

The Upper Turning Point in the Austrian Theory of the Business Cycle

In a 1979 article Hummel raises 6 “problems” with Austrian business cycle (ABC) theory. His 5th one relates to a missing part of the Austrian literature, specifically what the theory predicts will happen if there is a *steady rate* of credit expansion. He provides a suggested answer,

“a constant rate of credit expansion will produce a boom, followed by a period in which the economy is adjusted to the credit expansion” (p.49)

Is this right? Doesn't the Austrian boom *inevitably* lead to a bust? This article is an attempt to address Hummel's claim by clarifying the process by which credit expansion takes place.

It's fair to say that Hummel's critique has been neglected by a substantial part of the Austrian literature. Contemporary book-length accounts of Austrian monetary theory, such as White (1984), O'Driscoll & Rizzo (1985), Selgin (1988), Skousen (1990), White (1999), Horwitz (2000), Garrison (2001) and Heurta De Soto (2006) do not mention it. This is surprising, because the Austrian business cycle theory is ultimately a theory of the upper turning point of a credit cycle.

The questions we wish to raise are: (1) What are the Austrian claims? (2) How consistent are the Austrian claims with each other? (3) How do they differ from alternative schools of thoughts? It is only once these questions are answered that we can begin to assess the validity of those claims – both theoretically and empirically. In the spirit of Hummel (1979) we pose these questions as an attempt to contribute to the Austrian theory of the business cycle. Any “problems” are also potential opportunities.

Section 1 retells Hummel's complaint and puts it in the context of Austrian accounts of a credit expansion. Section 2 uses standard macroeconomic textbook analysis to discuss the various “effects” of an increase in the money supply. Firstly, it will define the alternative channels through which changes in the money supply can affect interest rates. Then, it will provide path dynamics to illustrate how these different channels might interact. Section 3 suggests how the Austrian approach can be incorporated into such analysis, by introducing the capital heterogeneity effect and the Ricardo effect. Section 4 concludes.

1. Constant vs. increasing rates of credit expansion

Hummel (1979) starts his article with an important assumption:

“The lengthening of the structure of production that occurs as a result of credit expansion and the lengthening of the structure of production that occurs as a result of a genuine shift in time preferences are basically identical *except* for the fact that the lengthening due to credit expansion must in the future be reversed because it is inconsistent with underlying consumers’ tastes” (p.41).

This article will take that assumption as given, but add a clarification. It is *possible* that time preferences shift in a way that generates a boom bust cycle, but this would be an additional assumption to make. If there is a fall in time preference that is followed by a subsequent rise in time preference a recession will follow. The key difference with an artificial credit expansion is that this will *inevitably* cause a recession. It doesn’t rely on a subsequent assumption about a mass reversal of time preference. The “reversal” is built in. For this reason Austrians are right to point to credit expansions, as opposed to changes in time preference, as a key explainer of a general cluster of errors. And Hummel is right to concentrate on the claims that the upper turning point will be inevitable.

1.1. The Mises-Hayek theory of the business cycle

O’Driscoll & Rizzo (1985, p.204) provide a clear overview of Austrian (i.e. Mises/Hayek) development of the Thornton-Wicksell tradition. The sequence of events is as follows:

1. Bank money is created in the form of business credit
2. Entrepreneurs spend the money on factor services, bidding up incomes
3. Income recipients bid up the prices of consumer goods

The crucial point is that this process takes place over time, and affects individuals sequentially. Therefore the relative price changes cause wealth redistributions (in favour of those who see their incomes rise before prices do, and at the expense of those who see prices rise before their incomes do). When consumer goods prices spike this suggests the bubble is about to burst, and consumers’ reduction in spending (due to their negative wealth effect) initiates the downturn. In addition, the change in interest rate will affect the discounted present value of investment plans. More specifically, lower interest rates will increase the return on projects that have a longer structure of production/ are more roundabout.

1.2. Garrison’s contribution

For all its brilliance, the Mises-Hayek theory is not universally applicable. Garrison (2001) provides important contributions by acknowledging that in the early stage of the boom investment won’t necessarily rise at the expense of consumption spending. Whilst businesses are more likely to win the “tug of war” over real resources than consumers, modern financial instruments work to the advantage of consumers in this regard. Interest sensitive consumer durables – such as housing – might well be the type of asset we would expect to see rise in value during the boom phase. In other words the first stage

of the O'Driscoll & Rizzo account given above might also include consumer credit.¹ In addition to this the demand for consumption goods may be rising during the boom phase at the same time as a rise in capital goods. It's too simplistic to say that capital goods generate utility in the future and are interest sensitive, and consumption goods generate utility in the present so they don't. The reason that the production of both consumer *and* capital goods can increase is because firms draw down buffer stocks, which allows them to go beyond their production possibility frontier (Garrison 2001). This isn't denying the law of scarcity, but it is shedding light on why the process is unsustainable.

It's important to be clear about what *isn't* being disputed. There are three ways in which "credit expansion" can be viewed. The first is as a one-off increase in the money stock (which we could further distinguish between anticipated and unanticipated). The second is a constant growth rate. The third is an increase in the growth rate.² In all three situations there has been "a credit expansion". It's not always obvious which of the three types of credit expansion are being considered, but the differences are important.

We might all agree that a one off increase will be subsequently "undone". We might also agree that accelerating inflation will lead to a bust. But – and this is Hummel's point - why assume an accelerating rate? Must an increase in the money supply lead to an increase in the growth rate of the money supply? According to Hayek (1934) this would be necessary to sustain the boom, and this is true. But what if you don't want to sustain the boom? What if you want the structure of production to be maintained at its existing level?

To support Hummel's point, consider the following passage from O'Driscoll and Rizzo (1985):

“Unsustainable monetary expansions generate resource misallocation. The pattern of investment in such expansions is self-reversing: once the growth of money ceases or even decelerates, the pattern will begin to be reversed” (p.225)

But this begs two questions. Firstly, what is it that makes it "unsustainable"? Secondly, what happens if the growth of money continues at a constant rate?

¹ This will be especially so if there are government interventions that deliberately intend to make credit more available to consumers (such as through reductions in mortgage lending requirements).

² In O'Driscoll & Rizzo (1985) they talk about "accelerations in the inflation rate" (p.203), and later on "assume that the bank policy is adhered for several periods and does not merely represent a once-and-for-all shock" (p.203). They fail to acknowledge the possibility of anything in between.

2. Monetary channels

The aim here is to take a fairly standard, contemporary textbook approach. Before discussing the distinctiveness of the Austrian argument, we should attempt to distinguish between alternate monetary channels and put them in a framework that we can contrast competing claims.

- The liquidity effect

This is the well-established proposition that an increase in the money supply will lead to a decrease in nominal interest rates (and vice versa), that “faster money growth will initially cause nominal interest rates to fall” (Walsh 2010). It is the reason why reductions in interest rates are generally attributed to being a result of expansionary monetary policy. It is also typically assumed to be a short run phenomenon, because changes in the money supply will affect other variables as well, which brings into play additional channels.

- The income effect

An expansion in the money supply will reduce interest rates and in doing so increase income. This can be seen as either an increase in consumption, an increase in cash balances, or an increase in investment. The Austrian story typically focuses on investment being stimulated, but the crucial point is that the total demand for output will rise, leading to an increase in production. Different authors may stress different mechanisms. Mishkin (2012) points out that an increase in income will cause a positive shift in the demand for loanable funds, leading to an increase in the nominal interest rate. Nam (1993) argues that an increase in income will lead to an increase in the demand for *money*, which raises interest rates. Generally speaking though, we would expect the increase in the demand for loanable funds to offset the initial increase in the supply of loanable funds, such that the nominal interest rate returns to its original level.

- The Fisher effect(s)

According to the equation of exchange an increase in the money supply will ultimately lead to a proportional increase in the price level. According to the Fisher identity an increase in P will lead to a proportional increase in nominal interest rates. In other words the “Fisher effect” states that any inflation will affect nominal interest rates but *not* real interest rates. Mishkin (2012) splits this into two distinct effects. The “price level effect” simply states that an increase in prices will cause an increase in interest rates. The “expected inflation effect” states that if people expect that prices will rise, interest rates will increase.³ He defends splitting these in two by making a distinction between one-time increases in the money stock and changes to the growth rate. However as Friedman (2006) points out Fisher was ahead of his time in bringing the distinction between anticipated and unanticipated price changes to the fore of his analysis.

The Fisher identity is given as the following:

³ As Nam (1993) points out, the Fisher effect shouldn't be estimated based on expected inflation, but the expected inflation that derives from the change in the money supply (p.225).

$$i \equiv r + \pi^e$$

This expected-inflation channel can be very important. The basic mechanism is as follows:

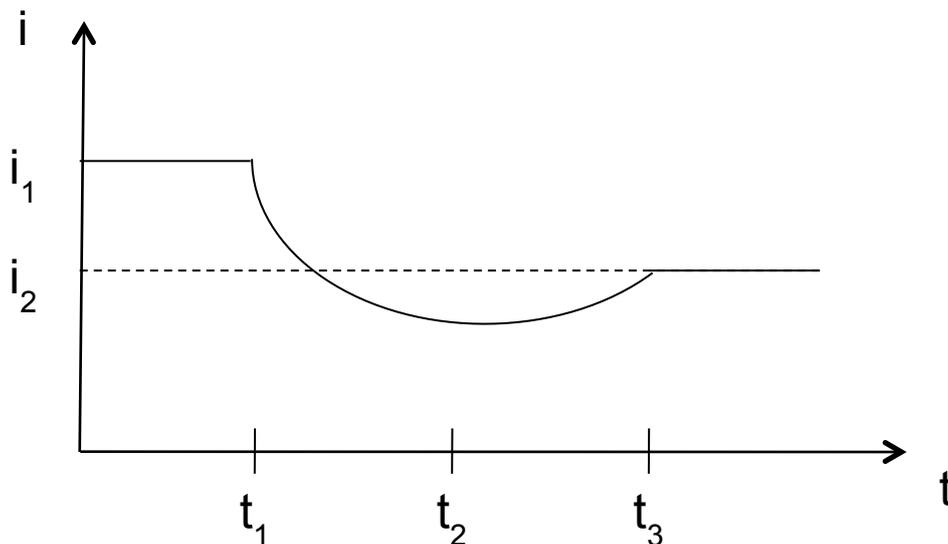
$$\uparrow M \Rightarrow \uparrow \pi^e \Rightarrow \uparrow i \Rightarrow \downarrow L \Rightarrow \uparrow p$$

This implies that the increase in inflation will be greater than the initial increase in the money supply.

The basic upshot is that we expect expansionary money policy to reduce nominal interest rates in the short run, but in the long run they'll increase. But this can occur in different ways. Following Mishkin (2012) we can chart various scenarios by looking at interest rates over time.

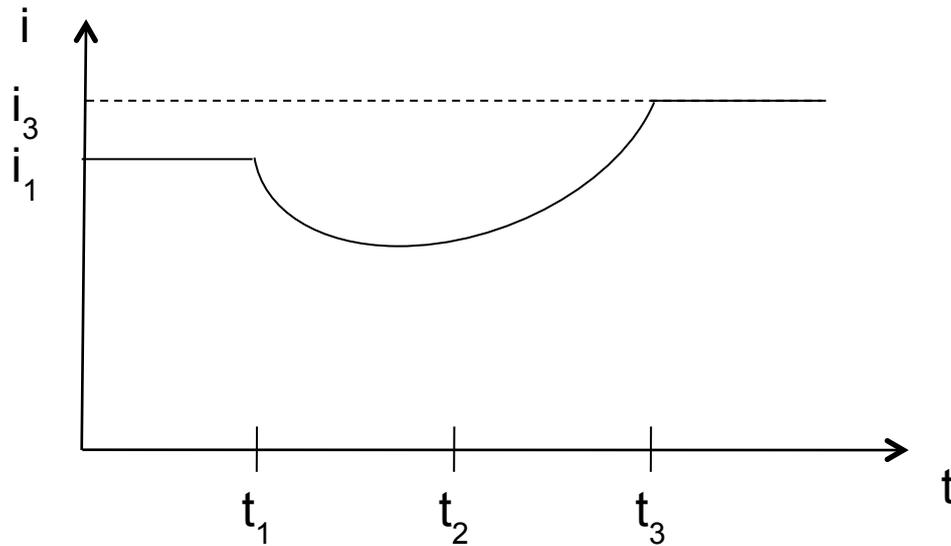
Panel (a) shows a situation where the liquidity effect dominates, such that nominal interest rates end up at a level lower than the starting point.

(a) Liquidity effect dominates



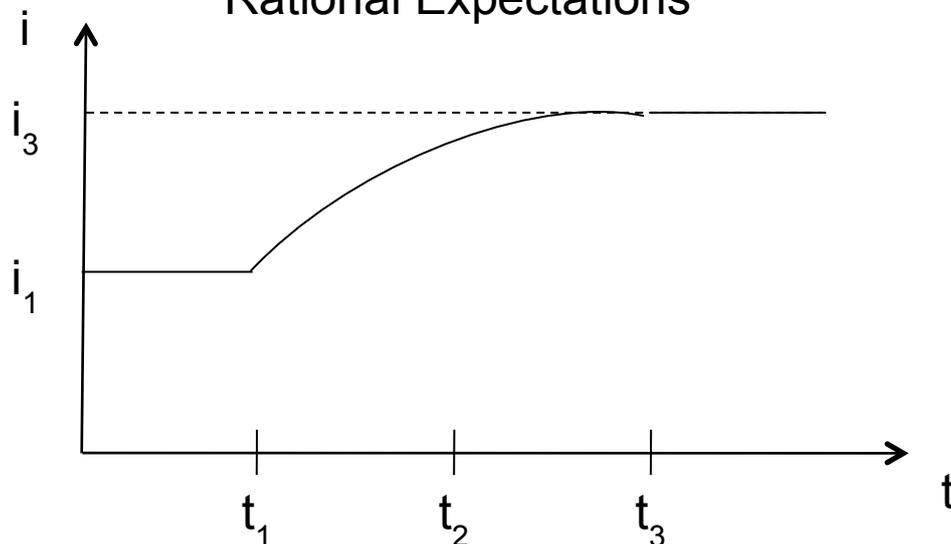
In panel (b) the liquidity effect initially pushes interest rates down but then the combination of income and Fisher effects push interest rates above their original level.

(b) Income/Fisher effects dominate



Panel (c) takes an extreme Fisher effect, where rational expectations mean that the Fisher effect occurs immediately and interest rates jump straight up to a new, higher level.

(c) Income/Fisher effects dominate with Rational Expectations



This brings us to Hummel's challenge: why must the income effect necessarily counteract the liquidity effect *if there's a constant growth rate of the money supply*? Another way of looking at this is asking, what does ABC rely upon? Does it require the interest rates go above the initial level (panel c) or will a rise in interest rates (panel a) suffice? Cowen (1997, p.11) says, "the injection of liquid funds into the loanable funds market produces a potentially sustainable sectoral shift in favor of capital goods, at least if that shift is sufficiently small" which begs the question – how small?

3. The Austrian interpretation

According to Cowen (1997, p.91), “Austrian economists... have not considered whether imperfect Fisher effects might counteract traditional business cycle theory”. Mises recognised the Fisher effect but was somewhat dismissive of it (see in particular Mises 1912, p. 230-231 and Mises 1928, p.94). Writing in a time when stable price levels were the norm, Mises accepts that businessmen will attempt to anticipate changes in the value of money, and demand a “price premium” if it is expected to decline, but deems it likely that in such situations alternative monies (with more stable values, such as gold) would be used instead (Mises 1928, p.94). O’Driscoll & Rizzo (1985) point to Hayek (1937) to argue that “the capital complementarily effect helps explain the pro-cyclical behaviour of interest rates, *apart from any Fisher effects*” (p.209). Another way of putting this is that the Fisher effect is a necessary but not sufficient condition. We can think of two “Austrian” effects, in addition to the ones already mentioned.

The first is capital heterogeneity effects. O’Driscoll & Rizzo (1985) come close to attributing the sunk cost fallacy to entrepreneurs, but don’t quite. What they do say is that once a particular project gets close to completion the value that’s placed on the remaining capital goods will dramatically increase, “*in the limit*, entrepreneurs would be willing to pay up to the discounted value of the future quasi-rents accruing to the entire project in order to obtain a comparatively small additional sum needed to complete the project” (p.209). When you’ve almost completed a jigsaw, the final missing piece takes on the value of the entire puzzle. They outline the following causal chain: previous capital investment will increase the expected returns of subsequent investment (assuming it’s complementary). This – in conjunction with real resource constraints - will increase the demand for loanable funds, which will increase real interest rates over and above the long run equilibrium rate. Furthermore, O’Driscoll & Rizzo (1985) argue that when ex post returns in consumer goods industries begin to rise (because these are still compatible with the unchanged time preference of consumers) there will be a liquidation of investment plans that were devoted to longer-term projects/ more roundabout. Since “policy-makers normally view with alarm any slowdown in the recovery of business investment” (p.208) they suggest that attempts will be made to “step on the accelerator” and maintain the boom.

The second distinctly “Austrian” effect is the Ricardo effect. Hayek gave significant attention to the Ricardo effect (1942, 1969), which is the proposition that when wages fall relative to the price of capital goods, this will increase the profitability of industries that employ relatively more capital to a lesser extent than those employing relatively more (Hayek 1942, p.129). In terms of the Austrian theory of the business cycle we can view it as the spike in consumer prices that signals the onset of the recession.⁴

A final point to make is about the monetary regime. At the time of writing, under a gold standard, Mises deemed the loss of reserves as being the critical signal that monetary policy is unsustainable. As Cachanosky and Salter (2013) have pointed out, “in the case of fiat currencies it is

⁴ Hummel (1979) acknowledges the potential for Ricardo effects but points out that this implies an increase in time preferences.

poor economic performance and voter's pressure". Indeed in a particular type of monetary regime – inflation targeting – an increase in inflation will induce the monetary authority to raise interest rates as part of standard monetary policy

4. Conclusion

Hummel (1979) summarises his claim by saying, “if time preferences and the demand for money remains the same, then a constant rate of credit expansion will maintain an artificially lengthened structure of production” (p. 50). A simple answer would be that this is true but trivial, because a credit expansion *will* affect the demand for money.⁵ The whole Austrian point is that the *ceteris* is not *paribus*. In theory, Hummel is right, and indeed White has alluded to the upper turning point being less empirically prominent than suggested, “Mises implied, although postwar experience does not bear this out, that an ongoing inflation at a steady percentage rate was an unsustainable knife-edge path” (White 2012, p.74). However the effects mentioned above – many of which are distinctly Austrian - suggest that in practice an upper turning point is inevitable.

⁵ “The increase of money demand from the increase of income raises interest rates again. This mechanism is known as the “income effect”” (Nam 1993, p.224).

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