An Austrian Analysis of Real Estate

Fred E. Foldvary
Dept. of Economics - Santa Clara University
ffoldvary@scu.edu
Economy

The Austrian theory of the business cycle is based on money, credit, interest rates, and capital goods. The identification of real estate as the key capital good in Austrian cycle theory strengthens the theory, enhances its predictive power, and may induce a greater acceptance into mainstream macroeconomics.

A generic theory of business cycles

The Austrian theory of business cycles can be better understood by first postulating a general theory of cycles. Alvin Hansen (1964, p. 6) maintains that an analysis of macroeconomic fluctuations supports the hypothesis that the significant changes in variables are cyclical rather than less regular fluctuations. Each phase of a cycle is related to preceding phases. This proposition has been disputed, but the case for cycles is buttressed by the realization that there is more than one type of cycle, and that the various cycles have different durations. When one examines the major depressions and panics of the 19th century in the United States, one unavoidably sees a pattern of about 20 years, with major depressions in the 1830s, 1850s, 1870s, 1890s.

The key puzzle in cycle theory is the cause of the decline, rather than the upswing, since agents in a market economy naturally wish to better their condition, which would lead to an ever increasing accumulation of wealth. Indeed, a puzzle exists when the economy *fails* to recover from a slump.

From the viewpoint of an individual enterprise, it will reduce output, possibly to zero, when it can no longer expect to make a profit. Irving Fisher (1932, p. 30) had as the fifth of nine factors causing business cycles the reduction in profits, and even stated that "A depression might be defined as the contraction of net worth and profits." Among the forces which can reduce profits are: 1) a downward shift in the demand for the firm's products, reducing revenues; 2) an upward shift in the cost of particular inputs; 3) a change in the production function which increases costs, e.g. an increase in taxes or regulatory costs.

Cycles have duration because market responses to such changes take time (Garrison, 1984), due to uncertainty as well as contractual, legal and social rigidities. A major change in the economic environment can cause a rapid loss of profits, leading to business decline, unemployment, and a depression before the market can adjust to them. As noted by Friedrich Hayek (1941, p. 408), money is a "loose joint" which does not accommodate an immediate coordination of price changes.

The generic cycle theory also includes an analysis of the key turning points. Burns and Mitchell (1946) regard the peaks and troughs as the critical points, whereas Joseph Schumpeter (1939) posited the critical region as the points of inflection, where the upward

swing switches from acceleration to deceleration and vice-versa for the downward swing (Hansen, 1964, pp. 7-8). Goldstein (1996), analyzing rising labor costs in an upswing, notes that only in the mid-expansion stage does the reduction of unemployment act to raise wages and squeeze profits. Other costs would likewise be increasing then.

A generic theory of cycles would thus seem to favor the Schumpeter view; the peak and trough are visible and dramatic, but the causal change occurs at the inflection. If these are sine-wave-like curves (though not necessarily symmetric), the first derivative would measure the rate of increase or decrease at a point, while the second derivative would measure the rate at which the increase or decrease is changing. At the point of inflection, the second derivative changes sign: an upswing which was accelerating or moving at a constant rate now slows down. As Hansen (1964, p. 180) notes, during an upswing, the peak of net investment is reached at the point of inflection.

Once the second derivative turns and stays negative, the decline in the first derivative is inevitable. A negative second derivative continuously slows down a boom as it climbs to a peak. As Henry George (1879, p. 264) put it, "Production, therefore, begins to stop. Not that there is necessarily, or even probably, an absolute diminution in production; but that there is what in a progressive community would be equivalent to an absolute diminution of production in a stationary community - a failure in production to increase proportionately, owing to the failure of new increments of labor and capital to find employment at the accustomed rates."

The Austrian theory of the macroeconomic cycle

In Austrian theory, capital goods are disaggregated into those of higher and lower order. Carl Menger, founder of the Austrian school, observed that capital goods could be used to produce consumer goods or other capital goods. He named capital goods producing other capital goods a "higher order" of goods than those producing consumer goods, which are the "first" order (1871, p. 80).

Menger (1871, p. 85) also observed that the use of some particular capital good normally requires other, complementary, goods of higher order. Taking up this theme, Ludwig Lachmann (1947, p. 198-9) stated that "Once we abandon the notion of capital as homogenous, we should therefore be prepared to find less substitutability and more complementarity." Complements occur over time as well as space, as during the period of production, for example, hides, leather, and shoes are complementary (p. 205). "The accumulation of capital will therefore have what we may term a 'chain reaction' effect" (p. 209).

Menger recognized that time plays a key role in the production of capital goods: "The times at which men will obtain command of goods of first order from the goods of higher order in their present possession will be more distant the higher the order of these goods" (p. 152), although, as Böhm-Bawerk (1921, II, p. 82) noted, there can be exceptions. Usually, the decision to produce higher order goods involves a lengthening of the "period of production," the duration of the time between investment and the reaping of profit. As Friedrich Hayek (1941, p. 191) noted, "the condition that all input must be

invested in such a way that the ratio between the marginal rate of increase of the product and the size of the whole product is the same for all units of input, also determines the period for which each of the units of input has to be invested." The need to lengthen the period of production in order to increase productivity via higher order capital goods was recognized by Menger to be a "restraint upon economic progress" (1871, p. 153).

The return on higher-order capital goods is due to the greater productivity of "roundabout" production. Böhm-Bawerk (II, p. 82) posited as the key explanation for this greater productivity that "skillfully chosen circuitous methods tap the stupendous treasure of natural forces for fresh auxiliary powers, the activity of which is beneficial to the process of production." The enhanced productivity is subject to diminishing returns, setting a limit to the degree of profitable roundaboutness.

The spontaneous order of a free market will generate some natural rates of interest (Wicksell, 1936) which then imply some optimal amount and structure of capital goods. As stated by Ludwig von Mises (1924), "The level of the natural rate of interest is limited by the productivity of that lengthening of the period of production which is just justifiable economically and of that additional lengthening of the period of production which is not justifiable." Capital formation different from this market-determined mix constitutes economic waste.

As noted by Mises (1924, p. 401) if interest rates are temporarily artificially lowered due to an increase in the money supply by a monetary authority, this induces an increased investment in higher-order capital goods unwarranted by free-market demand: consumer goods (circulating capital goods) get used up while "the capital goods employed in production have not yet been transformed into consumption goods." When interest rates and prices rise, these malinvested firms fail, since the demand for these products is lacking, inducing the downturn. Hence, the Austrian theory encompasses rising costs (interest rates and prices) and a lack of demand for a significant portion of capital goods.

The conversion of circulating capital (or loanable funds) into fixed capital was first analyzed by Tugan-Baranowskii (1913). As Roger Garrison (2001, p. 14) states, "capital needed to satisfy current consumption is in short supply. Structural unemployment that accompanies this intertemporal disequilibrium of the production process reduces output." Mason Gaffney (1994) notes that too much investment in fixed capital goods results in a dearth of circulating capital, capital investment is distorted not only from skewed interest rates but also (as noted below) from excessively high land prices due to land speculation.

Though the cycle works through the banking and credit system, Hayek (1933, p. 182) also noted that there is no reason why the initiating change, the original disturbance, should be of monetary origin. "Nor, in practice, is this even generally the case," and "it naturally becomes quite irrelevant whether we label this explanation of the Trade Cycle as a monetary theory or not" (p. 183). He recognized also that "the existence of most of the interconnections elaborated by the various Trade Cycle theories can hardly be denied" (p. 52).

Along similar lines, R.C.O. Matthews (1967, p. 128) stated that "monetary factors must have at least a permissive significance in the cycle: even if fluctuations originate from real forces, monetary conditions must be such as to allow the real forces scope to work themselves out." Ludwig von Mises (1966, p. 554) also held this view, that "every nonmonetary trade-cycle doctrine tacitly assumes - or ought logically to assume - that credit expansion is an attendant phenomenon of the boom."

The real-estate aspect of the macroeconomic cycle

Land is essential for all production. The supply of land for particular purposes expands with increasing rent (including the conversion of water to solid surface), but the total site area is fixed. When a boom is underway, the anticipated increase in rent induces speculators to buy land for price appreciation rather than for present use, which causes the current site value to rise above that warranted by present use. Once wide-spread speculation sets in, land values are carried beyond the point at which enterprises can make a profit after paying for rent or mortgages. The rate of increase of investment slows down, eventually reducing aggregate demand as the slowdown ripples through the economy, increasing unemployment and bringing forth a depression.

After land prices and rents drop, along with other costs, investment again becomes profitable. The economy recovers. Henry George (1879, p. 268) noted that depressions were preceded by booms and land speculation, "followed by symptoms of checked production". He rejected theories of general insufficient demand, invoking language akin to Say's law: "The diminution of the effective demand of consumers is therefore but a result of the diminution of production" (p. 269). The high cost of land and rent is, in effect "a lockout of labor and capital by landowners" (p. 270). George's theory attempted to resolve the paradox of idle labor and capital in the depths of a depression. The reason the market was not clearing was that labor and capital were cut off from the necessary natural opportunities offered by land.

Real-estate construction is an important sector of higher-order capital goods, since real estate structures form the linkage to the capital-goods malinvestments of Austrian theory. Fred Harrison (1983, p. 65) depicts the construction industry as a "transmission mechanism" by which the land market impacts "the factory, office and corner retail store." McGough and Tsolacos (1995, p. 20) find that in the UK, rents lead the office building cycle, are coincident with the industrial-building cycle, and lag the retail-building cycle, but capital (land) value are procyclical and lead the property cycles. A key aspect of this process is the tendency to overbuild during a land-speculation boom, followed by a long interval of depressed building. George Hull (1911, p. 130) posited that the high price of construction is the "real, original, and underlying cause" of industrial depression.

The real-estate cycle in the U.S. can be summarized with the following table[1]:

land value	construction	depression
interval	interval	interval

1818	--	--	--	1819	--
1836	18	1836	--	1837	18
1854	18	1856	20	1857	20
1872	18	1871	15	1873	16
1890	18	1892	21	1893	20
1907	17	1909	17	1918	25
1925	18	1925	16	1929	11
1973	48	1972	47	1973	44
1979	6	1978	6	1980	7
1989	10	1986	8	1990	10
2005	16	2005	19	2008?	18?

Real-estate values and construction have peaked one to two years before a depression, and have stayed at peak levels until the onset of the downturn. The historical evidence is consistent with the theory that speculative booms in real-estate prices and construction act as an impetus for the downturn itself. Similar histories have taken place in other countries, including Great Britain and Japan (Harrison, 1983).

Karl Pribam was perhaps the first Austrian-school economist to study the role of real estate in the business cycle. He moved to the U.S. in 1931. Pribam integrated land values, construction, and the role of credit. He (1940, p. 70) recognized that increases in rents and land values follow a rise in building activity. Pribam (p. 65) also pointed out that in the latter stages of a boom, real-estate costs render building activity unprofitable.

The construction industry has amounted to a quarter or more of total investment (Matthews, 1967, p. 98), and it affects the demand for other durables. For example, in 1929, total direct employment in construction was 3 million, but 9 million were employed if complementary industries are included (Long, 1940, p. 7). Arthur Burns (1969, p. 69) concluded that "few other industries have the power to convert an increase in activity into a sustained expansion." Real estate structures play a key role in the main categories of investment other than inventory: business fixed investment, residential construction, and consumer durables.

Putting real estate into Austrian theory

At the beginning of the expansion, the banking system expands credit by an amount greater than in is warranted by available savings. Low interest rates induce investment in higher-order capital goods, much of it consisting in real estate construction, related infrastructure and durable goods.

As the expansion turns into a boom, land speculation sets in, fueled by still cheap credit. Land rent and prices then rise higher than is warranted by current use. Meanwhile, since consumer time preference has not changed, the demand for consumer goods continues as before, and prices rise. When the money expansion providing cheap credit ceases and when inflationary expectations affect the market for loanable funds, interest rates rise, especially affecting the interest-sensitive real-estate market. Higher costs now reduce the rate of increase of new investment. The higher-order investments, chief among them real estate, turn out to be malinvested, as there is insufficient demand for the extra capacity, with vacancies in shopping centers, hotels, office buildings, and apartments.

The decrease in the rate of growth slows the expansion and brings on the decline, which accelerates as the reduction in demand follows the cessation of investment due to costs. Once the recession begins, as real-estate prices fall, loans start to exceed the value of the properties. The real-estate collapse brings many banks down with it, and it may take some time for banks to recover. The depression of real-estate as well as the decline in other prices now makes investment more attractive. The cycle then moves again to the expansion phase.

Part of the remedy for the cycle is the collection of ground rent either by private communities or by government, eliminating the implicit subsidy to landowners provided by government-funded public works.preventing market-hampering real-estate speculation. The remedy for credit manipulation is free-market money and banking (Selgin, 1988), without a central bank, and with competitive private bank notes redeemable into base money such as gold or a frozen quantity of federal reserve notes.

The collection of the land rent by governments or by voluntary civic associations (Foldvary, 1994) would also provide revenue without interfering with price and profit signals, and without hampering the entrepreneurs who, in Austrian theory, play a key role in economic advancement. These two policies treat the causes of cycles rather than attempt to remedy the effects, as does Keynesian stabilizing policy. Free banking allows for a flexible response to changes in the demand for money rather than attempt to force-feed stability through a steady increase in a money supply which is difficult to measure and control, aside from the problem of knowing the optimal amount of increase. The public collection of rent and elimination of other taxes, as Henry George advocated, would also eliminate the distortions on interest rates caused both by the taxation of interest income and the tax-deduction of interest expense. Interest rates and land rent would then be priced as warranted by markets rather than skewed by credit manipulation and speculation induced by infrastructure not paid for by the owners of land.

The shock of public works

Adam Smith (1976 [1776], Book I, p. 275) noted that "Every improvement in the circumstances of society tends either directly or indirectly to raise the real rent of land, to increase the wealth of the landlord." Public works played a key role in the boom-bust cycles of the 1800s. In the 1830s the major project was canals, and then it was the railroads. Infrastructure for automobiles, and also public transit systems, have been important in the 20th century (Foldvary, 1991).

R.C.O. Matthews (1967, p. 107) stressed that "the nexus between building and transport is part of the mechanism by which building fluctuations acquire cumulative forces." Transportation improvements "act as a shock capable of setting a building cycle in motion." When the transport is not financed from the generated rent, the site owners receive an in-kind subsidy of economic rent. In 1947, for instance, Chicago consolidated its transportation system, coordinating the subways, elevated line, street cars, busses, and suburban railroads; Homer Hoyt (1970, p. 366) observed that the effects of this transportation system on real estate values "can scarcely be overestimated."

The purchase of land in anticipation of the provision of increased governmental services to a new area, and the lobbying for public works and transportation by landowners, can be regarded as "economic-rent seeking", the attempt to capture the expected value of these government services, capitalized in the increased price of land. Every increase in government expenditure that has social value creates an economic shock in the form of a rapid increase in site values if it is not offset by a collection of the economic rent.

Conclusion

The 18-year real estate cycle in the US and similar cycles in other countries gives the enhanced Austrian cycle theory predictive power: the next major bust, 18 years after the 1990 downturn, can be forcasted to be around 2008, if there is no major interruption such as a global war. The enhanced Austrian cycle theory provides a research agenda that can test historical cases in more detail. The inclusion of real estate as the key higher-order capital good provides a more thorough and predictive explanation of booms and busts.

Note

1. The data from 1818 to 1929 are from Harrison (1983, p. 65), except for building data for the 1909-1929 period, which are from Hansen (1964, p. 41). Data for 1972-1989 are from *Statistical Abstract*, 1996, housing prices and "Value of New Construction Put in Place" reports of the U.S. Department of Commerce, Bureau of the Census. The land-value peak for 1989 is from the Board of Governors of the Federal Reserve *Balance Sheets For the U.S. Economy* (1991). The peaks for 2005 are inferred from various news media and from *Wikipedia* (2006).

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