

# Credit Veils and Credit Realities

by William Poole\*

Ben Bernanke's paper has given me an opportunity to dig into a line of literature I had not followed closely. I had always felt that credit views of the business cycle were misleading because they confused surface appearances with underlying economic forces. Moreover, separating real and credit effects is difficult, even conceptually, because spending by economic units is subject to a budget constraint. Given income, for example, a decrease in a household's purchases of goods is the same thing as a decrease in its net sales of financial assets.

I learned a lot from reading Ben's paper, but when I finished it I felt that I had little understanding of the implications of credit for the business cycle. To my taste, Ben makes too many references to what "may" or "might" happen and not enough to what is likely to happen. I won't claim that credit effects are literally zero, but I would like to see at least some back-of-the-envelope calculations indicating how important these effects might be. Also, I need to make the argument simpler and more abstract to zero in on the essential elements.

My ruminations start with the gains from using money over barter. These efficiency gains are so great that even primitive economies use money. Every economy has established monetary conventions and institutions that people employ every day but do not really understand. Money is like the operating system on my computer. When the system crashes, most useful work stops. I can still do a little with pencil and paper, but not very much.

After World War II, disruptions to the payments system had little or nothing to do with the business cycle in the United States or other countries belonging to the Organization for Economic Cooperation and Development. I can relate this observation to Ben's discussion of evidence on the effects of banking panics. I think his

argument is sound; a banking panic has effects that are larger than those flowing from the decline in the quantity of money per se. When payments cannot be reliably made or received, sellers of goods do not want to part with goods for money, or what had worked as money before the panic. Potential buyers find that what had worked as money is less useful than before in purchasing goods. Sudden destruction of confidence in an economy's money has effects like throwing sand in machinery. Restoring or replacing a monetary system is not an easy task, and output falls until the monetary system begins to function reliably once again.

My interpretation of Ben's argument is that credit effects work something like these monetary effects. To analyze credit effects, let's start at the beginning. A consumer's optimization problem is to maximize expected utility subject to a budget constraint. The utility function has as arguments consumption in the current period and all future periods over the relevant horizon, which I'll assume for present purposes is the consumer's lifetime. The budget constraint is that the present value of outlays cannot exceed the sum of beginning wealth and the present value of expected future income receipts from all sources. This simple picture will do for present purposes. Firms face a similar problem; I'll assume that the objective is to construct an investment plan that maximizes the present value of the firm. This value depends on households because they are the ultimate wealth holders and their behavior determines the prices of securities issued by firms.

The solution to any given agent's optimization problem may yield current outlays for goods that are either above or below current income receipts. The credit markets permit deficit units to borrow from surplus units, to the benefit of both. Just as money is extraordinarily efficient relative to barter, so also is the use of credit relative to an economy in which each economic unit is constrained to a flow of outlays matching its flow of income receipts. In real terms, an economy's saving

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can only take the form of investment in physical capital. A frontier farm, in which the consumption and production units are the same, can save by investing labor in clearing land, for example. But when firms and households are separate units, household saving requires that the household accumulate claims on firms; capital flows from households to firms are unavoidable. Ben is right to emphasize the importance of the recent literature exploring these issues for deepening our understanding of resource allocation and economic growth. But the role of credit markets in the business cycle is a different matter.

How do we separate credit disturbances from real disturbances? If firms decide to invest less, they are simultaneously deciding to raise less financial capital. The IS-LM model treats the financial market as the redundant market. However, the model would work in the same way if it excluded the goods market and kept the financial market. Behavior in the goods market, such as investment demand, is simultaneously behavior in the financial market.

Consider the credit controls in 1980. These were called "credit controls," but most of the effects came not from controls *per se* but from a voluntary consumer response to reduce spending. If President Carter had simply appealed to consumers to reduce their spending and the response had been the same, then there would be no issue about how to categorize what happened. A downward shift in the consumption function simultaneously reduced demand for consumer credit. What really drove this situation was consumer behavior in the goods market. The credit controls were too weak to have any real effect; if consumers had wanted to ignore them they could have.

Even when credit market interventions have undeniable effects on particular agents, the macro effects are often unclear. Reduced credit availability for some borrowers releases credit for other borrowers. The net effect on spending in the goods market is smaller than the identified effect on particular borrowers. I am usually suspicious of claims for macro effects of credit problems because the identifiable effects are usually obvious whereas the offsets are typically diffuse, small for any one agent, and difficult to identify. But in the aggregate these small effects may add up to offset completely the identifiable negative effects.

Consider an artificial example that illustrates a "pure" credit market disturbance. Suppose the government, in its wisdom, were to declare that all outstanding debts of those with the last name "Poole" were canceled, effective immediately. Poole families enjoy a windfall gain in wealth; they recalculate their optimal consumption plans and presumably raise current outlays. Poole creditors suffer losses; they recalculate their optimal con-

sumption plans and presumably reduce current outlays. The effect on aggregate consumption in this period depends on the consumption behavior of Pooles versus Poole creditors; economists usually assume that these distribution effects are small or zero.

A credit disturbance of this kind has no substantial aggregate effect. A model that ignores the financial sector yields the right answer in this case. The financial claims within the economy net out to zero. What is important is the inheritance of physical wealth and the implications for current spending of the optimizing plans of the economy's firms and households. The credit markets are essential to permitting the economy to realize its plans, but not to understanding how these plans change over time and how those changes relate to the business cycle.

I think that hypothesized credit market effects are often simply one side of a wealth redistribution. Ben refers to balance sheet improvements arising from lower interest rates. Assuming floating rate or callable debt, lower interest rates reduce debtors' flow of interest payments. However, creditors have a reduced flow of interest income. Ben focuses on reduced interest payments; television news stories focus on retired people living in Florida whose interest income has declined. I focus on both and call it a wash, as a first approximation.

I am yet to be convinced that recent problems in the banking industry are anything more than one side of a redistribution that has little macro effect. Bank loan growth has been sluggish, and banks have not been aggressive in selling certificates of deposit (CDs) to finance bank credit expansion. Where have the funds gone that under other circumstances would have been placed in CDs and intermediated as bank credit? Perhaps through a chain of substitutions, the funds have gone to venture capital, or into the initial public offering market, or a zillion other places. It simply isn't obvious to me that creditworthy borrowers have been unable to find capital. Much of the complaining has come from the real estate industry, but I think we should be pleased that our credit markets have cut back credit for this industry. Indeed, the puzzle is why the cuts didn't come sooner following the Tax Reform Act of 1986 and the evident accumulation of excess capacity in commercial real estate.

Let me now extend my Poole-debt illustration. Suppose this government action led to widespread fear that *all* debt claims, past and present, would be canceled. The previous optimizing behavior of households and firms would no longer be possible. The effect on the economy would be similar to that discussed earlier in the context of a monetary disruption that destroyed confidence in money. Surplus units would presumably

spend more on goods than otherwise and accumulate money and equity claims in lieu of debt. Deficit units would be compelled to bring outlays in line with current receipts unless they could be financed with equity. Households, though, can't sell equity in themselves. Without question, aggregate output would fall substantially. The issue is whether disruptions of this kind play any significant role in the business cycles we observe.

I think the answer is probably "yes" in the context of severe cycles of the type Irving Fisher discussed in his debt-deflation theory. By 1933, private credits in general had become highly suspect because potential buyers of private credits doubted that they could be repaid. As Fisher emphasized, the risk premium rose substantially, so that the real rate of interest on private credits became prohibitively high for many or even most private borrowers. The normal process of credit flows from surplus units to deficit units was severely disrupted.

Can these effects be analyzed within a model that ignores the credit markets? Consider a representative agent that is a combination firm-household in a model without a credit market. The agent reduces purchases of new capital goods because of a decline in the prospective real yield from new investment and/or an increase in uncertainty over the yield. These are the same conditions that in the credit markets make it difficult for firms to issue bonds to finance new investment. Given that money is still in the model, agents must be concerned with the future price level because holding more money instead of more physical capital is an option.

What is really driving behavior in the goods market in this case is reassessment of the expected future income stream that is so important in determining current behavior through the mechanism of the intertemporal budget constraint. Fisher's debt-deflation argument and Keynes both emphasized the importance of expectations about the future. The other paper in this conference, by Cantor and Wenninger, also emphasizes changes in expectations, especially with respect to inflation. Ben says essentially nothing about expectations.

Ben does not, it seems to me, draw a sharp enough distinction between the role of new credit and inherited credit. He emphasizes that outstanding credit may affect firm performance and productivity, but also that any such effects must be distinguished from business

cycle effects. He argues that a heavily indebted economy is less stable, but I think his analysis of the redistribution from debtors to creditors is incomplete.

I believe that prospective defaults have macro implications precisely because they are *not* simple redistributions. Creditors are obviously poorer as debt declines in market value because investors raise their estimates of probability of default. Debtors, however, do not believe that they are better off to the same degree, because they want to avoid default. With bankruptcy, debtors lose control of the physical capital they own; they also lose reputation and suffer reduced opportunity to borrow in the credit markets in the future. Debtors view their debt as the original nominal obligation and not as the obligation depreciated by fear of default. As Fisher emphasized, debtors trying to save themselves accelerate the decline in the price level as they sell off goods to raise funds to service debt. For the economy as a whole, however, the decline in the price level makes the debt-deflation problem worse.

The effects of unanticipated inflation are not symmetrical with those of unanticipated deflation. Unanticipated inflation may reduce the risk of default slightly by decreasing the real burden of debt, but the primary effect is the redistribution of wealth from creditors to debtors. However, macro effects may arise from this redistribution because firms are net debtors and the business of firms is entrepreneurship and risk-taking. Thus, with a rising price level depreciating the real value of outstanding debt, wealth is systematically transferred from more to less risk-averse agents. Firms can readily finance new investment, and firm managers are disposed to do so.

Ben's analysis, and my own ruminations, have convinced me that the propagation of monetary effects depends on the amount of credit outstanding. However, the essential features of the story arise from *unanticipated* changes in the price level. Inflation and inflation instability affect the economy in many subtle ways. Business practices change when inflation is persistently rising, and change again, as Karen Horn reminded us this morning, when inflation is persistently declining. In sum, I think it is hard to tell a convincing story that in practice large credit effects per se contribute significantly to business cycle fluctuations. The cycle is driven, I believe, by inflation surprises and revisions in expectations about future income streams.