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NOTES AND COMMENTS

Austrian Business Cycle Theory, Keynes's General Theory, Soaring Wheat Prices, and Subprime Mortgage Write-Downs

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Abstract Keynes's presentation of own rates of interest on wheat and housing is set within Austrian business cycle theory, to show that soaring wheat prices and subprime mortgage writedowns are expected, when a monetary authority holds interest rates too low for too long. From that basis, further interest rate cuts are an unlikely remedy for a recession whose roots lie in a proliferation of credit.

Keywords Invest · Credit · Business cycles

Introduction

The contextual setting of Austrian capital theory is a price mechanism that is effective in allocating scarce resources and in achieving full employment. In developing a complementary theory of business cycles, emphasis is placed upon: (1) the interest rate as an intertemporal price; (2) heterogeneous capital investments guided by prevailing and prospective interest rates; and (3) the impact of monetary policy upon the microeconomics of investment decisions.

The contextual setting of Keynes's *General Theory* is deep recession, surplus capital and unemployed labor. In developing a theory of aggregate demand, emphasis is placed upon: (1) the manipulation of bond prices to set interest rates; (2) homogeneous investment that is relevant only as a category of expenditure; and (3) the necessity for state intervention to lift a business recession.

Although Keynes meticulously examines the status of interest as an intertemporal price, he draws no lessons from a distinction that is central to Austrian business cycle theory. That is, the distinction between short-term investments and long-term investments.

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Commodity Interest Rates (Wheat and Housing)

Each commodity has its own intertemporal price; that is, its "own" rate of interest:

> the total return expected from the ownership of an asset over a period is equal to its yield *minus* its carrying cost *plus* its liquidity premium, i.e., to $q-c+l$. That is to say, $q-c+l$ is the own-rate of interest of any commodity, where q, c, and l are measured in terms of itself as the standard. (Keynes 1936, p. 226)

where

q yield in terms of the commodity
c carrying cost in terms of the commodity
l liquidity premium of the commodity

Although Keynes's presentation—of the own rate of interest (r) of a commodity—has the merit of simplicity, the exact expression for the combined effect of independent proportionate yields is

$$r = (1+q)(1-c)(1+l) - 1 \tag{1}$$

where each own rate can be converted into a nominal (money) value; so, for example,

$$r_{\mathrm{h}}^{\mathrm{m}} = \left(1+r_{\mathrm{h}}\right)\left(1+a_{\mathrm{h}}^{\mathrm{m}}\right) - 1 \tag{2}$$

$$r_{\mathrm{w}}^{\mathrm{m}} = \left(1+r_{\mathrm{w}}\right)\left(1+a_{\mathrm{w}}^{\mathrm{m}}\right) - 1 \tag{3}$$

where

$r_{\mathrm{h}}^{\mathrm{m}}$ money rate of house interest
$r_{\mathrm{w}}^{\mathrm{m}}$ money rate of wheat interest
$a_{\mathrm{h}}^{\mathrm{m}}$ rate of appreciation of money house value
$a_{\mathrm{w}}^{\mathrm{m}}$ rate of appreciation of money wheat value

Investments are allocated to earn the highest money rate of commodity interest ($r_{\mathrm{c}}^{\mathrm{m}}$). For example, if

$$r_{\mathrm{h}}^{\mathrm{m}} < r_{\mathrm{w}}^{\mathrm{m}} \tag{4}$$

investment in housing would be curtailed and resources reallocated to wheat. Equilibrium is restored as $r_{\mathrm{h}}^{\mathrm{m}}$ rises, and $r_{\mathrm{w}}^{\mathrm{m}}$ falls to the point where

$$r_{\mathrm{h}}^{\mathrm{m}} = r_{\mathrm{w}}^{\mathrm{m}} \tag{5}$$

Keynes represents interest as an intertemporal price with the following illustration:

> Let us suppose that the spot price of wheat is £100 per 100 quarters, that the price of the "future" contract for wheat for delivery a year hence is £107 per 100 quarters, and that the money rate of interest is 5 per cent.; what is the wheat-rate of interest? £100 spot price will buy £105 for forward delivery, and £105 for forward delivery will buy $^{105}/_{107}.100$ (= 98) quarters for forward delivery. Alternatively £100 spot will buy 100 quarters of wheat for spot

> delivery. Thus 100 quarters of wheat for spot delivery will buy 98 quarters for forward delivery. It follows that the wheat-rate of interest is *minus* 2 per cent. per annum. (Keynes 1936, p. 223)

By this description, the intertemporal wheat price indicates that entrepreneurs have produced too much wheat for the current period, and insufficient for the future. The subsequent intertemporal competitive adjustment of wheat investments implies readjustments across the widest spectrum of commodities, which stabilizes as the overall structure of investments is restored to equilibrium:

$$r_{\mathrm{w}}^{\mathrm{m}} = r_{\mathrm{j}}^{\mathrm{m}} \tag{6}$$

where

$r_{\mathrm{j}}^{\mathrm{m}}$ money rate of commodity j interest

The relevance of Keynes's presentation is in ascribing "a peculiar significance to the money-rate of interest" (Keynes 1936, p. 229). The peculiar significance is that

> [t]he money-rate of interest, by setting the pace for all the other commodity rates of interest, holds back investments in the production of these other commodities, without being capable of stimulating investment in the production of money, which by hypothesis cannot be produced. (Keynes 1936, p. 235)

Keynes's pursuit of this line of inquiry leads to the conclusion that investment expenditure (as a category of aggregate demand) might be insufficient to allow the full employment of labor; and, for that reason, "a somewhat comprehensive socialisation of investment" (Keynes 1936, p. 378) might prove necessary.

In the radically different classical context of Austrian capital theory (market clearings and factors of production fully employed), Keynes's presentation of commodity rates as intertemporal prices drives to a different conclusion. Which is that, in manipulating the money rate of money interest, the monetary authority is effectively distorting prices, with the implication that capital investments are allocated inefficiently.

Austrian Business Cycle Theory (Wheat and Housing)

While the commitment to wheat might be framed within a period of months rather than years, investment in housing requires cost commitments and rental returns over many decades. In general, the capitalized value (at time, $t=0$) of costs and revenues from investing to produce commodity j gives the basis for comparing heterogeneous investments:

$$V_{\mathrm{j}}^{\mathrm{m}} = \int_0^{n_{\mathrm{j}}} y_t e^{-r^* t} dt \tag{7}$$

where

r^* money rate of money interest (that is, $r_{\mathrm{m}}^{\mathrm{m}}$)

With variable net revenues (y_{tj}) and variable project duration (n_j), investments are deployed to equalize yields across the widest spectrum:

$$r^* = r_j^m = r_k^m = \text{etc.} \tag{8}$$

Clearly, a reduction in r^* invites the commitment of more resources to investments generally, so that yields fall until equilibrium is restored. However, with resource constraints, choices must be made. Any reduction in r^* raises values of V_j^m by varying magnitudes: broadly speaking, the longer the duration of a project (n_j), the greater the rise in value. The implications are: (1) that a reduction in r^* causes investments to be redirected to longer duration projects ("capital deepens"); (2) that an increase in r^* causes investments to be redirected to shorter duration projects ("capital shallows").

When monetary policy is used to hold down market interest rates, the consequences are far more complex than Keynesian macroeconomic analysis suggests. Investments are redirected from short-term to long-term projects; that is, (say) from wheat to housing. Any price distortion that favors one commodity (housing) to the detriment of another commodity (wheat) can be expected to deliver a glut of the former (falling house prices) and a shortage of the latter (rising wheat prices). Two, selected from many similar headlines, give testimony:

> Home prices suffered their biggest fourth-quarter drop since 1991;
> Prices for some varieties of wheat are at an all-time high of more than $16 a bushel on the Minneapolis Grain Exchange (*USA Today*, February/March 2008)

The contemporary evidence is that monetary authorities have held interest rates too low for too long. From that basis, further interest rate cuts are an unlikely remedy for a recession whose roots lie in a proliferation of credit.

References

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