indexed allowable earnings would become $55 but the interest earnings on the $1000 would be $150, thereby rendering the recipient ineligible for the pension.
Obviously this is a most unsatisfactory situation and derives from the fact that the means test concentrates upon nominal rather than real interest receipts - part of the 15% (10% points of it) was there just so that the pensioner's assets were kept constant in real terms i.e. $100 of the $150 should be re-invested to maintain the real value of assets. This could represent a serious welfare problem for some pensioners and may force them into low yielding financial assets or assets that yield only capital gains. Such a situation is ridiculous and indicates how necessary it is to carefully monitor regulations affecting assistance in a continuing inflation.

As some of the opening quotations reveal, historically a major impact of inflation has been the effect upon those holding fixed interest, long-term financial assets; when interest rates do not adjust for inflation, capital losses are suffered by holders of the corresponding financial assets. Furthermore, any such loss will be aggravated if nominal interest receipts are subject to income taxation. One needs to put this effect into perspective however. As Gruen (1983, Table 4) shows only 4.6% of all income recipients in 1968/9 and 4.0% in 1978/9 had, as their principal source of income, "interest, dividends, rents etc.". Thus those suffering potentially the greatest losses are small in number; their impact on policy through the voting system is therefore very small, although they may constitute part of a political elite which exercises a major indirect influence.
But as Table 6 shows, almost all income classes earn some income from financial assets and, even if the overall losses are likely to be small in magnitude, it is of some interest to study the nature of any re-distributions that are likely to occur with inflation. It should be stressed that the only information that can be inferred is the response to past inflation and this may not be a good guide to any future impact.

The question of the likelihood and magnitude of capital gains and losses by income class is conventionally approached in two stages. Firstly, it is shown that the capital gain (or loss) expressed as a fraction of income is \( \Phi(i-p) \) where \( \Phi \) is the net worth to income ratio, \( i \) is the rate of interest (assumed common to all assets and liabilities in this exposition) and \( p \) is the rate of inflation. Whether capital losses or gains occur or not depends on the relation of \( i \) to \( p \); the potential for loss depends on \( \Phi \) and the actual loss depends on the degree of exposure determined by the proportion of the portfolio held in assets for which \( i \) does not rise with \( p \). Among financial assets the most exposed assets are cash and demand deposits for which \( i \) is zero, but some assets such as savings bank deposits (non-investment) have also exhibited declining real interest rates in the past.

Following this two-part strategy Table 7 provides the net worth to income and selected asset/income ratios for different income classes (the data is taken from a rather old survey done in 1966).
<table>
<thead>
<tr>
<th>Income</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)*</th>
<th>(5)*</th>
<th>(6)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000-1999</td>
<td>6.38</td>
<td>4.29</td>
<td>.899</td>
<td>2.09</td>
<td>.94</td>
<td>.302</td>
</tr>
<tr>
<td>2000-2999</td>
<td>3.21</td>
<td>2.37</td>
<td>.284</td>
<td>.89</td>
<td>.24</td>
<td>.204</td>
</tr>
<tr>
<td>3000-3999</td>
<td>2.65</td>
<td>1.90</td>
<td>.204</td>
<td>.74</td>
<td>.25</td>
<td>.165</td>
</tr>
<tr>
<td>4000-4999</td>
<td>2.64</td>
<td>1.65</td>
<td>.237</td>
<td>1.17</td>
<td>.15</td>
<td>.239</td>
</tr>
<tr>
<td>5000-5999</td>
<td>2.56</td>
<td>1.54</td>
<td>.280</td>
<td>1.43</td>
<td>.49</td>
<td>.273</td>
</tr>
<tr>
<td>6000-6999</td>
<td>2.47</td>
<td>1.39</td>
<td>.237</td>
<td>.73</td>
<td>.19</td>
<td>.191</td>
</tr>
<tr>
<td>7000-7999</td>
<td>2.80</td>
<td>1.42</td>
<td>.335</td>
<td>1.01</td>
<td>.15</td>
<td>.174</td>
</tr>
<tr>
<td>8000-8999</td>
<td>2.63</td>
<td>1.42</td>
<td>.237</td>
<td>.93</td>
<td>.58</td>
<td>.110</td>
</tr>
<tr>
<td>9000-9999</td>
<td>3.17</td>
<td>1.28</td>
<td>.160</td>
<td>.55</td>
<td>.13</td>
<td>.076</td>
</tr>
<tr>
<td>10000-10999</td>
<td>3.82</td>
<td>1.92</td>
<td>.290</td>
<td>3.34</td>
<td>.33</td>
<td>.213</td>
</tr>
<tr>
<td>&gt;11000</td>
<td>3.75</td>
<td>1.42</td>
<td>.407</td>
<td>2.40</td>
<td>.37</td>
<td>.526</td>
</tr>
</tbody>
</table>

1. Ratio of net worth to income - all households.

2. Ratio of equity in home plus property to income - all households.

3. Ratio of bank deposits to income - all households.

4. Ratio of net worth to income - renters.

5. Ratio of property to income - renters.

6. Ratio of bank deposits to income - renters.

*There are very few returns represented in the sample for incomes of $8000 and above so
that these figures may not be very reliable.

Sources: Tables 2.1, 3.2, 3.3 and 3.4 of J. Yates (1981).

Table 7 shows that the potential for capital losses is highest at the extremities of the income distribution and that maximum exposure of financial assets seems to occur there as well. But the overall outcome is clouded by the fact that some groups also exhibit high property/income ratios and (over long periods) this property may well be a source of real capital gains. Consequently, for the "average" household the impact of sustained inflation upon real net worth will be ambiguous: it is only "non-average" households - those with little property - who are almost certainly negatively affected. Renters may fit this description and Table 7 presents some data on their situation. As a group their potential for capital losses is lower with net worth ratios only around a third of those for all households, while the degree of exposure is much the same. Prima facie, inflation is therefore likely to affect this group adversely. On an absolute scale the losses are not particularly large - around 5%-10% of income at the worst - but it may be the income losses relative to the capital gains experienced by owners that form the basis for a constituency against inflation. The constituency may be quite large in that around 23% of households rent. Some weak

3. The highest two income groups obtain their high net worth to income ratios not through property but unincorporated businesses (.72 and .68 respectively). If surplus from these businesses is adversely affected by inflation such groups are likely to be exposed.
support for this idea is to be gleaned from the 1979 political attitudes survey where 12.1% of renters cited inflation as their prime target for federal action as against 10.7% overall.

Turning from the sources to the size of incomes, it is necessary to recognize the possibility that, even if nominal income rises matched that of the general price index, the real incomes of different groups will depend upon their pattern of consumption; if this pattern is different to that used in constructing a general price index and the commodities consumed in greater quantities have higher rates of price inflation than the aggregate price level, real incomes may fall even in an indexed environment. This has led to some interest in constructing different price indices for different income classes, with one of the earliest treatments being Allen (1958). Piachaud (1978) extends some of this work for Britain and, over the whole period 1956-74, he found that there was a major difference between those in the fifth income percentile and those above it. Replication of such an investigation for Australia would be of interest, but data upon consumption patterns by income class is extremely limited. The Household Expenditure Survey conducted by the ABS in 1974/5 provides data on consumption patterns by six income classes, and this data was used to construct "poor man", "middle income man" and "rich man" price indices for 1966/7-1980/1. The methodology involved applying the consumption weights from the survey for each income class to the eight components of the CPI given in Norton and Brodie (1980, Table 5.16a). Each series has a base of 100 in 1966/7.
<table>
<thead>
<tr>
<th>Year</th>
<th>Low Income (a)</th>
<th>Middle Income (b)</th>
<th>High Income (c)</th>
<th>C.F.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>66/7</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>67/8</td>
<td>103.3</td>
<td>103.2</td>
<td>103.1</td>
<td>103.5</td>
</tr>
<tr>
<td>68/9</td>
<td>106.2</td>
<td>106.4</td>
<td>106.2</td>
<td>106.0</td>
</tr>
<tr>
<td>69/70</td>
<td>109.8</td>
<td>109.9</td>
<td>109.7</td>
<td>109.4</td>
</tr>
<tr>
<td>70/1</td>
<td>114.8</td>
<td>115.2</td>
<td>114.8</td>
<td>114.6</td>
</tr>
<tr>
<td>71/2</td>
<td>122.7</td>
<td>123.4</td>
<td>123.1</td>
<td>122.4</td>
</tr>
<tr>
<td>72/3</td>
<td>130.0</td>
<td>130.6</td>
<td>130.1</td>
<td>129.8</td>
</tr>
<tr>
<td>73/4</td>
<td>146.7</td>
<td>146.8</td>
<td>146.2</td>
<td>146.6</td>
</tr>
<tr>
<td>74/5</td>
<td>171.1</td>
<td>171.9</td>
<td>171.4</td>
<td>171.1</td>
</tr>
<tr>
<td>75/6</td>
<td>193.4</td>
<td>194.7</td>
<td>194.5</td>
<td>193.3</td>
</tr>
<tr>
<td>76/7</td>
<td>219.5</td>
<td>220.6</td>
<td>218.8</td>
<td>220.0</td>
</tr>
<tr>
<td>77/8</td>
<td>242.3</td>
<td>241.3</td>
<td>240.0</td>
<td>241.0</td>
</tr>
<tr>
<td>78/9</td>
<td>260.7</td>
<td>259.8</td>
<td>258.3</td>
<td>260.7</td>
</tr>
<tr>
<td>79/80</td>
<td>286.8</td>
<td>286.0</td>
<td>284.0</td>
<td>287.3</td>
</tr>
<tr>
<td>80/1</td>
<td>314.0</td>
<td>313.4</td>
<td>310.4</td>
<td>314.3</td>
</tr>
</tbody>
</table>

(a) For incomes less than $80 p.w. (in 1974/5).
(b) For incomes from $140-$200 p.w. (in 1974/5).
(c) For incomes > $340 p.w. (in 1974/5).

Table 8 reveals an extraordinarily close correspondence of price indices for different income groups over a long time-period. It is conceivable that this high correlation results because neither the income distribution nor the commodity composition is fine enough to capture the types of variation we
are interested in; in this regard it needs to be noted that the low income group covers some 15% of households and thus there is likely to be considerable heterogeneity within the group. Nevertheless, the divergence is so small between the series above that one cannot help but feel that a more refined computation is not likely to change the conclusion in any fundamental way."

The aim of this section has been to establish a basis for the weak concern with inflation as a personal problem set out in the preceding section. Provided inflation is expected, only a small number of people may be adversely affected in terms of their incomes and asset holdings, thereby leading to little opposition to inflation being generated on the grounds of personal circumstances. When inflation is fluctuating a good deal it is likely that adverse effects will exist for some period of time, and this certainly sets up a demand for a stable inflation. But unless a stable inflation is impossible, the revealed preferences in section 2 and the assessed losses in this section demonstrate that any consensus against inflation may rest on fragile foundations.

4. A number of other classifications of the data were tried without changing this outcome to any appreciable extent. For example the old age pensioner index rose to 311.6 at the end of the period.
4. Can the private sector adjust to inflation?

Has the private sector in Australia generated the "highly successful strategies for coping with inflation" discerned by Tufte for the American economy? To do so would require that it be able to effectively index all the contracts that it engages in. This need not be done explicitly; it is only necessary that forces operate to yield the same consequences as would occur under indexation. Thus any failure to observe de jure indexation does not mean a failure of de facto indexation.

For households it is hard not to believe that, at least for those engaged in the private sector, wage-related earnings are effectively indexed. Whether this comes about through regular union bargaining or more formal escalator clauses built into wage settlements is unclear, as most of the evidence for Australia seems anecdotal e.g.

"And the settlement of industrial disputes increasingly include some form of indexation for price increases" (Australian Financial Review editorial, Jan. 29 1982).

Similar comments come from American commentators but an analysis of wage contracts in the U.S. - see Mitchell (1982) - shows that only 68% actually have escalator clauses. Nevertheless, the presence or absence of such clauses probably only determines the speed at which wages respond to prices; in their absence similar adjustments will occur but at discrete intervals.
Difficulties in adjusting to inflation are probably not encountered as much with regard to receipts of income as for portfolio choice and the taxation system; any adverse effects stemming from the latter will be difficult for the private sector to neutralize if it is to stay within the existing legal framework. Moreover, the growth of the illegal economy around the world has almost certainly been stimulated in part by the changes in tax burdens induced by inflation. We will however ignore this question until the next section where the interaction of the private and public sectors in an inflationary environment is explored.

Concentrating initially upon the demand side of portfolios, there is evidence that, through composition changes to portfolios, households have attempted to retain the same pre-tax real rate of return in the face of inflation – see Pagan and Trivedi (1981) where the rate of return to the household sector from interest-paying financial assets is calculated to have risen from 5.2% in 1968/69 to 9.17% in 1978/79. But in this task they have been hampered by the regulation of interest rates, which resulted in negative rates of return being earned over most of the period since 1972/3 on many assets. That a demand for higher interest assets did (and does) exist is evidenced by the growth of building society and savings investment accounts as well as the recent mushrooming growth in money market funds. It is hard to escape the feeling that the private sector is fully capable of adjusting to inflation in their asset composition if there are no impediments to its doing so.
What about the liability side? Here we encounter what many see as a true cost of inflation. Nominal interest rates rise to compensate lenders for the reduction in the real value of their loan. Suppose that an individual has taken out a loan with the equal repayments identical to his profit in each period, so that he is breaking even. On the one hand, introducing inflation causes nominal interest rates and hence repayments to rise. Under existing institutional arrangements repayments are effectively proportional to the level of nominal rates so that, if $r$ is the pre-inflation nominal rate, and $r+p$ is the nominal rate with an inflation rate of $p$, the ratio of repayments in the two states is $1+(p/r)$. On the other hand, if $c$ is the constant pre-inflation surplus, after $k$-periods in an inflationary environment this surplus will have become $c(1+p)^k$. It is clear that for the first period ($k=1$) the ratio of repayments to surplus in an inflationary period, relative to the pre-inflation value, would be $(1+p/r)/(1+p)$ which is greater than unity as $r < 1$. Consequently, under the traditional repayment regime inflation causes a rise in the repayment ratio; for the nominal repayments to be a constant proportion of surplus it is therefore necessary that they continually increase over the life-time of the loan, rather than being constant. This institutional feature of "constant nominal repayments" can lead to difficult problems in an inflationary environment since the repayments to surplus ratios may rise to such a degree in the early years of a loan as to seriously threaten the viability of an enterprise - this is sometimes referred to as the "front-end loading" problem. What is clearly desirable is "constant real repayments" otherwise one
expects that there will be deleterious effects on real decisions.

Is it likely that this particular institutional arrangement will be modified? There is no doubt that some possibilities for debt re-scheduling have emerged recently e.g. some building societies allow reduced repayments in early years of a mortgage followed by increased payments in later ones, and a very large range of options has arisen in the U.S. housing market to counteract the effects of high interest rates there. Nevertheless, it is my impression that much of the financial sector - particularly banks - have not made such an adjustment. There may be a number of reasons for this. Firstly, as Gray (1975) emphasised, there are transitional problems for any institution which moves from one mode of repayment to another. Secondly, the constant nominal repayment arrangement may be a selection rule that eliminates investments viewed as riskier in inflationary conditions, as the lending agency may prefer to reduce the "real payback" period rather than insert a risk loading into interest rates. Observe that it is investments with delayed cash flow that will be most severely penalised by the existing arrangement, and if uncertainty rises with inflation the probability of default may be much higher for such projects. Finally, it is possible that institutional changes have not been forthcoming since there has been a belief that inflation will be stopped and there is little point in implementing new arrangements. Certainly encouragement for initiatives in this area would have been weak in the years 1977 and 1978, when one even heard comments that the aim of the government was a zero rate of inflation with the implication that this would be
achieved.

Which of the three reasons given above to explain the maintenance of traditional debt-servicing techniques is most important is vital to one's assessment of whether the private sector can adjust to inflation. There can be little doubt that a failure to adjust this institutional rule may have major consequences for cash flow and thereby possibly for investment, both by households and companies. An alternative to such an adjustment is of course the complete indexing of loans. There is a large literature on this subject, both theoretical and empirical, as a number of countries have utilised it in the past - a good summary of the arguments for and against, drawing from the Brazilian experience is given by Krieger (1974).

5. Public/Private Sector Interaction and the Aggregate Effects of Inflation

With the exception of the "front-end loading" problem most of what we have outlined is concerned with distribution and relativities and has ignored the possibility that inflation may actually reduce the amount to be distributed. If this is so, the situation could actually be unstable: inflation reduces the amount to be divided up, the distributional struggle becomes closer to a zero sum game, this causes more inflation......... Thus the way in which inflation has real effects on the economy and the size and nature of any such
effects, is an important avenue for investigation; one might particularly emphasise the need to understand the modus operandi of the effects, since there may be policy changes that would obviate them.

Within the literature on the real effects of inflation a prominent theme is that some are due to private/public sector interaction. Covering this literature is not possible here—see Fischer and Modigliani (1978) or Pagan and Trivedi (1981) for surveys—but six types of public sector policies devised in a non-inflationary period become increasingly non-neutral in an inflationary environment, and these are summarised in Table 9.

**TABLE 9**

<table>
<thead>
<tr>
<th>Policy</th>
<th>Activity Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxation of nominal interest</td>
<td>Consumption, Savings</td>
</tr>
<tr>
<td>and dividend receipts</td>
<td></td>
</tr>
<tr>
<td>Taxation of nominal capital gains</td>
<td>Investment</td>
</tr>
<tr>
<td>and inventories</td>
<td></td>
</tr>
<tr>
<td>Depreciation allowable only on</td>
<td>Investment</td>
</tr>
<tr>
<td>historical cost basis</td>
<td></td>
</tr>
<tr>
<td>Non-indexed Income Taxes</td>
<td>Labour Supply</td>
</tr>
<tr>
<td>Tax Deductibility of nominal</td>
<td>Investment</td>
</tr>
<tr>
<td>interest payments</td>
<td></td>
</tr>
<tr>
<td>Regulation of Financial Markets</td>
<td>Investment, Savings</td>
</tr>
</tbody>
</table>

There have been a number of studies done to assess the magnitude of the impact of these measures, both in Australia and overseas—see Pagan and Trivedi (1981). It would appear that the effects can be substantial. An attempt to determine how the Australian economy might have behaved over the seventies if some of these distortions had been removed has been made by Carmichael
and Stebbing (1983). They concluded:

"Overall, the simulations appear to suggest that removing the inflation-induced distortions considered here would have had a beneficial impact on the course of activity over the 1970s. Subject to the limitations of the exercise, it seems that these corrections would have resulted in cumulative rises in output and employment, with these being associated in the latter part of the period with the rises in both investment and consumption spending."

Figs. 2-5 show their results. One of the interesting aspects of their simulations is that the effects of inflation due to private/public interaction were largely felt on output and not employment; this is because inflation raised the cost of capital and thus there was less substitution between capital and labour than if the inflation effects were neutralised.

As mentioned previously, none of these policy stances is inevitable; all could be removed by replacing them with satisfactory alternatives although this might be more difficult in some cases than in others. Already there are some indicators that such reform is under way e.g. deregulation of some interest rates, changes to the taxation of dividends enacted in the 1982/3 budget. Simply put, what policy gives, policy can take away! Basing a case against inflation on these grounds would be a rather strange way to proceed.
Suppose then that the diminution of the cake as a consequence of any failure of policy to adjust to inflationary realities can be avoided. Is it the case that output will be reduced directly by inflation itself? There is certainly no lack of rhetoric to support such claims, with inflation being seen as the progenitor of high unemployment, low productivity, low growth, little capital investment etc. Exactly how these connections are made is rarely articulated; reliance being placed upon simple comparisons between the sixties and seventies. One of the difficulties with such arguments is that it is always possible to find other periods in history with high inflation but contrary responses e.g. Brazil in the 1950's averaged 28.9% inflation per annum and had annual growth in real GDP of 6.53%. It may well be that causal connections do exist in the postulated relations, but one should beware of "facts" drawn from simple and selective correlations.

During the first Fraser Ministry, the Budget Papers dwelt heavily on such simple comparisons. In recent documents there has been an increasing sophistication in detailing the connection; cynics might say this is because, even though inflation fell, very little of the output response was observed. A recent statement in this genre is found in statement no.2 of the 1991/2 Budget (p.467) "The experience of the mid-1970s amply illustrates the consequences for an economy when wage demands become excessive and inflationary expectations are geared to accelerating price increases. The resultant uncertainty among consumers and investors leads, inevitably, to a decline in investment and economic activity and a loss of job
opportunities - not only directly but also indirectly through the effects of the policy actions that have to be taken to restore some balance in the economy".

Now it is clear from the latter part of the statement that some of the decline in activity is envisaged as arising from the "cure" rather than the "cause", and therefore begs the question of why the cure needs to be taken at all. The direct effects of an inflation-uncertainty-real decisions linkage presumably provides the answer to this. An examination of such assertions is not the function of this paper. Indeed I doubt if I really know the answers. Nevertheless, a partial examination would seem worthwhile.

Firstly, how does uncertainty increase for consumers as a consequence of inflation and exactly what does it make them do? One answer is that consumption drops and savings increases, since the high "saving ratio" has been a principal concern of Treasurers for some years. It is interesting to observe however that, in other economies, consumption growth is frequently associated with inflation e.g. consider the following homely statement attributed to Edwin Yeo, a Chicago banker who has served as an Under Secretary of Treasury (in "Price of Progress? U.S. Inflation Blamed on Attempts to Avoid Slumps, Aid the Needy", Wall Street Journal, 1979).

"If as a manager of a household you perceive a period of inflation as being limited, you save for this hurricane which has a beginning and an end. But if you perceive the weather
system to be changing permanently, you start
to advance large fixed purchases, and you
come to think of buying now as saving". He calls this a dangerous "set of calculations that prompts
spending, discourages savings".

The confidence exuded in Statement No. 2 would, on the basis of this, perhaps be a little doubtful. However, one has
the feeling that the uncertainty referred to by the Budget is not so much price uncertainty as income uncertainty. That stance
would be consistent with an inflation-unemployment link in voters' minds. Inevitably the resolution becomes quantitative: is income uncertainty likely to be so pronounced as to have major impacts on consumption? Given that income uncertainty is a function of the probability of becoming unemployed, the length of unemployment and the net income loss during unemployment, it is hard to believe that the magnitude of any of these factors is such as to have major impacts on consumption.

Turning to investment the linkage between price uncertainty and expenditures is much more reasonable. Price uncertainty translates into profit uncertainty and is also likely to result in increased interest rates as the risk premium embodied in them rises. Thus both factors are likely to operate to contract investment. The crucial link then is that the level of price uncertainty should rise with the level of inflation, a connection little understood but widely documented for many countries e.g. Vining and Elwertowski (1976). Research for Australia done by Freebairn (1981) and Pagan et al. (1981) also provides evidence
for the proposition here, although both studies were more concerned with the existence of a correlation rather than the strength of it. A recent survey of businessmen—Allen (1982)—also reveals that they see this as a major way in which inflation has an impact upon their decisions, and the lack of research in the area, both domestically and internationally, certainly needs to be rectified.

6. Conclusion: The Output Costs of Disinflation

It is now time to face the question in the title of this paper. An underlying premise in the discussion to follow is that any indefinite continuation of inflation is predicated on a lack of political will to eliminate it, and the sources of any such "weakness" will be fundamental to any answer to this question. In this regard, three features identified in earlier sections assume importance.

(i) Opposition to inflation in Australia seems based not so much upon the effects inflation has on the personal circumstances of the electorate but upon a perceived correlation between inflation and unemployment. It is of interest that these results from opinion polls are exactly the opposite to those observed in the U.S.A.

(ii) The responses under (i) seem entirely rational in that the effects of inflation upon the personal economic position of the employed would appear small. But there is some evidence that a high inflation rate may reduce growth and
hence employment. Much of this latter effect stems from institutional rigidities that might be modified by policy, although there must be a residual concern with impacts upon the volume of investment.

(iii) There has been a major decline since 1976 in the numbers who consider inflation a personal problem and it is currently at low levels. This is despite the fact that anticipations of inflation have not been low.

Taken as a group these propositions suggest that the question in the title is not trivial: opposition to inflation not based on personal circumstances may well be a very weak base upon which to engage in attempts to eradicate inflation. A political consensus rooted in a conceptual direct linkage between inflation and unemployment is very likely to founder if any doubt arises of its validity in the minds of the electorate.

Why should such a thing happen? The answer lies in the policies that might be chosen to eliminate inflation. Both in rhetoric and fact the most common one around the world has been demand deflation; sharp contractions in the growth of the money supply and tight fiscal policy. But such a disinflation strategy inevitably involves some output loss and hence unemployment - to reduce inflation via demand deflation will require a period of increasing unemployment, exactly the reverse of the linkage forming the consensus against inflation.
This is the rock upon which the political consensus may break apart, and the two crucial variables determining its resistance are the magnitude of unemployment needed and the amount of time available to pursue such policies before being called to judgement. Given the three-year term of Federal parliament, the size of any rise in unemployment to "cure" inflation will need to be smaller than in other democracies with much longer terms of office for the central government. The question of the size of the requisite adjustment was much debated in the U.S.A. in the middle 1970's, culminating in a well known article by Okun (1978). Okun popularised what has become known as the "sacrifice ratio": the percentage of GDP lost in a year in reducing the inflation rate by one percentage point. His computed ratios of ten were extraordinarily high, implying that a sacrifice of 10% of GDP was necessary to gain an immediate reduction of 1% point in the inflation rate. Truly a sacrifice, and it is doubtful if any of the costs of inflation could ever be that large. Recent work in Gordon and King (1982) suggests that this may be too pessimistic with a range of estimates being presented between 3.2 and 8.9, depending upon the specification of the inflation process.

The reason for the high sacrifice ratios in Okun's work lies in the very small response of inflation to unemployment: a one percentage point rise in unemployment maintained for a year is associated with a reduction in inflation of only between one sixth and one-half of one percentage point. If sacrifice ratios were as high as this for Australia, there would seem little likelihood that disinflation via demand management would ever be
pursued for any length of time. Acceptance of the Schneider and Pommerene (1980) estimates of the impact of rises in unemployment and inflation upon government popularity cited earlier indicates that a break-even political result requires that the sacrifice ratio be no greater than unity.5

To assess the sacrifice ratios for Australia we need to know the immediate impact of a rise in the unemployment rate upon the inflation rate. Conventionally this is done in two stages: wage inflation is linked to excess demand (x) and other variables (z) - generally the anticipated rate of inflation and productivity - and price inflation related to wage inflation. It is also not uncommon to recognise that the rate of growth of earnings depends on the rate of growth of award wages, and where award wages appear in z they may represent many factors such as past price changes, anticipated price changes, productivity etc.

5. To break even requires that, for every 1% point rise in unemployment, there be a reduction in inflation of (1.13/1.47) percentage points. Assuming that the 1% point increase in unemployment translates into a 3% point decrease in GDP gives the critical value of the sacrifice ratio. Although this latter figure is probably a good short-run estimate of output loss, in the long-run it will be closer to unity. However, as all our analysis is comparative, the exact number is of no consequence.
A variety of equations of this type appear in the Australian literature, with summaries being given by Hagger (1978) and Kirby (1981). We might think of these studies as being captured in the equation

\[ w = a + bx + z \]  

so that the immediate response of wage inflation to unemployment depends on the coefficient \( b \) and the relationship between the measure of excess demand and the unemployment rate. Four measures of \( x \) have been employed—(i) the rate of unemployment \( u \), (ii) the inverse of this rate (iii) the ratio of the vacancy rate \( v \) to the unemployment rate and (iv) the change in the unemployment rate, \( u \). Depending upon which of (i) to (iv) is used, the sacrifice ratios are very disparate.

With (i), \( b \) is generally estimated at around unity, so that for given \( z \), every rise in the unemployment rate of one percentage point results in a fall in the inflation rate of one percentage point—a sacrifice ratio of three. For (ii) a change of 1\% point in \( u \) gives a change of \(-b/u^2\) in the rate of change of earnings and, for high levels of \( u \), this impact is very small. For most of the studies using this form, once the unemployment rate rises to 4\% only about .1\% point reduction in the inflation rate is achieved by going to 5\%, so that the sacrifice ratio is close to the ten given by Okun. For (iii) the sacrifice ratios are even higher as \( v/u \geq 1/u^2 \) whenever the \( u-v \) ratio is constant (although this ratio varies the argument illustrates the nature of this measure). Under (iv) a
specification in Perry (1981) and similar to the NIF-10S model (see Johnston et al. (1982)) - continually increasing unemployment is needed to keep inflation down.

A different perspective is obtained regarding the implications of (i)-(iv) by recognising that $z$ may be responsive to $x$ e.g. if $z$ included the past rate of inflation, a change in excess demand has a continuing effect in that the lower inflation in the current period yields a lower one in the following period through its influence upon $z$. In this scenario (i) can eventually yield quite large reductions in inflation from a relatively small rise in unemployment, the time taken for the impact to be felt depending upon the magnitude of the relations between $(x$ and $z)$ and $(z$ and $w$). Only with (ii) to (iv) will there be a need to sustain high unemployment for long periods of time to cure inflation; (iv) is particularly pessimistic as a rise in unemployment has no continuing impact at all, and the fact that it seems to provide the best description of Australian data - Perry (1981) - makes a high sacrifice ratio seem very likely.

Thus there is a great disparity in the range of implications that might be drawn from existing work. The viewpoint embodied in (ii) - (iv), that high levels of unemployment have had little impact upon inflation, has been espoused by Gregory (1982), who argues that the duration of unemployment is so distributed that wage agreements are not much influenced by the aggregate number unemployed. He says (p.6)
unemployment does not offer firms a significant reserve army of unemployed persons ....For these reasons a higher but stable level of unemployment will not significantly affect the rate of growth of money and real wages".

Although the exact value of the sacrifice ratio is in dispute I am prepared to come out for one of at least three, very much doubting that it is anywhere near as high as Okun's estimate of ten.6 Even with this optimistic viewpoint the economic and political cost of disinflation via demand restriction would be very high; to reduce the current inflation rate by 6% points would require a rise in the unemployment rate by 6% points! It is doubtful if any government elected for only a three year term of office could survive such a policy.

Of course there are two elements in the wage equation and sacrifice ratio computations pay most attention to only one of these. The other (z) involves rather nebulous factors, but it may be a further avenue whereby demand policy can affect wage

6. Since the coefficient in Layard's (1981) wage equation for the U.K. is also -1 the actual experience of disinflation in the U.K. might provide some guidance to such a strategy in Australia. Using the data in Bulten and Miller (1981) a reduction of about 5-6% points in the earnings inflation rate seems to have been achieved with a rise in the unemployment rate of 5% points (taken from 1979/4 to 1981/1).
changes. It is this term that was a key element in disinflationary policies implemented in the U.S. and U.K.; it was argued that once wage earners perceive the nature of the policy, and that it is credible, they will respond by adjusting their inflationary expectations. Thus it is possible that current excess demand may appear to have little influence upon earnings i.e. the coefficient b may be low, but disinflationary policies may be very effective in that they modify expectations. Taylor (1980) presents a theoretical model of such a case, and one has the feeling that Treasury advice is frequently based on such an association. There is something to this argument. Eventually the U.S. and U.K. experience will probably show what is valid in it. At its core however lies the notion of credibility in policies and this must be a function of the length of the likely term of office of any government. I find it hard to be convinced that Thatcherism or Reagonomics could be credible in Australia unless the concern with inflation was extraordinarily high (as in 1974/5). A related difficulty is that the theory of wage movements implicit in these strategies is very much a “forward looking” one, with the belief that wage bargains are more a function of anticipated future movements in prices than catching up with past movements: in such an environment a tough credible policy will have its desired effect. Little empirical evidence exists to support such a stance however, and the recantations of some U.K. monetarists suggests that little has accumulated in the U.K. since 1979.
Implicit in the above discussion has been the presumption that it is unlikely that the responsiveness of wage movements to unemployment can be increased. Such an orientation essentially adheres to the notion that low values of b, or a small impact of z upon w, are a product of institutional arrangements that have evolved over a long period and which therefore cannot be modified quickly. Thus the quotations from Goldthorpe and Solow earlier relying on the belief that policies will be adopted to ensure full employment reflect on the post-war history of full employment. As evident by much discussion on secular stagnation in the middle 1940's, such a belief was not even common to economists then, and it has probably taken a quarter of a century to become widespread. Recent events (and future ones) may call this belief sharply into question, and it is possible that the effects of these events will be long-lasting. Obviously, much depends upon the size of the recession that is eventuating; a very major one calls into question all the implicit contracts between employees and employers. There may emerge a situation where long-established employees and union members are laid off, and this is likely to have a far greater impact upon wage negotiations than the situation for the last eight years which features relatively low unemployment duration times for all but a small percentage of the labour force.

Already the magnitude of the recession has been such as to indicate that a reduction in the core rate of inflation of 3-4% points may be expected in the next two years, but whether this can be sustained in a movement out of recession is doubtful; as Gregory (1982, p.38) comments
"As a result of the restored profitability the elements of the implicit contract that relate to the understanding that real wages will increase when profits increase come back into play."

This paper has sketched forces operating in Australia to sustain a moderate inflation level — a low level of personal concern over inflation, a low sensitivity of wage movements to fluctuations in employment and a short term-of-office for Federal governments. What progress was achieved during the 1970s relied very heavily upon convincing the electorate that the twin objectives of inflation and unemployment could be achieved simultaneously, by focusing policy on the former. It is very doubtful if such a case could be constructed again. A permanent reduction in inflation therefore is likely to rely increasingly upon external rather than internal discipline; that this is already occurring is apparent in the domestic response to the international recession. Hence, the answer to the question posed in the title of this paper really lies elsewhere and in the reactions of other political systems to inflation; as many attribute the origin of the great inflation of the 1970s to simultaneous elections in major industrialised countries in 1972, and 1984 sees this phenomenon once again, it would seem a good bet that the 1980s are not going to be a decade of low inflation for Australia.
References


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