

# Econ 115: Lecture for October 6, 2009:

## The Great Depression II

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### **Administrivia**

1. iClicker list—will email people who still aren't in the system and having you come by Tuesday before class to register...
2. Updated syllabus
3. Pushing off problem set 3 to October 16 as its due date...
4. i-House on Thursday...

### **A Little Macroeconomic Theory**

At this point we need a little macroeconomic theory. We could do Keynesian income-expenditure, or neoclassical synthesis aggregate demand, or Wicksellian natural and market rates of interest. But the quickest road to where we want to be—which is to understand both what is going on and why the Federal Reserve cannot fix it by normal means—is to go at the issue via the monetarist quantity theory of money.

But we could take any of the four roads and ultimately arrive at the same place. So what you are going to see is different from what you see in Econ 1 or 2 or 3 or 100b or 101b or IAS 107. But it is not inconsistent with it—it is fully consistent.

So let us begin with two things:

(a) The quantity theory of money:

$$(1) \quad PY = MV$$

(b) Robert Lucas's observation that when  $MV$  falls or substantially slows its rate of growth,  $Y$  falls as well—that:

[it] is not possible to pull a modern economy through a neutral or painless deflation. Economic theory doesn't really tell us why -- what's hard about it. But, the evidence, I mean, it just doesn't work...<sup>1</sup>

The quantity theory of money says that spending and demand are equal to the real quantity of money times the velocity of money. But that isn't enough. We know the quantity of money—the nominal money stock  $M$ . We know the price level  $P$ . We don't, however, know velocity. We need another equation to pin down the velocity of money  $V$ .

Back in the 1920s economists did not have very good theories of the determinants of velocity. Now we know that velocity depends on a number of things. Let us partition them into a set  $Z$  and the short-term nominal interest rate on safe Treasury securities  $i$ ,<sup>2</sup> and write the quantity equation as:

$$(2) \quad PY = MV_Z(i)$$

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<sup>1</sup> Robert Lucas (2009), "Why a Second Look Matters" (March 30) <<http://tinyurl.com/dl20090407a>>.

<sup>2</sup> See Milton Friedman, ed. (1956). *Studies in the Quantity Theory of Money* (Chicago: University of Chicago Press) <<http://tinyurl.com/dl20090407b>>.

Why the short-term nominal interest rate on safe Treasury securities? John Hicks puts it best:

On grounds of pure value theory, it is evident that the direct sacrifice made by a person who holds a stock of money is a sacrifice of interest; and it is hard to believe that the marginal principle does not operate at all in this field. As Lavington puts it:

“The quantity of resources which (an individual) holds in the form of money will be such that the unit of money which is just and only just worthwhile holding in this form yields him a return of convenience and security equal to the... net rate of interest.”

The demand for money depends upon the rate of interest!...

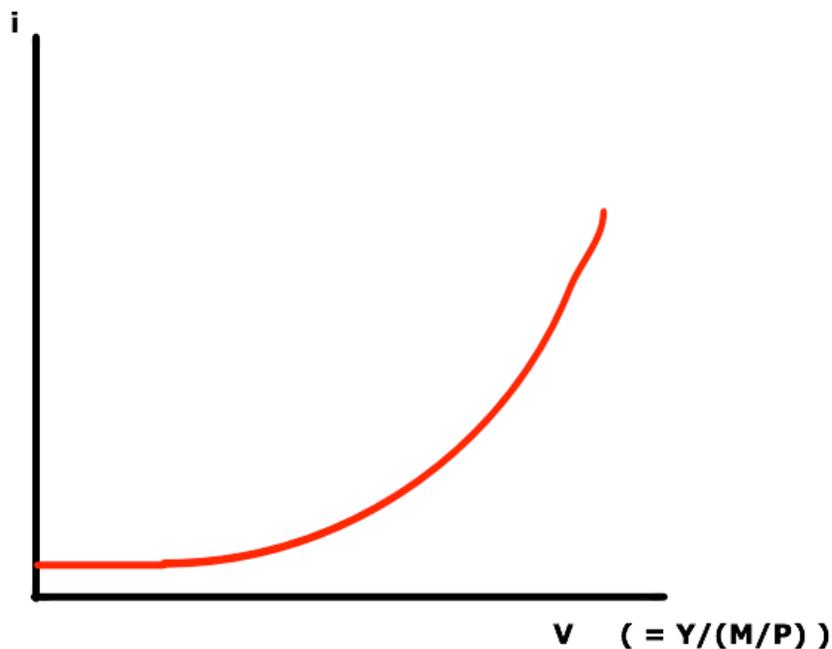
It is not only possible to show that a given supply of money determines a certain relation between [national] income and interest... it is also possible to say something about the shape of the curve. It will probably tend to be nearly horizontal on the left.... If it lies to the right, then we can indeed increase employment by increasing the quantity of money; but if it lies to the left [and short-term safe interest rates are at their minimum], we cannot do so; merely monetary means will not force down the interest rate any further...

We can say two things about this  $V$ :

- When  $i$  is very low, Treasury securities and cash are then very close substitutes, and small changes in the relative price of close substitutes produce large changes in quantities demanded—large changes in  $V$ . This is not rocket science: this is just supply and demand.
- When  $i$  is high, the interest elasticity of money demand will be low—will be near zero. When one has done all one can to economize on one's money holdings because of the foregone interest incurred by keeping extra cash balances, there still remains an irreducible minimum cash-in-advance constraint.

Thus we can plot velocity against the short-term nominal interest rate on Treasury securities, and the graph will look like Figure 2: very flat when  $i$  is low, very steep when  $i$  is high. And we will then simply multiply velocity by  $M$  to obtain nominal demand  $PY$ .

### Velocity and the Interest Rate

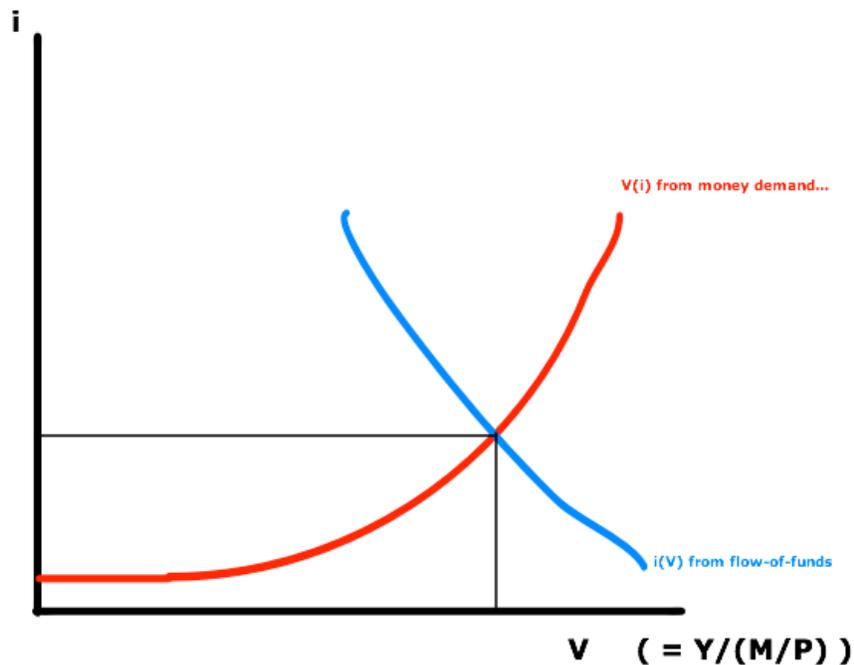


It is clear that even if we know the money supply  $M$ , the form and parameters of  $V$ , and the variables  $Z$ , the bare quantity theory does not give us enough information to calculate what the level of nominal spending and demand  $PY$  will be. We need another equation to somehow pin down the level of  $i$ .

The natural place to go for this equation is the flow-of-funds through financial markets. Interest rates important not just in the money

market—not just as a factor affecting the demand for the stock of money balances. They are also important as a factor affecting the flow of financial funds as well.

### The Level of Velocity



Of households savings  $S$  some are used to finance the government's budget deficit  $G-T$  and the rest, are committed to financing businesses' investment spending  $I$ :

$$(4) \quad S = (G - T) + I$$

The demand from businesses for funds to finance investment will depend on the level of asset prices  $A$ —the higher are asset prices, the easier the time businesses have raising finance to expand or to carry out operations.

Asset prices  $A$  are in turn are a function of a set of other variables  $X$ —risk, inflation, confidence, et cetera—and our friend the short-term safe nominal interest rate  $i$ :

$$(5) \quad I = I(A_X(i))$$

The supply from households of savings  $s$  depend on their after-tax income: the higher is income  $Y$ , the more people want to save; the lower is income  $Y$ , the more people feel forced to draw down their savings:

$$(6) \quad S = S(Y)$$

Now we have what we need. The quantity theory gave us an equilibrium-in-the-money market curve relation between  $i$  and  $PY$ . If we take  $P$  as predetermined, the flow-of-funds through financial markets equilibrium condition gives us another relation between  $i$  and  $PY$ . And equilibrium for the economy as a whole is where the curves cross. (Note that this is not a supply-and-demand graph; this is an equilibrium-in-two-markets graph.)

### **Financial Crises: 1825, 1931, 2008**

But how is this useful in understanding what happened back in 1825—or 1931, or 2008? Think about a financial crisis. What happens as the prices of risky and long-duration financial assets fall? As they fall, banks go bankrupt and formerly-safe assets become worthless. Everyone tries to pull their money out of what are now seen as risky investment vehicles: the  $A$  that they are willing to pay for assets is less at each given level of  $i$ . Businesses find themselves unable or only with great difficulty able to raise money for expansion and operations. The blue curve moves back and to the left. So businesses cancel expansion plans, they cut back on operations, and production and employment fall.

## English Novelist E.M. Forster's Great Aunt Marianne

Let's turn the microphone over to English novelist E.M. Forster and his great-aunt Marianne Thornton. She is our eyewitness of the financial crisis of 1825 in Britain. E.M. Forster sets the scene:<sup>3</sup>

The [Thornton family] Bank... had... in 1815 it had passed out of Thornton control.... Henry [Marianne's brother in his mid-twenties] longed to join it... in 1825 he became an active partner... in Pole, Thornton, and Co. It was said to be yielding £40,000 a year...

which was as large a share of the British economy then as \$400M would be today. Pole, Thornton, and Company:

was regarded as one of the most stable and most extensive banking houses in London.... The active partner was Peter Free.... On the surface all was now serene. Young Henry must have stepped aboard the family ship with confidence and pride...

But within six months, as Marianne Thornton wrote from the family house at Battersea Rise to her friend Hannah More on 7th December 1825, young Henry Thornton had to earn his pay:

PRIVATE AND CONFIDENTIAL

Dearest Mrs. H.M....

There is just now a great pressure in the mercantile world, in the consequence of the breaking of so many of these scheming stock company bubbles...

Enthusiasm about new high-tech industries—like steam-driven spinning mills, and canals—had led to irrational exuberance on the part of investors, which had pushed stock prices too high, and then they had collapsed. For Pole, Thornton this posed a problem because they were overleveraged—they had not kept enough capital in the bank:

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<sup>3</sup> E. M. Forster (1956), *Marianne Thornton: A Domestic Biography, 1797-1887* (New York: Harvest), p. 109 ff.

...and [Managing Partner] Free had been inexcusably imprudent in not keeping more cash in the House but relying on that credit... which would enable them to borrow whenever they pleased....

Managing partner Free, it seems, had been confident that he could replenish the firm's capital if necessary whenever he wished. He was wrong:

Saturday however—that dreadful Saturday I shall never forget—the run increased to a frightful degree, everybody came in to take out their balance, no one brought any in; one old steady customer, who had usually £30,000 there, drew it out without, as is usual, giving any warning, and in order to pay it the House was left literally empty....

You have to understand what a bank is. You don't "put your money in a bank." The bank *borrow*s your money, promises to pay you interest and promises that you can get your money back whenever you want, and then lends your money out. The bank's profits come from its ability to (a) charge those it lends its money to more in interest than it pays you for borrowing your money, and (b) lend only to those who can and will repay. In normal times the "get your money back whenever you want" is not a problem, for when you want to take your money out of the bank somebody else will want to put their money in. In a financial crisis, however, things are very different: everybody wants to take their money out—to have the bank repay their loan to it immediately. Nobody wants to put their money in—to lend their money to the bank. And that immediately makes assets that are usually safe—bank deposits—risky as well.

Back in 1825, Henry Thornton's partners had nervous breakdowns:

Such a moment of peril completely turned Free's head; he insisted on proclaiming themselves bankrupts at once, and raved and self-accused himself.... Old Scott cried like a child of five years old, but could suggest nothing. Pole and Down were both out of town...

And so this guy in his twenties has to figure out what to do:

Henry saw it all lay upon him.... [H]e found that during the next hour they would have to pay thirty-three thousand [pounds], and they should

receive only twelve thousand. This was certain destruction, and he walked out, resolved to try one last resource.... John Smith had been... particularly kind to Henry... told him honestly he believed that they must break, and he could hardly expect him to lend it, but yet if he could get them on till five, it would be an inexpressible relief. John Smith asked if he could give his word of honour... that the House was solvent. Henry said he could. Well! then he said they should have everything they could spare, which was not quite enough tho', for they had been hard-pressed themselves....

[N]ever, [Henry] says, shall he forget watching the clock to see when five would strike, and end their immediate terror.... The clock did strike... as Henry heard the door locked, and the shutters put up, he felt they would not open again....

John Smith declared if Henry would make a statement of the accounts and prove their solvency, he would apply to the Bank of England for them. Henry had little hope form this, for the Bank had never been known to do such a thing in the annals of Banking....

[T]he next morning at 8 o'clock... [A]ll the Bank of England directors who were in town.... John Smith began by saying that the failure of this House would occasion so much ruin that he should really regard it as a national misfortune, and also that what he had seen of the conduct of one of the partners at a crisis... had convinced him that, could it be saved for the moment, it might be well managed in the future.... [H]e then turned to Henry and said, 'I think you give your word the House is solvent?' Henry said he could.... Henry then proceeded to tell them he had brought the Books.... 'Well then', said the Governor and the Deputy Governor of the Bank, 'you shall have four hundred thousand pounds by eight tomorrow morning, which will I think float you'. Henry said he could scarcely believe what he had heard....

He was off again in the dark on Monday morning to the Bank of England, where he found the Governor and Deputy Governor who for the sake of secrecy had no clerks there, and they began counting out the Bills for him. 'I hope this won't overset you my young man', said one of them, 'to see the Governor and Deputy Governor of the Bank [of England] acting as your two clerks.

He went back to the banking house £400,000 richer than he left it on Saturday. For the first hour there was a little run, but the rumours that the Bank of England had taken them under its wing soon spread, and

people brought back money as fast as they had taken it out on Saturday...

## **Understanding What Is Happening**

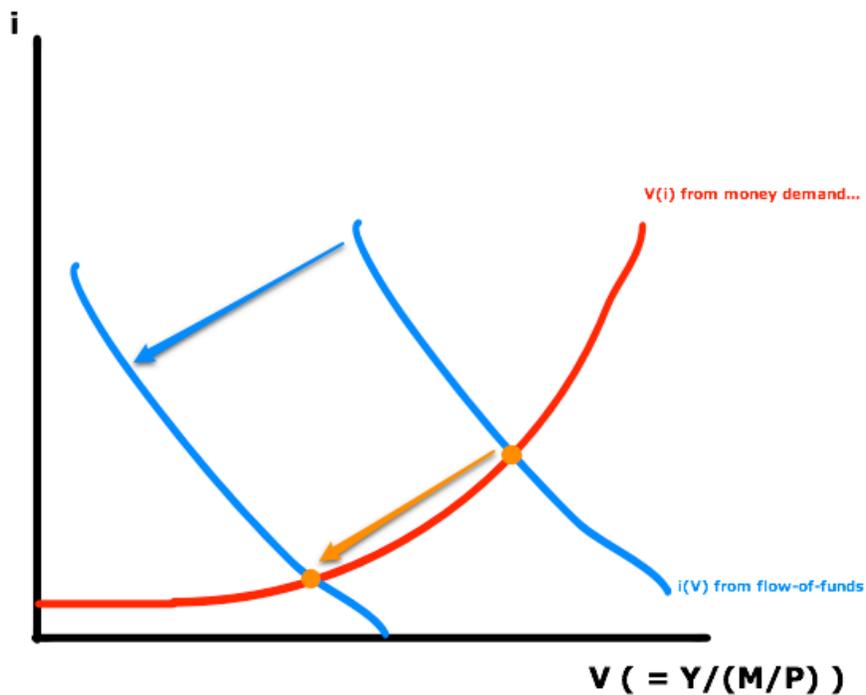
What is going on here is this:

- A recognition that there has been “irrational exuberance”: “the breaking of so many of these scheming stock company bubbles...”
- A corresponding sudden fall in the risk tolerance of the private market—everybody thinks that financial assets are now very risky things to hold, and so desired investment at existing interest rates and output levels collapses...
- The blue line moves down and to the left...
- A fear that banks that are not well-capitalized like Pole, Thornton which had “been inexcusably imprudent in not keeping more cash in the House but relying on that credit in them which had never been shaken, and which would enable them to borrow whenever they pleased” will go bankrupt because of the fall in asset prices—and incur the further losses associated with bankruptcy...
- And a further fall in risk tolerance—a run on the bank of Pole, Thornton...
- Which causes a further fall in the risk tolerance of the private market...
- And the blue line moves down and to the left some more...
- And the velocity of money collapses...

Now this would be of no concern to anybody (except Pole, Thornton and its customers) were it not for the systemic consequences of this fall in

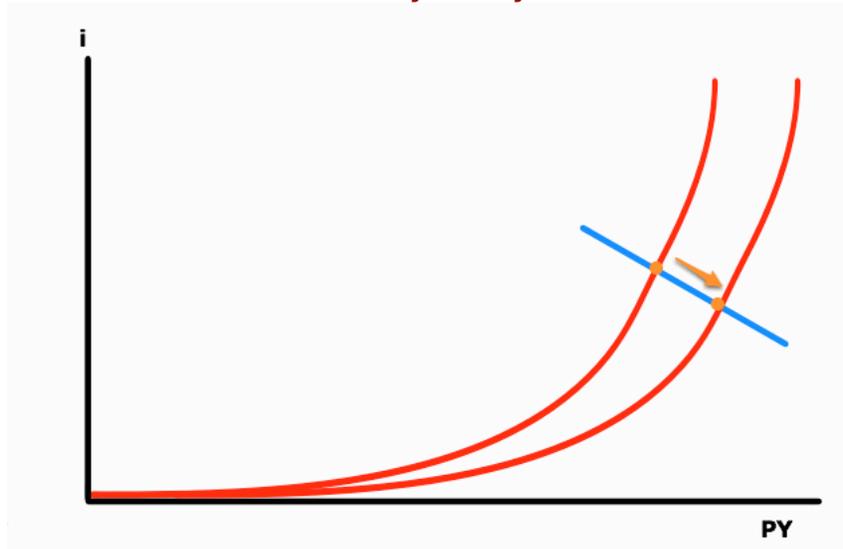
asset prices—the fall in safe interest rates as a result of the flight to quality produced by the sudden excess of the left hand side of (3) over the right at the previous short-term interest rate, and the consequent collapse of velocity.

### Consequences of the “Flight to Quality”



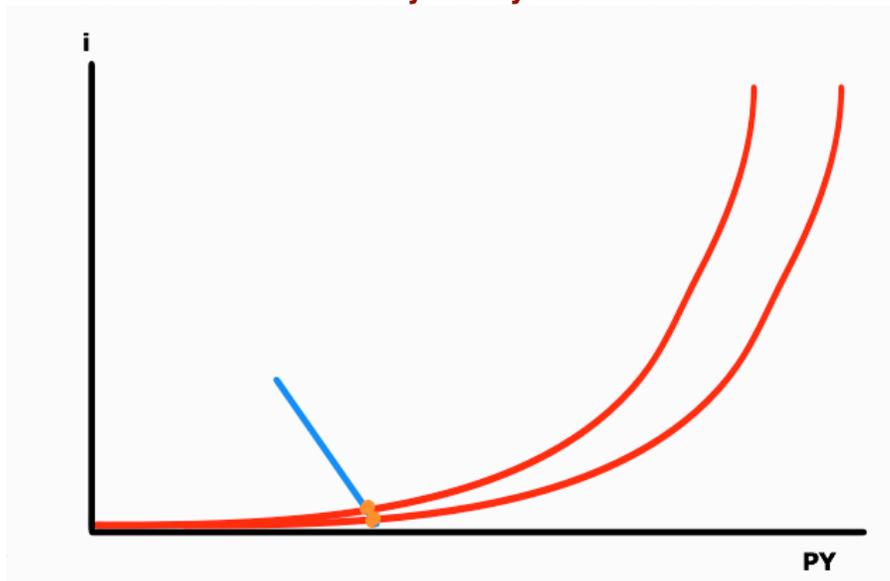
Here we have a subtlety. Normal monetary policy doesn't do any of this mucking-with-assets-and-guarantees business. The central bank just buy and sells bonds for cash, moving the money stock up and down. In normal times that is just fine for controlling the economy:

### Conventional Monetary Policy in Normal Times



But in a financial crisis things are quite different:

### Conventional Monetary Policy in a Financial Crisis



## The Bank of England Responds

Thus back in 1825 Cornelius Buller at the Bank of England—for the first time ever—does two things:

- It operates on M by expanding the money supply in the hands of the public M: “‘Well then', said the Governor and the Deputy Governor of the Bank, 'you shall have four hundred thousand pounds by eight tomorrow morning.' ... [I]n the dark on Monday morning [at] the Bank of England... he found the Governor and Deputy Governor who for the sake of secrecy had no clerks there... counting out the Bills for him. 'I hope this won't overset you my young man', said one of them, 'to see the Governor and Deputy Governor of the Bank [of England] acting as your two clerks...'” This would refloat the economy if velocity could be kept from collapsing further...
- It attempts to shift the blue flow-of-funds “IS” curve back to the right—by reducing risk by itself guaranteeing the liabilities of Pole, Thornton: “the rumours that the Bank of England had taken them under its wing soon spread, and people brought back money as fast as they had taken it out on Saturday...”

Pole, Thornton was only a small part of what the Bank of England did in the Panic of 1825. To quote from Bank of England Director Jeremiah Harman:<sup>4</sup>

We lent [cash] by every possible means and in modes we had never adopted before; we took in stock on security, we purchased Exchequer bills, we made advances on Exchequer bills, we not only discounted outright, but we made advances on the deposit of bills of exchange to an immense amount, in short, by every possible means

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<sup>4</sup>Walter Bagehot (1873), *Lombard Street*, p. 73  
<<http://www.gutenberg.org/etext/4359>>.

consistent with the safety of the Bank, and we were not on some occasions over-nice. Seeing the dreadful state in which the public were, we rendered every assistance in our power...

Did it work? Well, we expect an 8% per year increase in cotton consumption in Britain in this period. We only have a 3% increase in 1825 over 1824, and we have an 11% decrease in 1826 over 1825 (followed by a 30% increase in 1827 over 1826). Cotton consumption in 1826 was thus some 24% below trend. But thereafter it rebounded rapidly.

Why have I spent so much time back in 1825? Because, I think, here we see in its first appearance what we see in 1931 with two important differences—and also in 2008, with what he hope are no important differences.

First, fiscal policy on a large scale as a way of boosting the blue line up and to the right...

Second, since 1825, the first rule in a financial crisis has been for the government to rescue the banking system, to try to prevent or moderate or offset the collapse of risk tolerance, with the exception of the Great Depression. And that was this rule that was broken in the Great Depression. And that was why the Great Depression was so great.

## **The Great Depression: Suspension of the Rules** **The Depression in America**

The first instinct of governments and central banks faced with this gathering Depression began was to do nothing. Businessmen, economists, and politicians (memorably Secretary of the Treasury Mellon) expected the recession of 1929-1930 to be self-limiting. Earlier recessions had come to an end when the gap between actual and trend production was as large as in 1930. They expected workers with idle hands and capitalists with idle machines to try to undersell their still at-work peers. Prices would fall. When prices fell enough, entrepreneurs would gamble that even with slack

demand production would be profitable at the new, lower wages. Production would then resume.

Throughout the decline—which carried production per worker down to a level 40 percent below that which it had attained in 1929, and which saw the unemployment rise to take in more than a quarter of the labor force—the government did not try to prop up aggregate demand. The Federal Reserve did not use open market operations to keep the money supply from falling. Instead the only significant systematic use of open market operations was in the other direction: to raise interest rates and discourage gold outflows after the United Kingdom abandoned the gold standard in the fall of 1931.

The Federal Reserve thought it knew what it was doing: it was letting the private sector handle the Depression in its own fashion. It saw the private sector's task as the "liquidation" of the American economy. And it feared that expansionary monetary policy or fiscal spending and the resulting deficits would impede the necessary private-sector process of readjustment.

The "liquidationist" doctrine—that in the long run the Great Depression would turn out to have been good medicine for the economy, and that proponents of stimulative policies were shortsighted enemies of the public welfare—drew anguished cries of dissent from those less hindered by their theoretical blinders. The "liquidationist" view carried the day. Even governments that had unrestricted international freedom of action—like France and the United States with their massive gold reserves—tended not to pursue expansionary monetary and fiscal policies on the grounds that such would reduce investor "confidence" and hinder the process of liquidation, reallocation, and the resumption of private investment.

Thus governments strained their muscles to balance their budgets—thus further depressing demand—and to reduce wages and prices—in order to restore competitiveness and balance to their economies. In Germany the Chancellor—the Prime Minister—Heinrich Brüning decreed a ten percent cut in prices, and a ten to fifteen percent cut in wages. But every

step taken in pursuit of financial orthodoxy made matters worse. For once the declines in wages and prices in the Great Depression had passed some critical value, they knocked the economy out of its normal business-cycle pattern. Severe deflation had consequences that were much more than an amplification of the modest five to ten percent falls in prices that had been seen in past depressions.

When banks make loans, they allow beforehand for some measure of fluctuation in the value of the assets pledged as security for their loans: even some diminution of the value of their collateral will not cause banks to panic, because if the borrower defaults they will still be able to recover their loan principal as long as the decline in the value of the collateral is not too high.

But what happens when deflation reaches the previously never seen amount of thirty, forty, or fifty percent—as it did in the Great Depression? Banks become keenly aware that their loan principal is no longer safe: that if the borrower defaults, they no longer have recourse to sufficient collateral to recover their loan principal. If the borrower defaults, and if bank depositors take the default as a signal that it is time for them to withdraw their deposits, the bank collapses.

As Keynes, wrote, once banks realize that deflation has significantly impaired the value of their collateral:

...they become particularly anxious that the remainder of their assets should be as liquid and as free from risk as it is possible to make them. This reacts in all sorts of silent and unobserved ways on new enterprise. For it means that banks are less willing than they would normally be to finance any project...

In looking at the tracks of interest rates in the Great Depression, you can see a steady widening of the gap between safe interest rates on government securities and the interest rates that borrowing companies had to pay. Even though credit was ample—in the sense that borrowers with perfect and unimpaired collateral could obtain loans at extremely low interest rates—the businesses in the economy (few of which had perfect

and unimpaired collateral) found it next to impossible to obtain capital to finance investment. Thus the banking system freezes up. It no longer performs its social function of channeling purchasing power from savers to investors. As a result private investment collapses; falling investment produces more unemployment, excess capacity, further falls in prices, and more deflation; and further deflation renders the banking system even more insolvent. Moreover, not only past deflation but also expected future deflation depresses investment. Why invest now if you expect deflation, so that everything you would buy this year will be ten percent cheaper next year?

In the end the spiral of deflation will continue to depress the economy until something is done to restore solvency to the banking system, and break the anticipations of further falls in prices. A few economists understood this process at work during the Great Depression—Irving Fisher, John Maynard Keynes, R.G. Hawtrey—but they did not walk the corridors of power at the nadir of the Great Depression.

### **Golden Fetters: The Great Depression in Europe**

Countries without massive gold reserves that wanted to play by the rules of the gold-standard game did not have the luxury of even attempting to expand their economies, at least not until they abandoned the gold standard, let their exchange rates float freely, and so cast off their “golden fetters.” A government that wished to stimulate demand in the Great Depression would seek to inject credit and bring down interest rates to encourage investment. But additional credit would mean higher imports, and lower interest rates would encourage domestic investors to invest abroad. The result would be a balance-of-payments gap: economic expansion at home was inconsistent with gold convertibility. And few countries wished to abandon the gold standard at the start of the Great Depression.

There were exceptions that proved the rule. Scandinavian countries cast off their golden fetters at the start of the Great Depression, pursued policies of stabilizing nominal demand under the intellectual influence of

the Stockholm School of economists, and did relatively well. In Japan fiscal orthodoxy and budget balance were abandoned in 1931, when Korekiyo Takahashi became Minister of Finance. Industrial production in Japan in 1936 was half again as much as it had been in 1928; in Japan the Great Depression was over by 1932.

But these were unusual exceptions. Before World War I the major industrial economies might have had some freedom of action. Before the war major industrial countries' commitment to the gold standard was unquestioned. Whenever an exchange rate fell to the lowest "gold point", the bottom of the band and the point at which it was profitable to begin shipping gold out of the country, capital would flow in betting on the future recovery of the exchange rate to the mid-point of its band, making the central bank's task of maintaining convertibility easy.

In the 1920s, with governments under greater pressure from newly expanded electorates to generate prosperity, it was not clear that the country was committed to the gold standard. Speculators, instead, began to pull their capital out of a country facing a balance-of-payments deficit, on the principal that the loss they would suffer should the currency recovery would be dwarfed by their profits if they could take advantage of a full-fledged devaluation. With the growth of concern about currencies, central bankers wondered if the gold-exchange standard—by which they kept their reserves in sterling or in dollars—was wise. What if the pound or the dollar devalued? As the Great Depression gathered force, central banks fell back on gold as their principal reserve, increasing strains on the system.

One might have thought that those countries that had restored their pre-World War I parities would be immune from destabilizing speculation. Had not Britain returned to the gold standard at the pre-World War I parity precisely to give investors confidence that its commitment to the gold standard was absolute? But governments like Britain and the United States that had maintained pre-World War I parities found themselves lacking credibility. Because they had not experienced the 1920s as a decade of inflation, they lacked the tacit political consensus that inflation was to be

avoided at all costs. By contrast countries that had undergone inflation in the 1920s found for the most part that they had high credibility, and that their exchange rates came under little speculative attack.

### **The Credit-Anstalt**

Austria's major bank, the Credit Anstalt, was revealed to be bankrupt in May 1931. Its deposits were so large that freezing them while bankruptcy was carried through would have destroyed the Austrian economy, hence the government stepped in to guarantee deposits. The resulting expansion of the currency was inconsistent with gold-standard discipline. Savers liquidated their deposits and began to transfer funds out of the country in order to avoid the capital losses that would have been associated with a devaluation.

In order to keep its banking system from collapsing and in order to defend the gold standard, the Austrian central bank needed more gold to serve as an internal reserve to keep payments flowing and an external reserve to meet the demand triggered by incipient capital flight. The Bank for International Settlements began to host negotiations to coordinate international financial cooperation.

It is possible that rapid and successful conclusion of these negotiations might have stopped the spread of the Great Depression in mid-1931. Austria was a small country with a population well under ten million. There was not that much capital to flee. A sizable international loan to Austria's central bank would have allowed it to prop up its internal banking system and maintain convertibility. A month later those whose capital had fled would realize that the crisis was over, and that they had lost a percent of two of their wealth in fees and exchange costs in the capital flight. Other speculators would observe that the world's governments were serious in their commitment to the gold standard, that the potential foreign exchange reserves of any one country were the world's, and thus that the likelihood of a speculative attack succeeding in inducing a devaluation was small.

Perhaps investors would then have begun returning gold to central banks in exchange for interest-bearing assets, would have begun to shrink down their demand for liquidity, and would have begun to boost worldwide investment. The Economist's Berlin correspondent thought that it might well have done the job:

It was clear from the beginning... that such an institution [as the Credit-Anstalt] could not collapse without the most serious consequences, but the fire might have been localized if the fire brigade had arrived quickly enough on the scene. It was the delay of several weeks in rendering effective international assistance to the Credit Anstalt which allowed the fire to spread so widely...

We do not know because it was not tried. The substantial loan to Austria was not made. Speculators continued to bet on devaluation, investors continued to hoard gold, the preference for liquidity continued to rise, and investment continued to fall. The substantial loan to Austria was not made because French internal politics entered the picture. At the beginning of his political career French Premier Pierre Laval had styled himself a politician of the left: the Clarence Darrow of France. But by the early 1930s he was shifting to the position of a strong nationalist. He blocked the proposed international support package for Austria, insisting that if France was to contribute France had to get something out of it. The price that Laval demanded was made up of a series of diplomatic concessions, most important of which was the renunciation of a prospective customs union with Germany. To Laval, playing the nationalist card in French politics, nothing that benefited Germany could be allowed by France.

The Austrian government refused to make the required political concessions fast enough for negotiations to be completed in time to be of use. Austria lost: the support package collapsed, and the Austrian economy abandoned the gold standard and went into recession. In the long run France lost too: what might have been a chance to moderate the Great Depression was lost. The ultimate consequences for France were dire. The rise of Adolf Hitler in Germany is inconceivable in the absence of the

Great Depression. Nine years after the Credit-Anstalt crisis the French government surrendered to the Nazis.

Pierre Laval was not greatly inconvenienced at first by the Nazi conquest of Europe. He discovered that he was not a leftist at all but a Fascist. He became the second most powerful figure, and the true focus of decision making, in France's wartime collaborationist Vichy government. He was executed for treason after the end of World War II.

### **Absence of an International Lender of Last Resort**

Back in 1931, speculators observed that the international financial community did not support currencies that came under pressure. They wondered which country would be next to devalue—and thus which country to pull their money out of fast if they did not want to lose the thirty percent or so of gold value that would be lost in a devaluation. The wave of bear speculation moved on to Hungary, Germany, and Britain. By the fall of 1931 Britain had abandoned the gold standard.

Thus international capital flows—in this case driven by fear of being caught in a devaluation—triggered devaluations and brought down the interwar gold standard. In a well-functioning gold standard, such impulses would have been damped by the credibility of the commitment to gold and by international cooperation. But in the early 1930s the commitment to gold had no credibility. And there was no international cooperation.

In the absence of international cooperation, the legacy of the gold standard was to make it impossible for any country to fight the Depression within its borders. Stimulative monetary and fiscal policies were inconsistent with the gold standard. And efforts to contain domestic banking crises were thwarted and rendered counterproductive because of the fear that rescuing the banking system or lowering interest rates was the prelude to devaluation.

As Eichengreen has pointed out, once countries had cast off the golden fetters of the interwar gold standard, the crisis was transformed into an

opportunity. Policies to expand demand and production no longer required international cooperation once the gold standard framework had been abandoned. But as he has also pointed out, “liquidationism”—and fears of financial and political chaos—kept governments from beginning to fight the Depression in a serious manner for much of the 1930s.

The Great Depression is the greatest case of self-inflicted economic catastrophe in the twentieth century. As Keynes wrote at its very start, in 1930, the world was

... as capable as before of affording for every one a high standard of life.... But today we have involved ourselves in a colossal muddle, having blundered in the control of a delicate machine, the working of which we do not understand.

Keynes feared that “the slump” that he saw in 1930

may pass over into a depression, accompanied by a sagging price level, which might last for years with untold damage to the material wealth and to the social stability of every country alike.

He called for resolute, coordinated monetary expansion by the major industrial economies to

restore confidence in the international long-term bond market... restore [raise] prices and profits, so that in due course the wheels of the world’s commerce would go round again.

### **Absence of a Hegemon**

Charles Kindleberger has pointed out that such action never emerges from committees, or from international meetings. Before World War I the international gold standard was kept on track because there was a single, obvious, dominant power in the world economy: Britain. Everybody knew that Britain was the “hegemon”, and so everyone adjusted their behavior to conform with the rules of the game and the expectations of behavior laid down in London. Similarly, after World War II the “hegemon” for

more than a full generation was the United States. And once again, the existence of a dominant power in international finance—a power that had the capability to take effective action to shape the pattern of international finance all by itself if it wished—led to a relatively stable and well-functioning system. But during the interwar period there was no hegemon: no power could shape the international economic environment through its own actions alone. Britain tried, attempting to restore confidence in the gold standard by the restoration of sterling, and failed. America might have succeeded had it tried—but successful policy requires that the hegemon recognize its leading position, which the interwar U.S. did not do.

### **Changes in Economic Thought**

In response to the high persistence of unemployment in the interwar years, economists abandoned the idea that business cycles were the economy's best feasible response to inevitable shocks to present circumstances and expectations about the future, and that the Great Depression had been generated by the largest such shock ever seen. Instead, they turned to alternative—Keynesian—approaches to explain the persistence of high unemployment, even though these alternative approaches were not so much theories of business cycles as policy recommendations accompanied by promises that supporting theories would be constructed later.

### **The Equilibrium-Restoring Forces of the Market?**

Economists today have faith in market economies' abilities to eventually cure depressions even in the presence of unsound economic policies. Depressions and high unemployment arise when markets malfunction, or fail to find the correct equilibrium. But excess supply of labor and excess supply of goods should eventually register. Economists track channel after channel through which the market economic system can right itself from a depression and restore full employment equilibrium.

How well did these “natural” full employment equilibrium-restoring forces work in the Great Depression? The answer is: not at all well. Some nations—Scandinavian countries that abandoned the gold standard early—experienced the Great Depression as little more than an ordinary recession, albeit in some cases beginning from a position of relatively high unemployment in 1929. The collapse of international trade in the 1930s idled resources in specialized export industries, but for countries that had abandoned the gold standard early domestic manufacturing took up the slack and returned GNP and employment to relatively high levels by the middle of the decade. These fortunate nations experienced the Great Depression as more-or-less another episode of normal cyclical unemployment in response to a large shock, in this case the world market’s signal that export sectors were too large.

Other countries—largely nations like the United States and France that remained on the gold standard beyond 1930-31—were not so fortunate. Their unemployment rose to and remained at levels that seemed too high to square with the normal mechanisms of standard business cycles. Their experience was a key factor leading economists away from monetary overinvestment theories and toward underemployment semi-equilibrium theories.

### **From Cyclical to Structural Unemployment**

Even granted that policies to fight the Great Depression were not forthcoming, the persistence of the Depression still comes as a shock. In a normal pre-Great Depression business cycle, the economy closes 97% of the gap back to usual employment in three years. But the Depression shows a different picture: the economy closed only half of the gap back to full employment in three years. It is helpful to group the explanations for why Depression-era unemployment was so high and lasted so long along two axes: there are two candidates to take the blame for the persistence of unemployment during the Depression: the government, and the market.

### **Government-Generated Unemployment**

Government-generated unemployment was widespread. In Britain some unemployment (although a small share during the peak unemployment years of the early 1930s) was surely generated by the government's unemployment insurance system. Thomas cites Eichengreen's earlier work, which presented a best estimate that some two or three percentage points of unemployment in 1929-32 could be attributed to the operation of the relief system. Thomas attributes some unemployment among secondary workers and unskilled young men with large families to the "OXO" system in which firms would systematically rotate two platoons of workers between time at work and time receiving unemployment benefit, thus turning unemployment insurance into a highly-subsidized work sharing scheme. Men receiving the standard unemployment benefit in February 1931 had on average experienced 8.6 different spells of employment during the past year, working an average of 151 days. Given such rapid turnover it is not at all implausible to argue that the availability of unemployment benefit, even with relatively low replacement rates, allowed workers to remain in labor market positions in which they were employed only half the time instead of migrating to some other industry. Thus it is possible that an underlying four or five percent of excess British unemployment may well have been maintained by the government's social policy.

In the United States even at the very end of the Depression unemployment was high. In the 1940 census some 11.1% of U.S. heads of household were counted as unemployed, of whom almost half—4.9% of all heads of household—held relief jobs.

Michael Darby has argued that the government had managed to create a situation in which those on relief found themselves with little incentive to register their labor supply on the private-sector job market, and yet were doing little socially productive work. Relief jobs were attractive to many, in spite of their low levels of relief wages relative to average private sector wages. Relief jobs were secure and required little skill. The risk-averse or the lesser-skilled might well have found that their best option was to stay

on relief jobs, and be counted as unemployed, rather than take even an immediately available private sector job.

In each of these cases there is no clear alternative way of organizing the unemployment insurance system that would have been a clearly better policy. A good society should offer support to those blocked from earning their wages in the market. And a well-functioning economy should create incentives for the unemployed to strongly register their excess supply of labor in the market. These two goals are inevitably in tension. The inescapable problem was that relief payments were too high for the short-term and too low for the long-term unemployed, and that there was no good way to structure relief programs to tell these two groups apart ex ante.

William Beveridge was among the first to lay out the policy dilemma: the long-term unemployed

need... more money rather than less than those who have had short periods of unemployment. Yet they can hardly be given more money without... [creating an incentive] to settle down into permanent unemployment.

Moreover, few of the long-term unemployed “escape physical and psychological deterioration through long idleness.”

### **Market-Generated Long-Term Unemployment**

Nevertheless, a large part of the puzzle remains: roughly half of Depression unemployment was concentrated among long-term unemployed who could not take advantage of subsidized relief-work schemes. Long-term unemployment was strongly present in those countries that suffered worst from the Depression, including non-European nations like Australia, Canada, and the United States and European nations like Britain, Germany, Italy, and the gold block nations of France and Belgium. Of these only Germany achieved a strong recovery from the Depression in the 1930s.

Once an economy had fallen deeply into the Great Depression, devalued exchange rates, prudent and moderate government budget deficits (as opposed to the deficits involved in fighting major wars), and the passage of time all appeared equally ineffective ways of dealing with long-term unemployment. Highly centralized and unionized labor markets like Australia's and decentralized and laissez-faire labor markets like that of the United States did equally poorly in dealing with long-term unemployment. Fascist "solutions" were equally unsuccessful, as the case of Italy shows, unless accompanied by rapid rearmament as in Germany.

Even today, economists have no clean answers to the question of why the private sector could not find ways to employ its long-term unemployed. The very extent of persistent unemployment in spite of different labor market structures and national institutions suggests that theories that find one key failure responsible should be taken with a grain of salt. But should we be surprised that the long-term unemployed do not register their labor supply proportionately strongly? They might accurately suspect that they will be at the end of every selection queue. In the end it was the coming of World War II and its associated demand for military goods that made private sector employers wish to hire the long-term unemployed at wages they would accept.

At first the unemployed searched eagerly and diligently for alternative sources of work. But if four months or so passed without successful reemployment, the unemployed tended to become discouraged and distraught. After eight months of continuous unemployment, the typical unemployed worker still searches for a job, but in a desultory fashion and without much hope. And within a year of becoming unemployed the worker is out of the labor market for all practical purposes: a job must arrive at his or her door, grab him or her by the scruff of the neck, and through him or her back into the nine-to-five routine if he or she is to be employed again.

This is the pattern of the long-term unemployed in the Great Depression; this is the pattern of the long-term unemployed in western Europe in the

1980s and 1990s. It appears to take an extraordinarily high-pressure labor market, like that of World War II, to successfully reemploy the long-term unemployed once they get into that situation..

Thus throughout most of the North Atlantic the climbing-out of the Great Depression was very slow.