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**Irving Fisher**

### Out of Keynes's shadow

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**Today's crisis has given new relevance to the ideas of another great economist of the Depression era**

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SHORTLY after he was elected president, Barack Obama sounded a warning: "We are facing an economic crisis of historic proportions...We now risk falling into a deflationary spiral that could increase our massive debt even further." The address evoked not just the horror of the Depression, but one of the era's most important thinkers: Irving Fisher.

Though once America's most famous economist, Fisher is now almost forgotten by the public. If he is remembered, it is usually for perhaps the worst stockmarket call in history. In October 1929 he declared that stocks had reached a "permanently high plateau". Today it is John Maynard Keynes, his British contemporary, who is cited, debated and followed. Yet Fisher laid the foundation for much of modern monetary economics; Keynes called Fisher the "great-grandparent" of his own theories on how monetary forces influenced the real economy. (They first met in London in 1912 and reportedly got along well.)

As parallels to the 1930s multiply, Fisher is relevant again. As it was then, the United States is now awash in debt. No matter that it is mostly "inside" or "internal" debt—owed by Americans to other Americans. As the underlying collateral declines in value and incomes shrink, the real burden of debt rises. Debts go bad, weakening banks, forcing asset sales and driving prices down further. Fisher showed how such a spiral could turn mere busts into depressions. In 1933 he wrote:

*Over investment and over speculation are often important; but they would have far less serious results were*

*they not conducted with borrowed money. The very effort of individuals to lessen their burden of debts increases it, because of the mass effect of the stampede to liquidate...the more debtors pay, the more they owe. The more the economic boat tips, the more it tends to tip.*

Though they seldom invoke Fisher, policymakers in America are applying his ideas. In academia Ben Bernanke, now the chairman of the Federal Reserve, sought to formalise Fisher's debt-deflation theory. His research has shaped his response to this crisis. He decided to bail out Bear Stearns in March 2008 partly so that a sudden liquidation of the investment bank's positions did not trigger a cycle of falling asset prices and default. Indeed, some say the Fed has learnt Fisher too well: from 2001 to 2004, to contain the deflationary shock waves of the tech-stock collapse, it kept interest rates low and thus helped to inflate a new bubble, in property.

Were Fisher alive today, "he would tell us we have to avoid deflation, and to worry about all that inside debt," says Robert Dimand, an economist at Brock University in Canada, who has studied Fisher in depth. "The ideal thing is to avoid these situations. Unfortunately, we are in one."

Fisher was born in 1867 and earned his PhD from Yale in 1891. In 1898 he nearly died of tuberculosis, an experience that turned him into a lifelong crusader for diet, fresh air, Prohibition and public health. For a while he also promoted eugenics. His causes, both healthy and repugnant, combined with a lack of humour and high self-regard, did not make him popular.

In 1894, on a trip to Switzerland, he saw, in water cascading into mountain pools, a way to "define precisely the relationships among wealth, capital, interest and income," Robert Loring Allen, a biographer of Fisher, wrote. "The flowing water, moving into the pool at a certain volume per unit of time, was income. The pool, a given volume of water at a particular moment, became capital." Over the next 30 years he established many of the central concepts of financial economics.

In 1911, in "The Purchasing Power of Money", Fisher formalised the quantity theory of money, which holds that the supply of money times its velocity—the rate at which a dollar circulates through the market—is equal to output multiplied by the price level. Perhaps more important, he explained how changing velocity and prices could cause real interest rates to deviate from nominal ones. In this way, monetary forces could produce booms and busts, although they had no long-run effect on output. Furthermore, Fisher held that the dollar's value should be maintained relative not to gold but to a basket of commodities, making him the spiritual father of all modern central banks that target price stability.

During the 1920s Fisher became rich from the invention and sale of a card-index system. He used the money to buy stocks on margin, and by 1929 was worth \$10m. He was also a prominent financial guru. Alas, two weeks after he saw the "plateau" the stockmarket crashed.

To his cost, Fisher remained optimistic as the Depression wore on. He lost his fortune and his home and lived out his life on the generosity of his sister-in-law and Yale. But his work continued. He was prominent among the 1,028 economists who in vain petitioned Herbert Hoover to veto the infamous Smoot-Hawley tariff of 1930. And he developed his debt-deflation theory. In 1933 in *Econometrica*, published by the Econometric Society, which he co-founded, he described debt deflation as a sequence of distress-selling, falling asset prices, rising real interest rates, more distress-selling, falling velocity, declining net worth, rising bankruptcies, bank runs, curtailment of credit, dumping of assets by banks, growing distrust and hoarding. Chart 1 is his: it shows how deflation increased the burden of debt.

Fisher was adamant that ending deflation required abandoning the gold standard, and repeatedly implored Franklin Roosevelt to do so. (Keynes was of similar mind.) Roosevelt devalued the dollar soon after becoming president in 1933. The devaluation and a bank holiday marked the bottom of the Depression, though true recovery was still far off. But Fisher had at best a slight influence on Roosevelt's decision. His reputation had fallen so far that even fellow academics ignored him.

Contemporary critics did poke a hole in his debt-deflation hypothesis: rising real debt makes debtors worse off but creditors better off, so the net effect should be nil. Mr Bernanke plugged this in the 1980s. "Collateral facilitates credit extension," he said in June 2007, just

before the crisis began in earnest. “However, in the 1930s, declining output and falling prices (which increased real debt burdens) led to widespread financial distress among borrowers, lessening their capacity to pledge collateral...Borrowers’ cash flows and liquidity were also impaired, which likewise increased the risks to lenders.” Mr Bernanke and Mark Gertler of New York University dubbed this “the financial accelerator”.

The downward spiral can start even when inflation remains positive—for example, when it drops unexpectedly. Consider a borrower who expects inflation of 2% and takes out a loan with a 5% interest rate. If instead inflation falls to 1%, the real interest rate rises from 3% to 4%, increasing the burden of repayment.

Asset deflation can do much the same thing. If house prices are expected to rise by 10% a year, a buyer willingly borrows the whole purchase price, because his home will soon be worth more than the loan. A lender is happy to make the loan for the same reason. But if prices fall by 10% instead, the house will soon be worth less than the loan. Both homeowner and lender face a greater risk of bankruptcy.

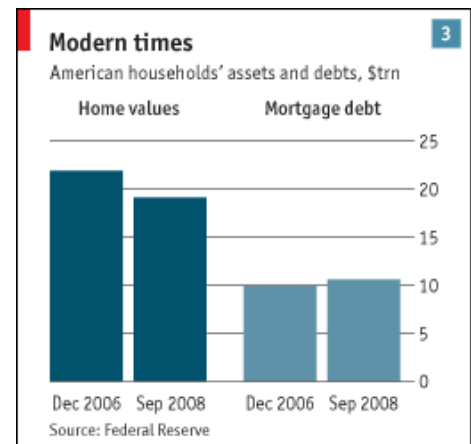
Today, debt in America excluding that of financial institutions and the federal government is about 190% of GDP, the highest since the 1930s, according to the *Bank Credit Analyst*, a financial-research journal (see chart 2). There are important differences between then and now. Debt was lower at the start of the Depression, at 164% of GDP. Mortgage debt was modest relative to home values, and prices were not notably bloated: they fell by 24% between 1929 and 1933, says Edward Pinto, a consultant, so were roughly flat in real terms. Debt burdens shot up because of deflation and shrinking output; nominal GDP fell by 46% between 1929 and 1933.

Debt burdens are high today mostly because so much was borrowed in the recent past. This began as a logical response to declining real interest rates, low inflation, rising asset prices and less frequent recessions, all of which made leverage less dangerous. But rising leverage eventually bred easy credit and overvalued homes.

Even without recession, falling home prices would have impaired enough mortgage debt to destabilise the financial system (see chart 3). Recession makes those dynamics more virulent; deflation could do similar damage. Broad price indices fell in late 2008. Granted, that was caused in part by a one-off fall in petrol costs; but America’s core inflation rate, which excludes food and energy, has fallen from 2.5% in September to 1.8%. Goldman Sachs sees it falling to 0.25% in the next two years.

That is low enough to mean falling wages for many households and falling prices for many firms. More widespread and deeper deflation would mean that property prices would have to fall even further to restore equilibrium with household incomes, creating another round of delinquencies, defaults and foreclosures.

What is the solution? Fisher wrote that it was “always economically possible to stop or prevent such a depression simply by reflating the price level up to the average level at which outstanding debts were contracted.” Alas, reflation is not so simple. Although stabilising nominal home prices would help short-circuit the debt-deflation dynamics now under way, any effort to maintain them at unrealistically high levels (where they still are in many cities) is likely to fail. Higher inflation could help bring down real home prices while allowing nominal home prices to stabilise, and reduce real debt burdens. But creating inflation is easier said than done: it requires boosting aggregate demand enough to consume existing economic slack, through either monetary or fiscal policy.



Though the Fed does not expect deflation, last month it did say that "inflation could persist for a time below" optimal levels. It is mulling a formal inflation target which, by encouraging people to expect positive inflation, would make deflation less likely. But its practical tools for preventing deflation are limited. In December its short-term interest-rate target in effect hit zero. The Taylor rule, a popular rule of thumb, suggests it should be six percentage points below. The Fed is now trying to push down long-term interest rates by buying mortgage-backed and perhaps Treasury securities. With conventional monetary ammunition spent, fiscal policy has become more important.

In 2002 Mr Bernanke argued the government could ultimately always generate inflation by having the Fed finance large increases in government spending directly, by purchasing Treasury debt. Martin Barnes of the *Bank Credit Analyst* thinks this highly unlikely: "You'd have capital flight out of the dollar. The only way it works is if every country is doing it, or with capital controls."

Fisher died in 1947, a year after Keynes, and remains in his shadow. Mr Dimand notes that Fisher never pulled the many strands of his thought together into a grand synthesis as Keynes did in "The General Theory of Employment, Interest and Money". More important, Keynes's advocacy of aggressive fiscal policy overcame the limitations of Fisher's purely monetary remedies for the Depression.

Yet Fisher's insights remain vital. They have filtered, perhaps unconsciously, into the thinking of today's policymakers. On February 8th Lawrence Summers, Mr Obama's principal economic adviser, called for the rapid passage of a fiscal stimulus "to contain what is a very damaging and potentially deflationary spiral." His advice bridges Fisher and Keynes.

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