Seven Sects of Macroeconomic Error:

Wrong Models of the Great Recession

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The Right Model of the Great Recession

We have spent a lot of time talking about the right model of the financial crisis that we went through in 2007-2009, and the Great Recession that started in 2008. We have discussed the sources of the downturn: irrational exuberance, overleverage, and misregulation. Those left us at the end of 2007 with a situation in which we had built five million houses extra houses—largely in the swamps of Florida and in the desert between Los Angeles and Albuquerque—that simply should not have been built. On average the purchaser took out US $100,000 in mortgage debt that simply will never be repaid: the buyer cannot afford it, and the house is not worth it. The end of 2007 saw $500 billion of financial losses to be allocated.

In a global economy with $80 trillion worth of financial wealth, a $500 billion loss due to irrational exuberance and malinvestment should not be a big problem. Modern, sophisticated, highly liquid financial markets and originate-and-distribute securitization to slice, dice, and spread risks means that nobody systemically important should be ruined by an idiosyncratic risk like mortgage defaults in the desert between Los Angeles and Albuquerque going bad. The losses from the collapse of the dot-com communications-and-computers bubble were an order of magnitude larger. Yet they did not create anything like our current problem.

But irrational exuberance in the dot-com boom was not accompanied by overleverage. The venture capital firms that created and issued the securities of the dot-com boom sold them off to unleveraged primary investors, rather than leveraging up and holding on to them by financing their positions with borrowed money. When the dot-com crash came, high- net-worth individuals lost their wealth. But there were no large money-2center banks whose solvency was thrown into doubt by the crash.

Things were different with the subprime crash. The large money-center investment and commercial banks found, after the crash, that the losses on their subprime mortgage holdings were of the same order of magnitude as and might exceed their capital cushion. Their other liabilities were thus no longer beyond question—perhaps the money-center banks were not good to pay back all their creditors and make good on all of the deposits they had accepted. This was, in large part, the result of the third factor: misregulation—the government had failed to impose and maintain proper capital adequacy standards of those banks that were indeed "too big to fail"; the government had failed to use its regulatory hammer to check whether the large money-center banks possessed the proper risk controls. It turned out that they did not: that the top managements of the money center banks had no idea of the risks that their subordinates were running on their shareholders' behalf.

The trap was set by what we politely call regulatory “forebearance” and what we politely call a “lack of sufficient risk controls” on the part of the top management of highly-leveraged financial institutions. The consequence was to transform the liabilities of all of America's and most of Europe’s major money center banks from safe, secure, and liquid high- quality assets to unsafe, insecure, and illiquid low-quality assets. The result was an enormous worldwide flight to quality. A $500 billion fundamental loss triggered a $20 trillion decline in global financial asset values as everybody dumped their risky and build up the safe assets in their portfolios.

As John Stuart Mill knew back in 1829, whenever you have a large excess demand in finance it will be mirrored by a large deficiency in demand for currently-produced goods and services and labor: a "general glut"—unsold commodities in pretty much every branch of distribution and unemployed workers in pretty much every branch of production.

That is the chain of causation that led to the great recession: a shortfall of aggregate demand generated by a flight to quality and a shortage of high- quality assets which itself flowed from irrational exuberance on the part of the world’s investors, misregulation on the part of the world’s governments, and overleverage in the world’s major banks.

The point most worth making right now is this: you do not need to deal with the deep causes in order to deal with the major problem. You do not need to eliminate the cholera bacterium from somebody's body in order to keep them from dying of cholera: what you need to do is to keep them hydrated and keep their electrolytes in balance. Similarly, the key treatment needed for an economy in a financial crisis-caused *grand mal* seizure of unemployment is not to reform finance to prevent future episodes of irrational exuberance but rather to do something to pump up aggregate demand now.

The Right Cure for the Great Recession

Thus we have discussed the right cure for the Great Recession. One part of it, of course, is regulatory reform. Irrational exuberance, misregulation, and overleverage are bad things. And systems need to be designed and redesigned to deal with them and try to prevent future episodes. But that is only one of the three prongs that policy should pursue.

The first other prong is that the government should boost its spending in order to boost aggregate demand. It is the proper role of the government to stand up via more spending when private sector lies down and spends less.

The second other prong is that the government should also undertake the appropriate strategic interventions in financial markets in order to boost aggregate demand as well. If the government can provide the private sector with the financial assets it wants, then there will be no excess demand for financial assets and hence no deficiency of demand for currently-produced goods and services and for labor. We talked about shortages of liquid cash, of "money" (as happened in 1982 in the Volcker disinflation, of shortages of savings vehicles, of "bonds" (as happened in 2001 after the collapse of the dot-com bubble), and of shortages of high- quality assets (as happened in 2008). We talked about how shortages can arise from either a fall in supply or a rise in demand. And we talked about Say's (true) Law: when there is no excess demand at full employment for financial assets—whether bonds, money, or quality—there will be neither upward nor downward pressure on production and employment.

These strategic interventions in financial markets can be carried out through any of a large number of possible mechanisms. Milton Friedman was certain that the only mechanism you needed was standard open- market operations—purchases and sales of short-term Treasury bonds for cash—and that the right policy to follow was one that kept the economy- wide money stock on a smooth growth path. We are not no certain.

One strategic intervention is to create more savings vehicles, either by creating more government bond directly via additional deficit spending or through inducing the creation of more private bonds. Deficit spending by government—and subsidization policies like investment tax credits to encourage private investment by businesses, or even jawboning to create expectations of a little more inflation in order to boost private bond issues—create more savings vehicles, more places for people to park their money if they want to move it from the present into the future. To the extent that the excess demand in financial markets is an excess demand for duration, the creation of more such savings vehicles is exactly the right thing to do.

A second strategic intervention is that the Federal Reserve can buy back bonds from the private sector for cash, and so increase the amount of liquid cash money in the economy. If the excess demand in financial markets is an excess demand for liquid cash money, this is exactly the right thing to do.

A third set of strategic interventions is more mushy and diffuse. The Federal Reserve and bank regulators together can guarantee bank debt. They can take risk onto their own books by a whole host of what we now call "quantitative easing" measures—the purchase not just of short-term safe nominal assets but risky assets. They can boost not the supply of savings vehicles or the supply of liquidity but rather act to reduce the demand for and increase the supply of safety in financial markets. And since the principal origin of our problem was in the flight to quality and the resulting excess demand for safety, it would be appropriate to take this as the principal focus of policy right now.

In any event, when there is no excess demand at full employment for financial assets, there won't be any downward pressure on production and employment. That stopped the downturn. To generate a recovery we need to do a little bit more: create an excess supply of financial assets in order to generate an excess demand for currently-produced goods, services, and labor. But we have not advanced far along that road yet.

In the income-expenditure framework, all three of these excess demands for financial assets show up as a level of spending less than that needed to maintain full employment. Putting regulatory reform to one side, the needed cure can be accomplished via fiscal policy: ΔG. It can be accomplished via monetary and banking policies to try to rebalance financial markets.

Thus we have covered, at exhaustive length, the right model of the Great

Recession. It is true that the root problem was a derangement in the subprime mortgage market resulting from irrational exuberance which then triggered a derangement in financial markets more generally due to overleverage and misregulation.

But we could fix mass unemployment without tackling the fundamental roots of the downturn. We just have to pull the fiscal, monetary, and banking policy levers in such a way as to get aggregate demand back to where it should be. We can then clean up the financial mess later on. Job number one, after all, is to cure mass unemployment rather than to fix the fundamentals of the financial system.

This is the right model for the cause and cure of the Great Recession.

Wrong Models of the Great Recession: Why?

Our problem is that a lot of economists claim that people like me have gotten it wrong—that the Great Recession has another, a different cause. If you go outside of this classroom out there into the great political-economical debate, into the scrum, you will find that this position that I have been pushing in this course—while it is certainly the dominant position, the plurality position, the position held by the overwhelming majority of most qualified experts—it is by no means the only position out there. I say that our problem is that misregulation, excess of leverage and irrational exuberance produced the financial crisis which then led to an aggregate demand shortfall that we should repair as fast as possible by properly- stimulative fiscal, monetary, and banking policies. But there are others whom you will find saying at least seven different things.

Four wrong "how we got here" models are currently live—or perhaps, as my friend John Quiggin would say, undead: models that ought to have been buried long ago, but that still shamble forward wreaking havoc.

There are those who blame our current downturn on the presence of low marginal product workers, on the existence of structural unemployment, on the overaccumulation of too much capital, and on uncertainty caused by government deficits and overregulation. And there are three more strands of thought that, while more-or-less agnostic on the causes of the downturn, are certain that stimulative banking and fiscal policies have no proper role to play in getting us out of this mess: theorists who say that first priority has to go to avoiding inflation or to avoiding the crowding- out of productive private investment, theorists who are certain that banking and fiscal policy are never needed, and theorists who are certain that banking and fiscal policy are never effective.

So in the rest of this lecture section, let me run through the wrong models of the current downturn and what we should be doing about it—and let me explain why all of these alternative positions are wrong.

Let me note that I find this to be a very awkward position to be in. There is my karass of economists—sensible, reality-based, empirically-oriented, understanding reality. And there are seven other factions and schools of economists out there saying very different things—things very different from what I am saying and from what all the other economists who I believe are carrying out sensible analyses are saying.

I firmly believe that I am right.

I firmly believe that I am right almost as firmly as I believe that the sun will rise in the east tomorrow.

Of course, there was the day...

I was flying back from Europe during northern hemisphere winter. We came out of the earth's shadow into the sun somewhere north of Manitoba at local noon—so the sun was due south of the plane as we flew into daylight. From the plane, on that day the sun rose in front of us directly to the south.

Thus it is not certain that the sun is always going to rise in the east. In fact, I have seen it do otherwise. Admittedly, I have seen it only in very special circumstances: 30,000 feet up, flying due south out of the earth's shadow during northern hemisphere winter, and at local noon.

That is an important lesson: no matter how certain you are that you are right, you could be wrong.

Nevertheless, I will proceed...

I think that there are clear and obvious fallacies in all seven of the approaches that I have lumped into "wrong models."

I Blame Milton Friedman

This then raises the question of why do people claim to believe in them. I am not sure that I have the right answer. But I do have what I think is a pretty good and likely answer. You see, I blame Milton Friedman. Why do I think it is Milton Friedman's fault? Because he made things much, much too simple. Simply stabilize the money stock via open market operations, and everything will be fine: there will then be no shortage of aggregate demand.

Milton Friedman thought that it was sufficient simply to keep the money stock on a stable growth path—that that was the only set of strategic interventions in financial markets necessary to ensure constant full employment. Why did he think this? I believe that there are two reasons. The first was that if you look from say 1980 or so back into the past, the times when the money stock is unstable are the times when there are depressions. The times when the money stock is stable are times when there are no depressions. You could argue whether instability in the money stock was cause or effect of depressions. Milton Friedman thought that instability in the money stock was cause. Others thought it was the effect. They argued back and both. It was not clear. Of course, it is clear now: because the Federal Reserve tried successfully to prevent a decline in the money stock in 2008, it is now clear to us that much of past money- demand correlations arose because when demand fell the banking system came under pressure to shrink the money stock. If there were good arguments on both sides, what made Friedman so certain that instability that the money stock was the cause and not the effect? I think the answer is that he was a committed libertarian. He was not just an economic libertarian—not just a believer that the government shouldn't be interfering in the marketplace in prices and quantities and property rights. He was a social libertarian. He was a believer that the government should not be sticking its nose into people's bedrooms, or into their ideas about how to pursue better living through chemistry. He wanted to say that that government is best that governs least: establish property rights, set up some courts to decide things if people dispute, otherwise just get out of the way—don't interfere with market prices or market quantities or property rights or social mores, but get out of the way in order to maximize individual liberty.

The problem is that this does not fit with macroeconomics. We have this circular-flow income-expenditure system in which there are always these excess demands for and excess supplies of financial assets emerging. They carry with them either high unemployment or inflation. And so the government is always having to intervene to rebalance financial markets to avoid mass unemployment or inflation.

Now that is not a terribly terribly comfortable position for a libertarian to be in. The government is constantly intervening in the money market: buying and selling bonds and cash in order to soak up whatever excess demand or excess supply exists in financial markets. How is this a hands- off, libertarian, laissez-faire policy?

At this point Friedman could have done either of two things. He could have said: libertarianism is true always and everywhere except for monetary economics, where the rules are different. He could have found a way to make his preferred government monetary policy sound like laissez faire.

He chose the second. He said that the right monetary policy is for the government to keep its hands off of the money stock—for the government to follow a non-interventionist policy of letting the money stock grow at a constant rate and not intervene in financial markets to push the money stock up or down. It is a bright-line rule. It should be easy to follow. I would say that it is not "non-interventionist": whenever something happens to the banking system to make banks want to diminish their ratio of deposits to reserves, the Friedman rule requires that the Federal Reserve not keep its hands off the economy but rather that it go into the market and buy a huge amount of bonds. Why is a constant money growth rate rule a "laissez faire" "non-interventionist" policy? It isn't—any more than a constant kwh growth rate rule or a constant steel production growth rate rule is a "laissez-faire" "non-interventionist" policy. But these are not questions Milton Friedman wanted to answer, or even wanted to hear asked.

Instead, Friedman said: keeping the money stock growing at a constant rate is a neutral, non-interventionist, laissez-faire policy. Forget about what all the Keynesians over there are saying about more complicated strategic interventions. Constant M growth is the rule.

And so Milton Friedman acquired a lot of followers behind this constant money stock growth rule. But starting in the 1980 it becomes apparent that it's simply not true. Central bankers tried to follow Milton Friedman prescriptions. And they found themselves getting into trouble. And lo and behold in 2008 they got into big trouble, when extraordinary increases in the monetary base did not keep unemployment from rising and kissing 10%.

So when it turned out that Friedman's model was wrong, a lot of economists found themselves trying to think complicated issues through on the fly from scratch. Stabilizing the money stock via open market operations is not enough.

What happens if there is a shortage of aggregate demand due to an excess demand for high quality assets and so i has hit zero? People will then be holding money as a high-quality asset rather than as a liquid asset. And so the economy will be short of money for transactions. Further open- market operations don't raise the amount of high-quality assets: they just swap one HQA for another

What happens if there is a shortage of aggregate demand due to a shortage of savings vehicles? People will then be holding money as a savings vehicle rather than as a liquid asset. And so the economy will be short of money for transactions. And further open-market operations won't raise the supply of savings vehicles either.

Here Friedman's followers and their intellectual descendants found themselves trapped by the rhetorical strategy Friedman had adopted in the 1950s and 1960s and 1970s. Friedman believed that macroeconomic stabilization required that the central bank be always in the market, buying and selling government bonds in order to match the supply of liquid cash money to the demand, and so make Say's Law true in practice even though it was false in theory. And Friedman tried to maximize the rhetorical distance between his position—which was merely the "neutral," passive policy of maintaining the money stock growth rate at a constant —and the position of other macroeconomists, which was an "activist," interventionist policy of having the government disturb the natural workings of the free market. Something went wrong, Friedman claimed, only when a government stepped away from the "neutral" monetary policy of the constant growth rate rule and did something else.

It was, I think, that description of optimal monetary policy—not "the central bank has to be constantly intervening in order to offset shocks to cash demand by households and businesses, shocks to desired reserves on the part of banks, and shocks to the financial depth of the banking system" but "the central bank needs to keep its nose out of the economy, sit on its hands, and do nothing but maintain a constant growth rate for the money stock"—that set the stage for what was to follow, and for what we see now among the seven sects of macroeconomic error that I am taking an unconscionably long time in getting to.

Friedman's rhetorical doctrine was successful in eliminating the perception of cognitive dissonance between normal laissez-faire policies and optimal macro policy: both were "neutral" in the sense of the government "not interfering" with the natural equilibrium of the market. But it did so at the cost of eliminating all interesting macroeconomic questions: if the government followed the proper "neutral" policy, then there could be no macroeconomic problems. And it left his intellectual descendants with no way to think about these issues: generations of Chicago that had been weaned on this diet turned out to know nothing about macro and monetary issues when they became important again.

It is in this sense, I think, that I blame Milton Friedman: he sold the Chicago School an interventionist, technocratic, managerial optimal monetary policy under the pretense that it was something—laissez-faire— that it was not.

And then it turned out at the end of 2008 that it simply did not work.

Now at this point the seven sects of macroeconomic error could have done either of two things. They could have chosen wisely. They could have said: "Oops we've been followers of Milton Friedman for 50 years and we were wrong, his intellectual opponents were right. We have to go back and listen to them and learn what they had to say and change our minds. We need to sit at the feet of Bagehot and Wicksell and Minsky and Keynes and Hicks and Tobin for a while and think through the issues of the determinants of aggregate demand.

They chose not wisely. They chose to say: "Milton Friedman taught us that the Keynesian version of the income-expenditure approach was wrong.
There is something wrong with Friedman's theory. But we need to develop it and add something new rather than return to something old and discredited."

It turned out an awful lot of economists decided to follow the second road—that of becoming Ptolemaic astronomers, of trying to add epicycle after epicycle, adding eqants and deferents, and so forth to try to save the phenomena. And they did so even though the standard story of demand shortfall-driven recessions that dated back to 1829 and that in fact underpinned Friedman's version of monetarism was still in good shape, and still perfectly adequate.

That story leaves me highly confident that all seven of the alternative models are wrong. I understand how it is that people—smart people, even if not wise people—arrived at them. And I also understand why they are wrong.

Seven Wrong Models

1. Low Marginal Product Workers

The first wrong model is the idea that we have high unemployment now because our educational system has failed. We in America have produced 12 million workers who effectively have no useful and productive skills that make it worth anybody's while to pay them to do anything. These 12 million people have a zero marginal product—or at least a marginal product that is less than the minimum wage. Representative thinkers who advocate or have advocated a version of this model include Niall Ferguson and Tyler Cowen.

Tyler Cowen of George Mason, especially, likes to talk about "unemployment" among horses in the early twentieth century. Back in the late 19th Century America had roughly one horse per person. Horses were extremely useful: you could ride them, they could pull things, you could put them on a treadmill and make them power things—with steam engines and windmills as the only other non-human-muscle power sources, we had an awful lot of horses. Then we developed alternative technologies: diesel engines, gasoline engines, electrical engines linked to power plants via high-voltage transmission lines—and all of a sudden the marginal economic product of most of the horses who had existed in 1900 was zero. Horses became unemployed. Horse-breeding operations shut down.

Why can't we conclude that the same is true of the 12 million excess American workers who are now unemployed? The coming of computers and the decline in manufacturing today have brought the same reduction in the marginal economic product of low-skilled human workers that the coming of electrical, gasoline, and diesel engines brought to the marginal economic product of horses a century ago.

The first rebuttal is: Although these extra 12 million surplus workers are unemployed now, they were employed back in 2007. Are we supposed to believe that changes in technology have proceeded so rapidly that the marginal economic product of all these 12 million workers crashed in two short years?

The counter is that their marginal economic products had been zero for a long time—but that we had not realized it. Because of irrational exuberance, we thought that they could be productively employed in housing construction because we all overestimated the long-run value of the houses that they were building. Now, however, we have discovered that houses are not terribly valuable things—especially not houses in the swamps of Florida and in the desert between Los Angeles and Albuquerque. We used to think they had a high marginal product working in construction. Now we recognize that they do not, and that they never had. And given that the only industry in which they might have been productive enough to earn their keep was construction, now we recognize that the American economy has a 12 million oversupply of excess zero marginal product workers
.

The big empirical problem with this theory is that employment on construction payrolls in the United States has only fallen by 2 million since 2006. And of this 2 million decline in payrolls perhaps 500,000 are people who have gone back to Mexico. Of the 12 million excess unemployed currently here in the United States, only something like 1.5 million can be attributed to the decline in construction employment.

Where did the other 10 1/2 million come from?

Even if we do have 1 1/2 million permanently-unemployed zero-marginal-product workers as a result of the decline in the construction sector, why have they carried an extra 10 1/2 million other workers into unemployment as well when the other 10 1/2 million seemed to have perfectly good non-construction skills doing what they were doing in 2007? Why has each construction job that has vanished relative to trend carried another seven jobs along with it? The zero-marginal-product workers story has absolutely no answers to these questions.

This is the decisive argument against the idea that we now have high unemployment because we have 12 million workers who do not have the skills and the mental attitude and the willingness to show up that make it worth anyone's while to pay them to do anything.

2. Structural Unemployment

A second wrong model is that of Minneapolis Federal Reserve Bank President Narayana Kocherlakota, who argues not that we have 12 million permanently unemployable excess workers but rather that we have 12 million excess unemployed whom it will take a long time to retrain and find other jobs. The idea is that because of structural shifts in the economy we have workers who had the skills for declining industries but do not have the skills for the currently-expanding industries, and that it will take a long time for them to acquire the skills that they need to fit the labor requirements of the new economy.

The decisive rebuttal to this is that if the problem is indeed on the supply side rather than the demand side—if the problem is a lack of workers with the right skills for expanding industries rather than a lack of demand and so a lack of expanding industries in the first place—we should see signs of expanding industries and labor shortages in the data. We should see a lot of vacancies in the economy, as the expanding industries that want to hire workers but can't find any who are qualified search for workers to fill the holes in their staffing patterns. We should see substantial wage increases— even if not in the economy as a whole, we should see them in the expanding industries as firms in industries that are short of labor try to take qualified workers away from one another by promising higher wages. We should see these things, but where are they?

Job openings are a good 600,000 above their absolute minimum mid 2009 trough. But job openings are still far below their normal non-recession levels. If the structural unemployment theory is correct, they should be above normal non-recession levels. And you simply cannot say that there is upward pressure on the peoples' wages: four years ago your average wage increased by 4% in dollar terms in a year; now nominal wages are rising at a rate of 2% per year in dollar terms and economy-wide wage increases are kissing zero in real terms.

This is not a labor shortage economy.

3. Overaccumulation of Capital

The third wrong model is a perennial: that our problem is the overaccumulation of capital.

This is the oldest alternative theory of all. This was a favorite of Chicago economist Frederick Hayek. It was the theory on which Andrew Mellon and Herbert Hoover ran the U.S. economy during Hoover's presidential term at the start of the Great Depression. This theory dates all the way back to Karl Marx—who talked about how economists like James John Stuart Mill and the politicians they advised like Robert Peel thought that you could deal with a financial crisis and a depression by simple strategic interventions in financial markets. This was, Marx said, an attempt to play a game of economic three-card-monte with the economy—to make the economy live beyond its means on its wits. And, Marx said—and Mellon, Hoover, Hayek, and their present-day epigones fellow them—this cannot work. Increasing the quantity of liquid or safe or savings-vehicle assets in the economy cannot permanently repair aggregate demand because, Marx and company said, the real problem is not a shortage of aggregate demand but rather a surplus of aggregate supply: the economy has made too much capital for the market system to absorb, and needs a "prolonged liquidation" of high unemployment, bankruptcies, and scrapped factories before the process of capitalist economic growth can resume. I confess it is not clear to me why the Marx-Hayek-Mellon-Hoover axis is so certain that there is no financial sector cure to the problem of high unemployment. But let me try to outline Marx's version of the argument, because it is the one that seems to me to make the most sense—or, at least, the least nonsense.

Capitalists, Marx said, own the capital and higher the workers to produce output which they then sell. Output comes in two forms—consumption goods which they sell to workers, and capital goods which they sell to capitalists. Capitalist economies expand over time: each year the previous year's production of capital goods is added to the economy's capital stock and production becomes more capital-intensive and, hence, larger.

Demand for consumption goods, Marx said, grows only slowly: workers are poorly paid, as the economy's capital stock grows capital is substituted for labor and that puts downward pressure on wages, and so forth.
Workers cannot increase the amount of money they spend on consumption goods because they don't have the money and are not earning much more money over time. So as production grows a greater proportion of production must be sold to the capitalists—who buy it because they expect to be able to make bigger profits next year by producing on an even larger scale than they produced this year.

Say that we are in Britain in 1850, with nominal net domestic product at £600 million a year and a capital stock of £1.5 billlion, with £500 million of consumption goods produced and £100 billion of net capital goods produced to add to the capital stock. And let's say that the production function and technological progress are such that production is always 40% of the capital stock, Then next year, in 1851, you will have a capital stock of £1.6 billion, production of £640 million, and of that £500 million will be consumption goods and £140 million will be capital goods—which capitalists must buy because they expect to be able to use it all to make further profits in subsequent years.

Extend this economy's trajectory out a decade, to 1860...

You see that by 1855 the economy's productive capacity will have grown significantly—instead of £600 million of net domestic product we will have £1.04 billion. But with consumption still at £500 million, net purchases of capital goods by capitalist must be not the £100 million they were in 1850 but rather £540 million: capitalists must be willing to purchase not £100 million in the expectation that if they add this amount to their capital stock they will be able to sell all the extra output they can produce but they must be willing to purchase £540 million and plan to sell all the production. By 1860 the level of output will be not £500 million but £3.39 billion—and capitalists must be so exuberant that they expect to sell not £100 million to their fellows but rather £2.89 billion.

Now this, Marx says, is unsustainable. Capitalists may well be willing to add 7% to their capital stocks each year to service expanding markets. But will they be willing to spend their money expanding their capital stocks by 34% in a year in the expectation that there will be demand for the full output of their factories next year because next year capital stocks will grow by 36%? No. Sooner or later capitalists will recognize that full demand for factories next year is a chancy thing. So they will cut back on their plans for expansion this year—and when they do so everybody will find that it is this year and not next year that demand falls short of supply.

The workers are unable to buy the "surplus" output because they have no extra money. The capitalists are unable to buy the "surplus" output because there is no point in expanding their capital stocks when they cannot even find markets for all they can produce this year. The result is crisis: overproduction, mass unemployment, and bankruptcy. The weakest firms fail. Their capital is scrapped. Other factories stand idle. Their capital rusts away. The depression continues until the waste and scrapping of capital has proceeded so far that capitalists once again start to believe that it is time to invest in building up capacity once again—and when they do so decide, they find that there is not a surplus but a shortage of capacity and so the cycle of expansion, exuberance, investment, irrational exuberance, overproduction, crisis, and bankruptcy and unemployment starts all over again.

The root problem, Marx thought, is that a market economy can only run at full employment if the surplus value received by employers is then ploughed back into investing to increase their capital stock. But if the surplus value is invested in increasing the capital stock—well, then, who are you going to sell the next round of increased production to because there will be even more surplus value in the future?

Lowering interest rates via financial manipulation, Marx thought, would not help because artificially propping up capitalist demand for investment goods for a year or two simply magnifies the overproduction of capital and magnifies the eventual crash.

Public works financed by taxes on the rich, Marx thought, would not help because the public works would have to be paid for and taxes raised from the capitalists would diminish their confidence and their willingness to invest in further expansion.

Public works financed by taxes on the rich, Marx thought, would not help because the public works would have to be paid for and you can't get blood from a stone. The only way out is through universal bankruptcy: "prolonged liquidation." That is the only way out, Marx thought—unless you resort to socialism: the abolition of the capitalist class, the overthrow of the market economy and the wages system, public ownership of the means of production, and the creation of a free and democratic society of associated producers.

Mellon, Hoover, Hayek and their epigones have not been so keen on the "socialism", the "abolition of the capitalist class", and the "free society of associated producers" parts of Marx's argument, but otherwise they buy it: irrational exuberance leads to overaccumulation which has to be cured by a "prolonged liquidation" requiring persistent high unemployment. Mellon, Hayek, and Hoover tended to say that this is an unfortunate drawback of what is otherwise a pretty good economic system.

There always seemed to me to be two big questions here.

The first is Paul Krugman's question. Capitalists don't have to spend all their money buying capital goods. They are, historical experience teaches us, perfectly happy buying consumption goods as well. The only underlying point that is even potentially valid point is not that full employment requires an unsustainable explosion of capital good production but rather that sometimes the economy gets itself wedged into a configuration in which capital goods production is too high for the level of total demand. The result would be unemployment among workers in capital goods industries—and when they get unemployed they lose their jobs and when they lose their jobs their incomes fall and you get a recession.

Krugman's question is this: Sometimes the economy does indeed get too much capital for the sustainable level of demand. But equally there are times when the economy has too much consumption goods for the sustainable level of demand as well—some times there is not an overaccumulation of capital but instead an overproduction of consumption goods. When that happens the people who make consumption goods do lose their jobs and have to go find jobs someplace else. But that process does not produce a recession: it produces a boom. No period of high unemployment is generated by the redeployment of workers from consumption goods to capital goods industries. High unemployment arises only when workers are switching out of capital goods and into consumption goods industries.

This is a decisive argument against the "overaccumulation of capital" theory in its

Hoover-Hayek-Marx form. The logic of the argument requires that overproduction of capital and overproduction of consumption goods have similar effects on unemployment if the argument is true, and they do not.

Second, and more important, where is the overaccumulation of capital right now? Look at private construction spending in the United States. It grows smoothly throughout the 1980s and the 1990s, We get this housing bubble in the 2000s. And since 2007 housing and other construction has been depressed below its trend level.

No matter how you draw the housing-bubble triangle and the housing- depression trapezoid, the trapezoid is larger than the triangle. The housing market has spent more years depressed by more than it's been elevated back during the boom. We don't have a surplus of houses relative to trend right now. What we have is a shortage.

Admittedly, we do not have houses we would really want. What we would really want to have would be more two-bedroom condos in Venice Beach rather than five bedroom houses with swimming pools beyond San Bernardino. But the fact that a bunch of our houses are in the wrong place means that we should be more eager to build houses right now, not less willing.

The idea that we have an overaccumulation of capital right now is simply wrong.

What we do have is we have a high housing vacancy rate because a lot of people have lost their jobs and so are doubling up in their apartments with their relatives.

So at the empirical level the "overaccumulation of capital" theory simply does not fly. You might—I doubt it but you might—have been able to use it to justify a recession in 2008 and 2009, but it will not explain high unemployment today and even less high unemployment next year.

4. Uncertainty

The fourth wrong model—I don't hear this from economists as much as from Republican politicians, and maybe from a very few economists who want jobs in the next Republican administration too much, and from Alan Greenspan—is that there been an enormous increase in uncertainties since the election of Obama. This enormous increase in uncertainty is due to government deficits and overregulation. It has led businesses cut back on their spending. We cannot get spending up again until we do something to make businesses less uncertain about the future.

Here I would say that there are five considerations:

The first is that this is a version of the correct, aggregate demand argument—only instead of placing the deficient demand for goods and services and the excess demand for financial assets on the shock caused by the collapse of the subprime bubble it places it on the shock caused by Obama's election. Thus the cure is the same as in my standard story, for the cure does not depend on and is the same no matter what the cause of the flight to quality: rebalance financial markets to leave investors satisfied with their holdings of safe and liquid assets and they will invest in businesses that want to expand. Restoring business confidence is one way to rebalance financial markets by diminishing the demand for safe and liquid assets, but it is not the only way: rebalancing financial markets by expanding the supply works as well.

Second, this theory should never even get out of the gate. The timing is simply wrong. It was not Obama's election or expectations of Obama's election that caused the flight to quality. The flight to quality was caused by the collapse of the subprime bubble.

Third, if businesses are uncertain and are worried about overregulation and overtaxation, shouldn't they be saying that that is what worries them? Ask businesses what they are worried about right now, and they will tell you that they are unusually worried about poor sales and not about Obama-generated uncertainty. This theory says that it is worries about future government policies that have hit the minds of business entrepreneurs that are the cause of the recession. If it is true, that is what business entrepreneurs should say that they are worried about when you ask them. And they are not.

Fourth, if businesses are genuinely worried about inflation due to government deficits, shouldn't we see this in financial markets?

Shouldn't the price in financial markets for insuring yourself against inflation over the next 10 years be high right now? Right now it is a break- even trade at an inflation rate of less than 3% per year. There are no signs that businesses are worried about inflation and are taking steps to insure themselves against it. And as to high interest rates in general because of a fear that government deficits will starve private businesses of capital— Treasury interest rates continue at their extraordinarily low levels. This, too, simply fails to meet the plausibility test: if people were uncertain, and if that was causing the recession, we wouldsee signs of uncertainty in financial markets and surveys. We do not.

It is entirely possible that uncertainty about future policy can generate a recession.

But uncertainty is not generating this one.

5. Need to Control Inflation/ Avoid Crowding Out

Fifth, closely linked to the argument that "uncertainty" is the cause of the recession is the argument that we definitely do not need stimulative policies right now—an argument I hear most these days from John Cochrane of the University of Chicago. Further stimulative policies will set off a burst of inflation that will harm the economy in the long run and it's causing that further stimulative policies will raise interest rates and crowd out private investment and slow long term government growth.

On the internet this morning somebody had a rant about how worries that Japanese construction after the earthquake will push up interest rates and so diminish private investment and harm the global economy as the Japanese government borrows and spends a whole bunch of money to deal with the crisis caused by the earthquake and the tsunami. A rant that just doesn't apply. What we saw in the aftermath of the tsunami and the earthquake was not an increase but a decrease in the interest rates on Japanese and American government bonds. People are more willing to buy them, not less. We were not crowding out government investment—that we were crowding it in.

If there were a genuine need to control inflation you would expect to see wages increase or you'd expect to see the inflation rate implicit in government bond prices, this red line rising rapidly and no, we'd expect to see this blue line which is the real interest rate rising rapidly and it's not. That we see a situation in which an economy is approaching an inflation danger looks like and once again it doesn't look like this.

6. Banking and Fiscal Policy Unnecessary

The sixth wrong model is advocated by those who believe that we do not need to even think about fiscal and banking policy because Milton Friedman was right all along: simply stimulative monetary policy through normal open market operations can do the job.

Here we have Nobel Prize winner Robert Lucas, who simply claims to not see the point of either banking policy to lower risk premia when the short- term safe nominal interest rate is already at zero and cannot go any lower or the point of expansionary fiscal policy. Lucas annoys me because he has spent some time trashing Berkeley's own Christina Romer in an unfair, ignorant, and incoherent way. For example:

> Christina Romer—here's what I think happened. It's her first day on the job and somebody says, you've got to come up with a solution to this— in defense of this fiscal stimulus, which no one told her what it was going to be, and have it by Monday morning…. It's a very naked rationalization for policies that were already, you know, decided on for other reasons….
>
> If we do build the bridge by taking tax money away from somebody else, and using that to pay the bridge builder—the guys who work on the bridge — then it's just a wash… here's nothing to apply a multiplier to. (Laughs.) You apply a multiplier to the bridge builders, then you've got to apply the same multiplier with a minus sign to the people you taxed to build the bridge. And then taxing them later isn't going to help, we know that…

So I want to stress that when you actually listen to what Lucas is saying—as, for example, at the March 2009 conference of the Council on Foreign Relations—the immediate first impression is that he simply has not thought any of the issues about the special place of the banking system and the connection between liquidity, quality, and solvency through at all:

> I avoided this bank bailout issue in my 15 minutes and there's a reason for it. I don't really get it. Some of the problems you're talking about about deciding who gets paid and who doesn't, that's the whole function of bankruptcy law is to deal with that in an effective way. Now, it may be that the kind of neighborhood effects of the bankrupt banks are sufficiently different from the neighborhood effects of a bankrupt auto company—that they need some kind of special treatment. But then it seems like the right public policy is something that— maybe some kind of accelerated bankruptcy proceedings. Just to say make them well on all the money they've lost over this thing, I just—I do not get it...

Take Robert Lucas back to 1829, put him in a room with John Stuart Mill and Jean-Baptiste Say, have Lucas give his argument for why it was that increased government purchases or that bank rescues would not help an economy in financial crisis—if we were to do that I think that both Mill and Say would classify him as an unarmed man in a battle of wits—they would ask: "this is supposed to be a macroeconomist?"

Back in 1829 economists had got it straight what the relationship was between the soundness of the banking sector and the level of overall employment. How come

Bob Lucas in 2009 has not?

7. Banking and Fiscal Policy Ineffective

The seventh wrong model is a line of reasoning that you see from finance economists—a set of claims that a whole bunch of policies have no effect on anything.

For example, consider Eugene Fama of Chicago, and his claim that fiscal policy has to be ineffective because whenever government spends it has to borrow, and whenever it borrows it has to take money away from a single private individual who is also spending:

> In a "fiscal stimulus," the government borrows and spends the money on investment projects or gives it away as transfer payments to people or states Government infrastructure investments must be financed—more government debt. The new government debt absorbs private and corporate savings, which means private investment goes down by the same amount...

Thus whatever the government does to plan to spend money has by definition to be offset by an equal and opposite decrease on what the private sector plans to spend on goods and services.

That is simply wrong. When planned government spending goes up, planned private sector spending does not have to go down. When private sector income and wealth goes down, it does not have to plan to cut its spending if it is willing to hold fewer financial assets. And one way that increased government spending boosts the economy is that government debt issue boosts the supply of safe and liquid financial assets—and so makes people more comfortable holding the financial assets that they have and less anxious to cut back on their current spending on goods and services.

Consider Myron Scholes of Stanford, who criticizes Federal Reserve Chair Ben Bernanke for believing that the Federal Reserve can buy long-term bonds for cash and so affect long-term interest rates:

> Myron Scholes, the Nobel Prize-winning retired Stanford University finance economist, contemplates... quantitative easing, and wonders if it'll work as well as the Fed hopes: "Maybe... QE reduces the risk premium The problem is that this isn't a rational argument. The risk premium can't be affected by flows. Investors will sell risky assets to government and buy bonds. The Fed could end up holding all risky assets; investors will hold safe assets. The risk premium stays the same...

Scholes's argument appears to be that when the Federal Reserve buys risky bonds there is a chance that the Federal Reserve will go bankrupt and then that taxpayers will be taxed in order to pay for the losses on those risky bonds, and so you actually have no removed any risk from investors via the Federal Reserve's purchases. That is simply wrong. Taxpayers are a very different group of people from investors. Investors are rich and old. Taxpayers are middle class and much younger.

When we shift risk off of investors who fear that they are already bearing too much risk and on to taxpayers is a very plausible way to change the economy-wide price of risk and thus to affect interest rates.

The Seven Sects of Macroeconomic Error

All seven of these lines of argument I have outlined seem to me to be completely, obviously, and trivially fallacious. There are simply not enough unemployed construction workers to account for the recession. There are no signs of the high vacancies you would have in a high- structural-unemployment economy. The overaccumulation of capital simply is not there because the overbuilding triangle is smaller than the post-crisis under-building trapezoid. If the recession were due to uncertainty over overregulation and high future taxes then people would be worried about overregulation and high future taxes rather than being worried about poor sales and slack demand.

The need to control inflation in order to avoid a double dip as people get scared of inflation requires that people be actually scared of inflation— which means that asset market signals should show that inflation is expected to rise. Conventional monetary policy is not the only appropriate policy tool because—as the classical economists knew back in 1829—banks are special, and liquidity, confidence, and the solvency of the banking sector are closely linked. If you don't understand things about the centrality of the financial sector that other economists have known for 180 years, why are you on the stage talking rather than in the audience listening? If you have not figured out that planned economy-wide spending goes up when people plan to dump and down when people plan to accumulate financial assets and thus that plans for the government to raise do not immediately entail plans for the private sector to equally cut spending, why are you in the room at all? And if you have not noticed that investors are a different group than taxpayers and that shifting the burden of risk off of overburdened investors onto the taxpayers may well affect the risk premium—well, you simply have not thought about the issues at all.

I want all of you to hold tight to the idea that we could push our current unemployment rate down relatively rapidly if only we had the political will to undertake the stimulative fiscal and monetary policies to do so.

Of course, that might generate inflation. And an important part of macroeconomics is inflation economics: where inflation comes from, how in proceeds, and how to control it.

But this is all I have to say about depression economics.

March 14, 2011: 9357 words

The Right Model of the Great Recession

- Sources of the downturn
  - Irrational exuberance
  - Overleverage
  - Misregulation
- Consequence: panic and flight to quality
  - Large excess demand for high-quality assets
- This produces a “general glut”: shortage of demand for currently-produced goods and services and labor
- As total spending Y = C + I + G + GX – IM falls short of the amount needed to provide full employment...

The Right Cure for the Great Recession

- Regulatory reform
- Government stands up via spending when private sector lies down
- Strategic interventions in financial markets to provide the private sector with the financial assets it wants
  - Liquidity (Federal Reserve)
  - Quality (Federal Reserve and bank regulation)
  - Savings vehicles (deficit spending and investment)
- Say’s (True) Law: when there is no excess demand at full employment for financial assets—whether bonds, money, or quality—there will be neither upward nor downward pressure on production and employment

The Right Cure for the Great Recession II

- Fiscal policy: ΔG
- Strategic interventions:
  - Liquidity-money: Δi
  - Quality and spreads: $\Delta\rho^r$, $\Delta\rho^t$
  - Bonds-savings vehicles: $\Delta\pi$, ΔG

$$\Delta Y = \frac{\Delta A_0 + \Delta G - (I_r + X_\varepsilon \varepsilon_r)(\Delta i + \Delta\rho^t + \Delta\rho^r - \Delta\pi)}{1 - (1-t)c_y + im_y}$$

Wrong Models of the Great Recession

- Four wrong "how we got here" models:
  - Low marginal product workers (Ferguson, Cowen)
  - Structural unemployment (Kocherlakota)
  - Overaccumulation of capital (Marx-Mellon-Hayek-Hoover)
  - Uncertainty caused by government deficits and overregulation (Republicans)
- Three "stimulative policy unwise" models:
  - Need to control inflation/avoid crowding out (Cochrane)
  - Banking and fiscal policy unnecessary (Lucas)
  - Banking and fiscal policy ineffective (Scholes and Fama)

Why These Wrong Models?

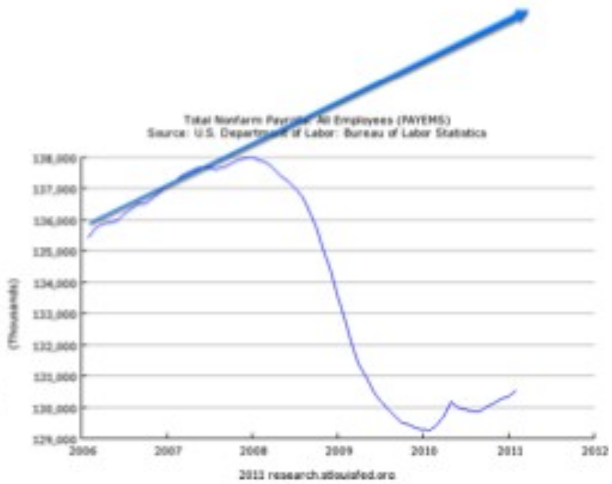
- I blame Milton Friedman
- Because he made things much, much too simple
  - Simply stabilize the money stock via open market operations, and everything will be fine: there will then be no shortage of aggregate demand
- Why? In an attempt to hide how close to the Keynesians his own monetarist-libertarian model of the business cycle was
- So when it turned out that Friedman's model was wrong, a lot of economists found themselves trying to think complicated issues through on the fly from scratch

Why Was Friedman Wrong?

- Because stabilizing the money stock via open market operations is not enough
- What happens if there is a shortage of aggregate demand due to an excess demand for high quality assets and so i has hit zero?
  - People will then be holding money as a high-quality asset rather than as a liquid asset
  - And so the economy will be short of money for transactions
  - Further open-market operations don't raise the amount of high-quality assets: they just swap one HQA for another
- What happens if there is a shortage of aggregate demand due to a shortage of savings vehicles?
  - People will then be holding money as a savings vehicle rather than as a liquid asset
  - And so the economy will be short of money for transactions
  - And further open-market operations won't raise the supply of savings vehicles either

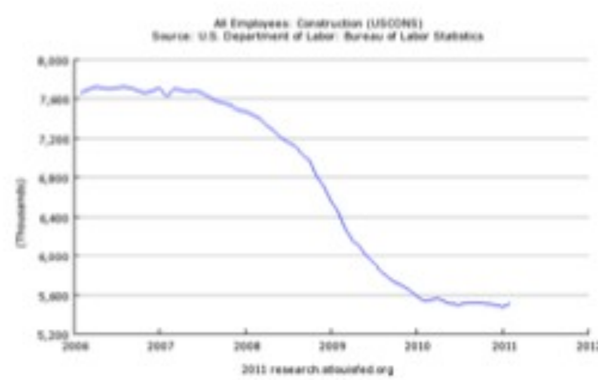
Low Marginal Product Workers

- Employment has fallen by 7,000,000 over the past four years
- It should have grown by 5,000,000 in such a time span
- That's 12,000,000 missing jobs
- We have 12,000,000 workers whose productivity is zero (or less than the minimum wage)
- And they will be a millstone around the neck of our economy forever



Low Marginal Product Workers II

- Q: But all these workers were employed in 2007...
- A: That was because we thought they were productive building houses—but they weren't, really...
- Q: But construction employment has only fallen by 2 million while total employment has fallen by 8 million. If LMP workers in irrationally-exuberant construction were the problem, the fall in construction employment would be greater than the fall in total employment...



Structural Unemployment

- The unemployed workers don't have the skills to get the jobs in expanding industries
- We need to retrain them
- That takes time...
- Q: If there are expanding industries that are having a hard time finding workers, we should be seeing vacancies and wage increases in some industries. Where are they?

Overaccumulation Crisis

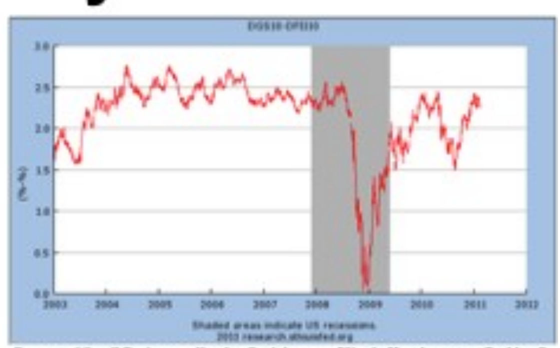
Year	Capital Stock	Production	Consumption Goods Production	Capital Goods Production
1850	1.50	0.60	0.50	0.10
1851	1.60	0.64	0.50	0.14
1852	1.74	0.70	0.50	0.20
1853	1.94	0.77	0.50	0.27
1854	2.21	0.88	0.50	0.38
1855	2.59	1.04	0.50	0.54
1856	3.13	1.25	0.50	0.75
1857	3.89	1.55	0.50	1.05
1858	4.94	1.98	0.50	1.48
1859	6.42	2.57	0.50	2.07
1860	8.48	3.39	0.50	2.89

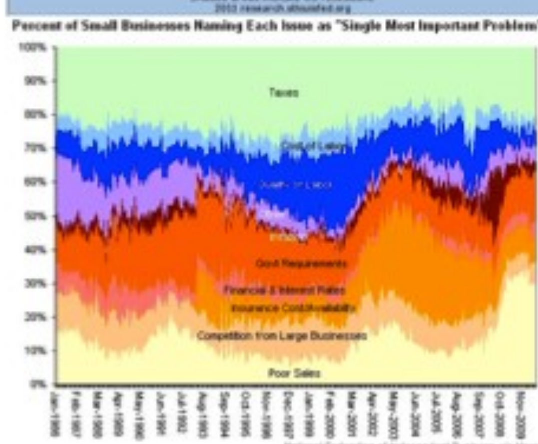
Overaccumulation of Capital

- Overaccumulation of capital
- Marx-Mellon-Hayek-Hoover
- Q: Why does the switch of workers out of making capital goods create mass unemployment, while the switch of workers out of making consumption goods when there is a capital shortage does not?
- Q: What evidence is there for a current capital surplus? It looks like there is now a shortage of housing.

Uncertainty

- Government deficits and overregulation create uncertainty.
- Uncertainty makes businesses cut back on their spending.
- Q: If businesses are uncertain and are worried about overregulation and overtaxation, shouldn't they say so?
- Q: If businesses are worried about inflation due to government deficits, shouldn't we see this in financial markets?





Need to Control Inflation/Avoid Crowding Out

- Further stimulative policies will set off a burst of inflation that will harm the economy in the long run
- Further stimulative policies will raise interest rates and crowd-out private investment and so slow long-term economic growth

Banking and Fiscal Policy Unnecessary

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  - Christina Romer--here's what I think happened. It's her first day on the job and somebody says, you've got to come up with a solution to this--in defense of this fiscal stimulus, which no one told her what it was going to be, and have it by Monday morning.... [I]t's a very naked rationalization for policies that were already, you know, decided on for other reasons..." and "If we do build the bridge by taking tax money away from somebody else, and using that to pay the bridge builder--the guys who work on the bridge -- then it's just a wash... there's nothing to apply a multiplier to. (Laughs.) You apply a multiplier to the bridge builders, then you've got to apply the same multiplier with a minus sign to the people you taxed to build the bridge. And then taxing them later isn't going to help, we know that.
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