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# A Neglected Inconsistency in Milton Friedman's AEA Presidential Address.<sup>1</sup>

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## Abstract

Friedman (1968) – his famous *Presidential Address* to the American Economic Association – contains an elementary error right at the heart of what is usually supposed to be the paper's crucial argument. That is the argument to the effect that during an inflation, changing expectations shift the Phillips curve. It is suggested that the fact of this mistake, and of its having done all-but unnoticed are points of historical interest. Further reflections, drawing on the arguments of Forder (2014) *Macroeconomics and the Phillips curve myth*, are suggested.

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## I. Introduction.

The first objective of this short paper is to draw attention a clear error of logic in what is usually taken to be the crucial argument in Friedman (1968) – his famous Presidential Address to the American Economic Association. That argument is to the effect that a continuous inflation would come to be expected, and when that happens, any reduction in unemployment initially brought about by the inflation would be reversed. The second objective, building in part on the history of the Phillips curve presented in Forder (2014) is briefly to consider what reaction might be appropriate both to the fact of this error, and to the fact that it has to date gone almost without comment, and apparently entirely without being thought important.

## II. The error.

Having defined the natural rate of unemployment, Friedman (1968) considered the effect of an increase in the money supply, which he said would raise demand and he continued,

‘...Producers will tend to react to the initial expansion in aggregate demand by increasing output, employees by working longer hours, and the unemployed, by taking jobs now offered at former nominal wages. This much is pretty standard doctrine.’ (p. 10)

The appearance of the word ‘former’ is notable for its inelegance and for being mildly ungrammatical, but its meaning is clear enough: The expansion of employment occurs at unchanged wages. However, Friedman continued immediately, in the same paragraph, by saying,

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‘But it describes only the initial effects. Because selling prices of products typically respond to an unanticipated rise in nominal demand faster than prices of factors of production, real wages received have gone down – though real wages anticipated by employees went up, since employees implicitly evaluated the wages offered at the earlier price level. Indeed, the simultaneous fall *ex post* in real wages to employers and the rise *ex ante* in real wages to employees is what enabled employment to increase.’ (p. 10)

This too can hardly be said to be a carefully written passage. One point would be that the sense of ‘faster’ in the second line is ambiguous – it is not clear whether the idea is that the prices of goods start to change before those of factors, or that they move at a greater rate once underway. But more strikingly, in the third line, real wages anticipated by employees are said to have gone up. Since prices have certainly not fallen, that contradicts the earlier statement which was that there was an increase in employment at unchanged – ‘former’ – nominal wages. So Friedman’s story, as it was put, is inconsistent. Although it is hard to see that there could be doubt that this is an error, a further indication of that comes from Friedman (1972). That is a rather less well-known paper but is in many respects very similar to Friedman (1968). There, he makes much the same argument about expectations, but avoids the mistake, saying,

‘Let inflation accelerate to a level higher than the level that was generally expected to prevail. The resulting rise in nominal wages will simultaneously raise real wages as judged by employees in light of their price expectations, and hence raise the amount of labor available, and lower real wages as judged by employers in terms of the prices of the individual products they produce, and hence raise the amount of labor demanded.’ (p. 193-194)

Here, it is clear that nominal wages rise at the start of the process. Sometime later, Friedman (1987) again avoided error by saying,

‘Over short periods, an *unanticipated* increase in inflation reduces real wages as viewed by employers, inducing them to offer higher nominal wages, which workers erroneously view as higher real wages.’

That may be some indication that Friedman later recognized the mistake in the earlier version.

### III. Responses

One response might begin by noting that the error, although clear, and at the heart of the argument, is easily corrected. The substitution of ‘higher’ or perhaps even ‘firmer’ for ‘former’ removes the problem. Either of those changes would render the passage more elegant as well. So it could even be that the problem arises from a typing mistake.<sup>2</sup>

If that is the case, it might appear to be no more than a curiosity. That is how Laidler (1990) and Laidler (1994) seems to have seen it. In both pieces, his interest was in considering the

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<sup>2</sup> Daniel Hammond suggested something might be learned from checking earlier drafts of the lecture at the Hoover Institution collection of Friedman’s papers. But except that ‘former nominal wages’ is merely ‘former wages’, the passage is identical in the first draft (July 1967, p. 10. Hoover Institution, Milton Friedman Papers, box 49, folder 10).

development of monetarism and related lines of thinking before and after Friedman (1968) rather than considering that paper in detail. But he did little more than note that the different views Friedman put lead to different interpretations of the Phillips curve, both of which featured in the developments he was considering, and move on. No one else, I believe, has commented on it at all.

And indeed, a curiosity may be all it is. Certainly there is no suggestion that the argument cannot be repaired, so there is no great error of theory uncovered here. But even if it is just a curiosity, as a matter of historical observation, it should surely be noted that it is *very* curious, and all the more so if it really has gone so nearly unnoticed for all these years. Friedman (1968) is not merely very highly cited, though it is certainly that. It is also widely regarded as enormously influential. Gordon (1981) thought it probably the most influential article in the previous twenty years; Krugman (1994) regarded as a decisive intellectual achievement; and Skidelsky (1996) called the most influential paper in macroeconomics in the whole of the post-war period. Those sorts of views appear to be widely held.

Even more than that, though, the influence of Friedman's paper is held to arise precisely from his presentation of the expectations argument in the paragraph quoted above. It is, supposedly, Friedman (1968) and the almost-simultaneous Phelps (1967), who first challenged the idea that the Phillips curve offered a stable 'menu of choice' so that a continuous inflation could permanently lower unemployment. If that were true, one surprise would be that Friedman put the argument so carelessly. It is not, it should be noted, that he put it informally, but that he put it carelessly, and wrongly – with one clear mistake, incorporating a highly-visible inelegance, and one distinct ambiguity in the crucial paragraph.

The point that no one commented on it would have even more force. Supposedly, Friedman's paper overturned orthodoxy. In that case, one would have to believe that there were years of debate leading to the overturning of the old macroeconomic consensus, in which Friedman had made a simple mistake. True enough, it is not a decisive mistake since it can be so easily corrected – but academic point-scoring does not wait for decisive arguments, Friedman was an extremely controversial figure, he had made a clear blunder, and – we are supposing – the stakes were extremely high. And *no one* pointed it out? It is hard to see how that is not be a point of considerable historical interest.

Another way of looking at it, I would suggest, would begin with the recognition of the point, argued in Forder (2014) that the conventional historical story of the position of the Phillips curve in macroeconomics is wrong. One particular point is that Friedman and Phelps were certainly not the originators of the expectations argument. In Forder (2010a) I presented more than a dozen earlier statements – most of them by prominent authors, in easily accessible sources – and Forder (2014) chapter 4 part 1 added several more, and suggested a variety of other arguments to the effect that it must have been well-known in the 1960s.

The further conclusion that we can draw from Friedman's loose presentation and the absence of comment on its inaccuracy is that neither he nor his early readers even believed that his argument was original. Certainly, in the 1970s it started to be said that it was, and Friedman (1977) joined in with others in proclaiming his own originality. But that is another matter, and I hope I have adequately considered the limitations of that paper as a historical resource in Forder (2010b).

A better view of Friedman (1968) would be this. It was a paper re-presenting and developing an argument on rules and discretion that Friedman had been making for some time. The discussion of expectations was incidental. But after about 1970, with inflation clearly being a

problem, econometric attention turned to explaining it, and then explaining the combination of it with high levels of unemployment. Much of that discussion was conducted in terms of ‘the Phillips curve’ even though that usage was questionable. As it happens, Friedman (and Phelps (1967)) were almost the first to put the expectations argument in terms of ‘the Phillips curve’ – using that terminology. That may have drawn attention to their work, but probably more importantly, when the econometric literature turned to the explanation of inflation in the early 1970s, theirs were the latest – not the earliest – statements of the well known point about expectations. That made them convenient sources to cite to motivate the discussion and expressions like ‘Friedman’s idea’ became labels for the expectations argument without, initially, implying his originality. But later, with much of the argument conducted in terms of advanced econometrics and therefore undertaken by relatively young economists, sight of the earlier literature was lost, and it started to be presumed that it was ‘Friedman’s idea’ in a different sense. The construction of the whole mythical story of the Phillips curve in the mid-1970s, and its translation into textbooks – documented in Forder (2015) – before the end of the decade then cemented this idea.

In that picture, the casualness of Friedman’s presentation of the expectations argument is much easier to understand. It was a well-understood and uncontroversial argument. Friedman presented it quickly, and perhaps loosely, no doubt thinking nothing very much turned on it. The logical mistake is there, but in this view it was not at the heart of the argument of his paper, so there would indeed be no point in making comment on it. And later, when it became so routine to attribute the argument to Friedman and Phelps, it was still an argument that was well known, and uncontroversial, so again there was no point in fussing over the details.

There may, though, be another way in which the way Friedman put the argument has some historical interest, perhaps relating to its reception. When Friedman described the initial effects of expansion in terms of prices and wages being unchanged, he described it as ‘standard doctrine’. There must be a question as to what he meant by that. One possibility is again to suppose he meant to say that wages were higher, and the doctrine in question was that demand expansion could raise both output and inflation along the lines of what came to be called ‘the Phillips curve’.

That, however, is less than convincing. There was a commonly held view, later associated with Tobin (1972) or Akerlof, Dickens, and Perry (1996) to the effect that gentle inflation ‘lubricates’ the labour market by overcoming nominal rigidities, and this can result in lower unemployment. This view – as is established in Forder (2014) chapter 3 part 5 – was in fact very widely accepted, particularly following Schultze (1959), all through the 1960s. But that line of thinking does not fit a corrected version of Friedman’s presentation since it concerned the benefits of reducing the real wages of those in work in declining industries, not bringing the unemployed into employment by raising their nominal wages. Other than that argument, it is a very long search to find anything resembling advocacy of an exploitable Phillips curve in the literature of the 1960s. So there would really be no basis for calling an idea along the lines of textbook stories of the Phillips curve ‘standard doctrine’.

On the other hand, if we read the first part of Friedman’s argument as he actually wrote – so that employment expands at unchanged wages – the picture is different. That was precisely the outcome anticipated in the theoretical picture that the later literature came to call that of the ‘(reverse) L-shaped aggregate supply curve’. That idea is sometimes treated just as a primitive version of the Phillips curve in which wages and prices were assumed to be fixed whenever there was unemployment, and to respond only to demand at full employment so that there was, as Lipsey (1978) put it, a ‘strict dichotomy’ between conditions of

unemployment and of full employment. In Forder (2013) and Forder (2014) chapter 1 part 3, I argued that a better view is that the earlier theory treated the rate of inflation as exogenous to the process determining unemployment, rather than the price level as being fixed. In the model the role of various factors that came to be grouped as ‘cost-push’ was then to explain inflation, but they did so, in the treatments of the 1960s, substantially without reference to the level of unemployment. In that case, there was a role for policy to vary the level of demand to achieve full employment, but in doing so, it need have no particular effect on inflation. This – not the idea of a stable Phillips curve – was ‘standard doctrine’ of the time.

That idea was, of course, very much under challenge from Friedman. His challenge was not centred on the expectations argument, but rather on the idea of a ‘natural rate of unemployment’. The issue there was not whether expectations adjust to reality, but whether there was a unique equilibrium of the macroeconomic system – Friedman, in effect, said there was, the theory under attack, the standard doctrine, said there was not.

What followed, however, was a collection of econometric studies questioning the literal truth of the ‘vertical Phillips curve’ hypothesis – Solow (1968) and Gordon (1970) were two. When such studies found, as these two did, and other early ones tended to, that ‘the Phillips curve’ was not vertical, their authors seemed to have regarded that as an adequate rebuttal of Friedman, and said little more about it, and nothing that would really amount to a theoretical explanation of their finding. That perhaps testifies to a false security given by the econometric results. The ‘lubrication’ argument like that of Schultze (1959) was in the background as an explanation of their finding, but even that tended not to be spelt out in these studies. (Those points are considered more fully in Forder (2014) chapter 4 part 5). Later, studies like Gordon (1977) confirmed the idea of the vertical Phillips curve and that tended to be treated as showing that Friedman had been right.

It might not have been so treated because what those results show is that a reduction in unemployment achieved by inflation will be a temporary one. The idea underlying the L-shaped aggregate supply curve was that there could be times when unemployment could be reduced without inflation. That should be seen as crucial since without inflation at the start of the process, there is no inflation that might become incorporated into expectations, and hence no argument in Friedman’s paper that the fall in unemployment will be temporary. But the whole debate having been conducted in econometric terms, that point was not made. The failure to debate that issue is itself another curiosity of the time, as is the fact that this too has gone almost unnoticed in later commentary – although de Vroey (1998) both noted the point and expressed surprise at how few had.

The interest of the point considered in this paper, is that Friedman’s presentation – as it was written – is suggestive of the L-shape view. It is suggestive, perhaps, that Friedman thought his challenge really was grounded in that doctrine, and not a fundamentally different position. In that case, it almost starts to appear that there might have been no comment on ‘former’ because that was the position that the orthodox accepted. And indeed, there is one later statement which gives an indication in that direction. That is a remark made more or less as an aside by Tobin (1995) footnote 1, who said,

‘Until I re-read Friedman’s Presidential Address in order to write this chapter, I had the impression that Friedman accepted a Keynesian non-market-clearing explanation of unemployment in excess of the natural rate.’

In other words, it seems that Tobin, at least, may have conducted his share of the debate under the impression that Friedman was accepting much more of the then-orthodox position than he was. It is difficult to see what there is in the Presidential Address or other works of Friedman from that period which could give that impression except for the fact that employment was said to expand at ‘former’ nominal wages.

So Friedman’s mistake is clear. On conventional accounts of history, it is astonishing that it went unnoticed until the 1990s, and almost unnoticed then. That is a clue that the conventional accounts are wrong – a view for which there is in any case, other evidence. But beyond that, there is just the possibility that Friedman’s flawed way of putting his point had an effect of directing criticism away from what might have been expected to be a controversial aspect of his presentation. In that case, his way of putting it may have particular significance in the change in macroeconomic thinking in the 1970s.

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