

## CHAPTER SEVEN

### ***Real-Financial Linkages and Holding Securities***

*Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is different when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done.*

— John Maynard Keynes

The financial sector used to be (and still should be) the servant of the real side of the economy; instead, it has become the master, absorbing money and resources that could be invested in expanding real capacity but are now going into speculation. The modern financial sector has in effect become the monopoly supplier of money and credit. Yes, of course, money today is sovereign money, controlled by governments and administered by central banks, which also regulate the dispensation of credit. However, as anyone who watches the news or reads the papers knows, government control and regulation of the financial system is normally strictly vetted by the banks and financial institutions themselves, and is usually carried out by experts and administrators steeped in the ethos of that system. Its “monopoly character” is carefully protected.

“But!” our critics might cry at once. “The big banks all compete with one another, and there are many small, local, or specialized banks, and there is the nonbank ‘shadow’ system. All of them compete. At the very worst, it might be an oligopoly, but it’s certainly not a monopoly.” True enough. But real estate moguls compete too, as did the robber barons and the railroads in the late 19th century. When George spoke of the monopoly of the landowners, he meant that landowners *as a class* had a monopoly, just as banks and financiers, taken together as a group with common interests, have a monopoly today. In George’s time, he could speak of landowners primarily as a class of land-owning families, where the family patriarch would make decisions and manage (or at least monitor) the business; today, of course, we do still have large privately held fortunes that are passed on through inheritance. But the management of money—and real estate—is now handled by professionals working in a corporate setting. Money and finance, and now real estate too, have been professionalized, and are embedded in and managed by institutions rather than by private individuals and families.

And it is to this set of institutions that we—virtually anyone—must turn for money or credit. Even if someone “has money,” to mobilize liquidity, to make use of the money, it will usually be necessary to bring in a financial professional. If someone does *not* “have money” but needs it to start a business, or doesn’t have enough to finance an expansion, then the financial community will certainly be in the driver’s seat. To make a long—very long—story short, the transformational growth of the financial system has absorbed the real estate sector, and

now the control of money and credit has replaced ownership of land as the barrier preventing the spread of the benefits of increased productivity. The US financial sector has grown from a single-digit share of the economy to almost one-fifth since the end of World War II.

### **The Question of Real-Financial Linkages**

The foundation of the financial sector consists of claims against the earnings of the real side of the private sector, or title to the real productive facilities and inventories of capital and consumption goods of that sector. These claims are traded in markets for financial assets. It makes intuitive sense to think that the value of the productive capacity of the private real sector should be the same as the total value of the claims in equilibrium to that capacity<sup>30</sup>, a ratio known as Q:

$$Q = (\text{financial value of claims})/(\text{real value of productive assets}) \\ = 1$$

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<sup>30</sup> And what about Government bonds? Should they be counted among the claims against private capital? Taxes on the output and income of the private sector pay the Government's debt servicing. Government output consists of public goods and services, for which we have no adequate measures. But as Henry George pointed out, Government goods services are necessary for growth (and its externalities may account for the Equity Premium). In any case, for our purposes here, it doesn't matter which way we draw the accounts, so long as we draw them consistently: there will be a "normal" ratio of total claims to total real assets, and our analysis will describe the unstable and erratic fluctuations of Q around that normal ratio.

In fact,  $Q$  generally does not equal 1, and we will be concerned to explain why and what the implications are. However, we will define our concepts somewhat differently from the way they appear in studies of Tobin's  $Q$ , although we will continue to use the symbol " $Q$ ."

It should be clear that the financial sector is independent, on a day-to-day basis, from the "real" sector. The prices and quantities of stocks on the stock market are not closely tied to the operations of business. Put another way, the value of claims to a business does *not* directly depend on the degree of success of the current operations of that business—it may depend as much, or more, on the opinions of players in the stock market about what average market opinion regarding that business will be. It could be said that a key feature of the "post-George" financial system is that in day-to-day operations it is strikingly independent of the real economy, and along with this, it is widely given to speculation. Of course, any investment involves making a gamble: for instance, betting on the success of a new technology (a matter of science); or that you can outcompete a rival (a matter of business acumen); or that consumers will love the new product (a matter of design). In each case, the bet involves building or developing something. Now compare this kind of investment to betting on stocks and shares, which involves not building, but buying paper claims based (as Keynes famously noted) "on what average opinion thinks average opinion will be," or on what a statistical analysis says about the fluctuations of stock prices—in any case, nothing *real*, nothing that involves production or contributes to economic well-being, is involved.

It used to be that the purpose of the financial markets was to mobilize savings, and to package them so that firms could borrow them, or trade shares for them, to finance real-side investment. That is, banks and financial institutions and markets mobilized savings to build productive capacity, or to set up department stores and shopping malls, or to establish marketing, transport, or advertising services. Now, however, this sort of thing is said to comprise about 15 percent of total financial sector activity. The rest is competition for corporate control, or sheer speculation—especially speculation in real estate. As Adair Turner (2015) and Michael Hudson have shown, a very high proportion—ranging between 35 percent and 60 percent—of new bank lending is for the purpose of real estate dealing, not for investment in new enterprise or additional capacity.

The real sector—production, income payments, both household and business expenditure, and savings and investment—is usually, following Keynes, seen as connected to the financial sector through the long-term interest rate on loans to finance investment. This is much too simple, and is based on an inadequate conception of interest rates—spreads are sometimes as important as levels. Moreover, there have been many unsound ideas or poorly defined relationships suggested to explain how financial markets interact with the “real” economy. Keynes accepted the idea that interest rates influenced investment to a degree that does not seem to have been consistent with the evidence even then, let alone today. Friedman famously claimed that the quantity of money directly affected demand—with an unexplained “variable lag”—and that the resulting impact of demand would

affect both real income and the price level. The determinants of the split between the two were never clarified, but the price level effects were expected to morph into inflation. Patinkin maintained that “real balance effects” (where an overall fall in average prices during a downswing raises the value of money) could or would restore full employment (because money holdings would now be worth more, which should promote spending by households and business). But with a general fall in prices the burden of debt is now greater, which should lead to belt-tightening. In any case very little convincing evidence can be found for the claims. All these ideas were immensely influential but they were not well grounded in theory, nor were they clearly evident in statistics, as the endless disputes showed.

In elaborate models, there will also be effects running through short-term money market loans for working capital (Asada, et al, 2010; Semmler, (2017). “Töbin effects” come from the feedback into expectations for the next period or periods, resulting from the change in levels of activity in the current period. A rise in activity in the current period will often lead to expectations of further rises in the future. Such expectations for the real economy then lead to expectations of a rise in the value of stocks and shares. A rise in the stock market, in turn, is likely to stimulate further spending both by households and by businesses—a pattern of interaction that could become a self-sustaining bubble.<sup>31</sup> Bubbles, indeed, appear to develop quite regularly. We know how bubbles work—that is, how they sustain themselves—but

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<sup>31</sup> George examines this kind of self-reinforcing expectation cycle with respect to land values in book 4, chap. 4, of *Progress and Poverty*.

we have hardly any idea why they emerge in the first place. However, our analysis of rents may be able to shed some light on this matter.

But for now we must examine the working of today's financial system. How and why are stock and bonds issued, how and why are they held? And what is the ratio between them, that is, what is the debt structure of the economy—and why does it matter?<sup>32</sup> We will see that while D/E is a financial variable it requires real resources to establish and maintain it.

### **The Financial Sector: Portfolio Holdings of Securities**

To study the financial sector, we need to examine both the bond market and the stock market; we need to know how the ratio between the two—the debt/equity (D/E) ratio—is determined, and whether and to what extent it is stable. To do this we need to show how the short-term market differs from the long. It has to be shown that portfolios will always be adjusted so that all

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<sup>32</sup> Modigliani and Miller in a famous series of papers claim that capital structure does not matter and that an optimal debt-equity ratio does not exist. But their alleged “proof” of this assumes that, although there is uncertainty, markets are “perfect,” and all investors have the same full information and form the same expectations, including the shared expectation that all current profit streams will continue indefinitely, unchanged, i.e. no defaults. In fact, markets fluctuate all the time, in waves of optimism and pessimism, and default risk is serious. Moreover, equity is ownership, and the question of “diluting ownership” is important in deciding to issue stocks. M-M is divorced from reality. (Allen, 1985)

securities properly issued will be held voluntarily. If not, the securities in question will fall to zero and the issuing firm will cease to exist, go bankrupt, or be reorganized.

To explain the debt/equity ratio we can consider a firm in the market for funds for fixed capital, planning to invest and build capacity; it will be a borrower, an issuer of securities. On the other hand, there are portfolios that hold securities—that is, they are lenders as well. When interest rates are low compared to returns on equity, borrowers will want to issue debt; when generalized risk is low, issuers will be motivated to maximize leverage. Both these factors will promote the issue of bonds rather than equities, but as interest rates and risk increase, there will be a shift in preference in favor of equities. So, for issuers, the ratio of bonds to equities will fall as interest and risk increase. By contrast, portfolios, desiring earnings and being risk averse, will favor holding bonds when risk is high, shifting to equities as risk decreases. For portfolios, the desired ratio of bonds to equities will rise as interest and risk increase.

There is a relationship between the issuing of debt—borrowing—by private firms and the willingness to purchase and hold securities by portfolios to finance investment and other activities, including buybacks and other borrowing to rearrange holdings. As shown in Figure 7.1, at low levels of interest relative to stock earnings<sup>33</sup> the preference for debt will be high (the

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<sup>33</sup> Under some circumstances interest rate differentials could lead firms to issue more debt in relation to equity. Suppose short-term interest rates were unusually low; a firm might choose to take advantage of this and increase its short-term borrowing.



upper intercept on the vertical axis), but it is then likely to fall rapidly, as interest costs become a factor; however, even at interest rates that are high compared to equity returns, issuers will not want to dilute ownership too greatly. If risk declines, firms will issue more debt, increasing their leverage. The shape will be an inverse sigmoid.

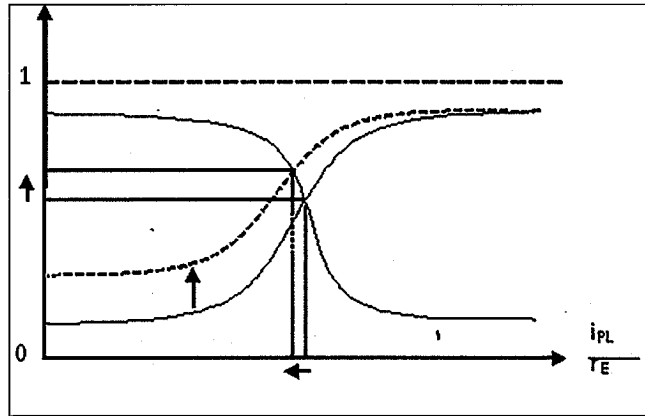


Figure 7.1. The Issuing and Holding of Debt and Equity

Now look at the holding of debt in private portfolios. The lower intercept on the vertical axis shows the debt-over-equity level that portfolios will hold regardless of the interest rate level. Portfolios will not accept much debt until interest rates rise significantly, at which point they will take it on rapidly, but even at very high rates they will still keep stocks. Diversification will be important both for issuers and for holders of securities. If risk rises, portfolios will hold more bonds in relation to

equity—since bonds are generally less risky than equity. Only in extreme conditions will portfolios exit both bonds and stocks for money, since money offers zero return (but also zero risk, in non-inflation periods.)

In the long-term market the interaction between business issuers of securities and portfolio holders of securities will determine the ratio of private bonds to equities, and the ratio of private long-term interest to the equity return, subject to the levels of generalized risk—other things being equal, of course.<sup>34</sup> Speculators will tend to bring these in line with one another. In the short market, private, short rates and government short rates should differ only in risk.

These two equations together will solve for the D/E ratio and the ratio of long-term interest to equity return, subject to an acceptable level of risk. If risk rises above a critical level, portfolios will shift away from equity; that is, the lower sigmoid curve will shift up, showing that greater risk means a given ratio of long-term interest to expected equity return will be associated with a higher ratio of debt to equity.

The argument here is perfectly general. All of these calculations can be repeated for the short-term debt/revenue ratios of businesses, for the D/E ratios of financial companies, and for various other kinds of business. Borrowers—issuers of securities—must make calculations of risk and reward; lenders—buyers of

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<sup>34</sup> When we know the ratio of debt to equity, we can apply it to planned investment plus existing capital to get total debt, so that, given the long-term interest rate, we can calculate the present value of the stream of payments issuers will offer to portfolios.

securities—have to make corresponding calculations from the opposite side. This then establishes the normal or target ratio of debt to equity. (In these equations, the price level cancels out.) We will see that such a D/E ratio plays a role in financial adjustments.

### **The Securitization of Rents**

Rents are flows of income, guaranteed by contracts. We commonly think of rents as monies paid to landlords, and many are. But business rents and, increasingly, those from family housing are paid to corporate entities in the real estate business. These corporate entities issue common stocks and bonds—claims to share in the rental incomes. In short, rents have become increasingly securitized.

#### ***Portfolios***

If we retain the assumption that interest is paid and debt is issued but that no dividends are paid, while stock prices rise to reflect the investment of retained earnings, then existing stock simply continues to be held. In the normal case, this was sufficient. If the stock was desirable in the past it will still be in the present, since nothing has changed.

This is certainly not the only plausible case when we consider market behavior. Conditions have, or may have, changed, and the stocks could be sold, so why do portfolios continue to hold them—perhaps they don't want to buy bonds, but why do they hold on to stock? Portfolios could always sell the stocks

and hold money instead. To show that securities are held in the desired ratios and amounts, it is necessary to show why securities are held instead of money. Money, of course, offers no return (except the "liquidity premium"), but in the absence of inflation it is safe, whereas securities have default and market risks. Government short securities, however, have utterly minimal risks, and may be considered a risk-free asset, although in the absence of inflation money is the most assuredly risk-free asset.

One answer would be that the entire portfolio should be considered in the light of the best available balance between risk and returns. Money is the safest, government securities next, then private bonds, then equity. But equity will give the highest returns, and so on back down the list, to money, which yields no return. However, we must be careful talking about an "aggregate portfolio," as if there were some identifiable decision makers who would determine the risk-return profile required to "hold" the aggregate of existing securities. Decisions are made that do result in the holding of all securities issued (or in not issuing securities that will not be held at an acceptable price). But an "aggregate portfolio" is misleading. The aggregate is made up of two or more distinct groups of smaller portfolios, designed with specific objectives in mind. Working capital must be financed by short-run advances, while fixed capital (plant and equipment) and pensions must be financed by appropriately timed long-term securities—timed so that they will come due at the date when the old machines and workers retire.

Business borrowers need funds for working capital, which they turn over quickly. Firms need short-term advances, because

they need to adjust their obligations to changes in the market. As demand changes, the need for working capital, especially funds for wages, will change accordingly. Banks and money market institutions lend short term because they face potentially large liquidity demands. And, of course, they are an important part of the payments system. As for fixed capital, corporations and investment banks—as well as trust institutions and pension and other funds—hold corporate bonds and equities, and derivative instruments, as part of financing real investment. These lenders have definite needs that must be met at various dates in the future; failure to have funds on those dates may cost them much more than a financial setback—they may lose their competitive position in the real economy. This applies to borrowers as well: producers of fixed capital borrow funds to tide them over between widely spaced selling dates.

Note that long-term financial investors do not do a lot of short-term business, and money market institutions are careful about how deeply they delve into long-term investing. (Glass-Steagall in 1933 was designed precisely to keep these two apart, and the 1999 repeal has seen them come together again, with predictably unfortunate results.) Both sides have to be careful to avoid “maturity mismatches.” Matching maturity to requirements for funds avoids market risk. That is, capital losses due to market fluctuations cannot upset the payment schedules; the funds will be available in the right amounts on the due dates (subject still to default risk). But if a long bond were replaced by a succession of short ones (rolled over), a rise in interest rate in the interim period could lead to a capital loss,

creating a shortfall. Likewise, a short-term need covered by a long-term bond to be sold before maturity could be derailed by a collapse in bond prices. In each case, a bond falling due for the right amount at the right date avoids market risk.

But there are speculators and hedge funds that operate in both long- and short-term markets, looking for arbitrage opportunities. These will tend to keep the two main sets of portfolios in line with each other.

### ***Indifference Curves Showing the Degree of Optimism in the Market***

Now let us examine the conditions for holding the whole aggregate of securities. This is a special construction for a special purpose. The generalized portfolio level of risk and the portfolio rate of return are not relevant to any of the other variables. The private long-term interest rate and the rate of return on equity (including the appreciation rate) are relevant, but then so too are the private short rate and the government rate. An aggregate average rate on the whole portfolio does not enter into anything—not into bank capital, nor real investment, nor equity growth. The only point of this construction is to show that *all securities issued will be held*, and if their yields are not high enough to justify holding them, then their prices will fall until they are.

We can imagine an aggregate “risk aversion” function (a kind of utility function) that shows the conventionally agreed-upon degree of risk aversion; that is, it exhibits the desired relationships between the safety of a portfolio of securities and the expected return, as understood by the market. It shows the

relationships between safety and earnings that the market would consider reasonable; a portfolio manager would not be criticized for exhibiting these preferences. They can be expressed by indifference curves showing the trade-off between returns and risk that would leave investors satisfied

The function  $U(\dots)$  can be displayed as a set of indifference curves, each of which exhibits the locus of combinations of returns and safety adjustment factors that will provide the same level of risk-adjusted expected earnings. This is not meant to be purely subjective; it is, rather, the consensus view of acceptable risk, and it depends on the general degree of optimism prevalent in markets. Along these indifference curves, successive unit decreases in safety will have to be compensated for by increasing increments of earnings, in order to stay at the same level of expected earnings. Therefore, we can define the marginal rate of substitution; as risk increases, marginal earnings must rise to compensate.

Generalized optimism or pessimism can lead to a shift up or down in the indifference curves (or to a change in the curvature), and this can affect the whole complex of security yields. A rise in optimism leads to a willingness to take on more risk to pursue higher returns, and the curvature flattens out to the right. Larger increases in risk will be accepted in order to gain a given rise in returns. A rise in pessimism brings the opposite; only large increases in returns will justify accepting more risk.

### *Markowitz Portfolios*

The objective is to show that the entire volume of existing securities will be held in portfolios; that is, interest rates and portfolio holdings must be adjusted so that all securities are held. Further, these portfolios must be "efficient"; that is, they cannot be profitably rearranged. (They are sometimes called "Markowitz portfolios.") Such a portfolio shows the relationship between risk as conventionally measured and expected returns. The portfolio would be the complete set of securities under discussion: public short, public long, private short, and private long. For each level of risk there would be various combinations, one of which would be dominant; the locus of these dominant or efficient portfolios is the Markowitz set. This construction can be shown as a curve rising from left to right at a diminishing rate; that is, as risk increases, expected returns increase but at a decreasing rate. So as risk increases, marginal earnings fall.

However, the idea of an aggregate portfolio is too great a stretch. We saw earlier that the working capital/short-term market and the long-term fixed capital markets had good reason to stick with their maturity profiles. Speculators could combine the two portfolios, each of which may also wish to hold risk-free assets or money. In that case, we can draw on models of capital asset pricing.

Combining the constructed portfolio with a set of indifference curves showing the generally accepted trade-off between risk and return, as defined by the degree of optimism in the market, then will allow us to argue that all securities issued would be held and that their prices would adjust to ensure their acceptability



(Figure 7.2). This means finding the point of tangency where the (rising) marginal rate of return on the indifference curve at that point equals the (falling) marginal rate of return on the Markowitz curve. This would appear to strike an optimal balance of risks and returns for the representative portfolio.

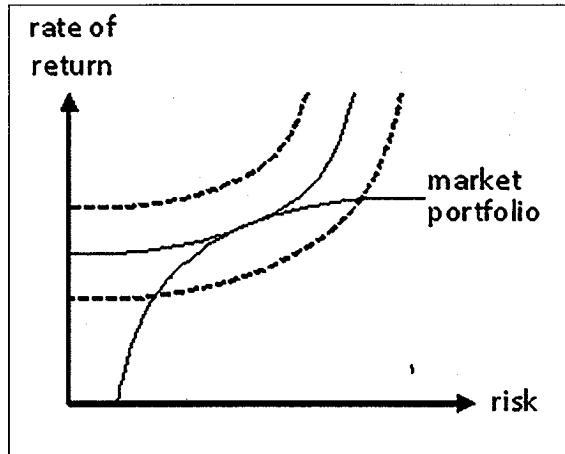


Figure 7.2.

This determines the rate of return on the “marginal” portfolio, and the level of risk associated with that portfolio. But neither that rate of return nor that level of risk is of any actual interest here; the importance of market portfolio analysis is that we can show that all the securities issued will be held. That is, an examination of the overall holdings of all four categories of securities—short-term private and government, and long-term private and government (see Appendix, below)—shows that all

securities, existing and newly issued, will be absorbed by portfolios. Therefore, unlike in George's era, land values and their associated rents are now incorporated into portfolios—that is, they are securitized.

***A Cautionary Note***

Not so fast! There is an asset free of default risk: short-term government securities. Hence, a point can be identified on the rate-of-return axis where all funds are invested in the risk-free asset. A line from this point, with a slope equal to the risk-free interest rate, that is tangent to the efficient portfolio picks out the optimal point on that portfolio, and the line itself displays

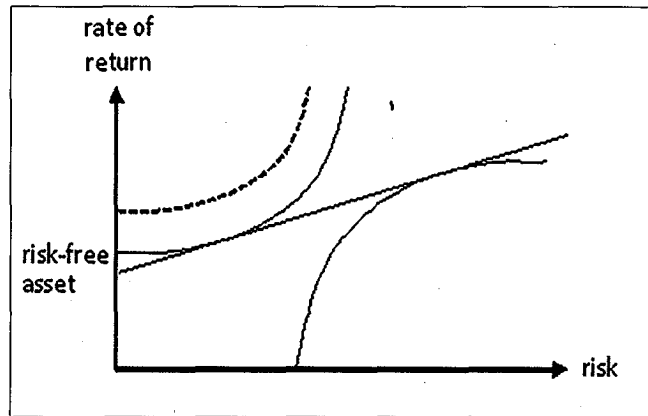


Figure 7.3.

all the linear combinations of the risk-free asset and the optimal portfolio. This will be the chosen point, the equilibrium. Even

though this line will in turn be tangent, at some point, to the indifference curve—indicating the best combination of securities, risky and risk-free, in light of the market's general degree of optimism—*that point is irrelevant*. This is known as the “separation theorem”: the chosen point is independent of the indifference curves, that is, of the portfolio manager's attitude to risk (Allen, 1983).