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The other half of macroeconomics and the three stages of economic development[1]

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The discipline of macroeconomics, which was started in the late 1940s and was based on the assumption that the private sector is always maximizing profits, considered only one of the two phases an actual economy experiences. The overlooked other phase, in which the private sector may instead seek to minimize debt, can help explain why economies stagnate and why the much-touted policies of quantitative easing and zero or even negative interest rates have failed to produce the expected results. With stagnant economic and wage growth becoming a major issue in most developed countries, it is time for the economics profession to leave its comfort zone and face the other half of macroeconomics head on.

The failure of the vast majority of economists in government, academia and the private sector to predict either the post-2008 Great Recession or the degree of its severity has raised serious credibility issues for the profession. The widely varying opinions of these "experts" on how this recession should be addressed, together with the repeated failures of central banks and other policymakers to meet their inflation or growth targets, have left the public and political leaders rightfully suspicious of economists. This paper seeks to elucidate what was missing in economics all along and what changes are needed to make the profession relevant given the economic challenges of today.

Human progress is said to have started when civilization sprang up in China, Egypt and Mesopotamia over 5,000 years ago. The Renaissance, which began in Europe in the 13th century, accelerated the search for both a better understanding of the physical world and better forms of government. But for centuries that progress affected only the few who had enough to eat and the leisure to ponder worldly affairs. Life for the masses was not that much better in the 18th century than in the 13th century when the Renaissance began. Thomas Piketty noted in his book *Capital in the 21st Century* that economic growth averaged only 0.1 percent per year[2] in those centuries – it was basically at a standstill. To understand how we got from centuries of economic stagnation to where we are today, when economic growth is taken for granted, we need to review certain basic facts about the economy and how it operates.

Basic macroeconomics: one person's expenditure is another person's income

One person's expenditure is another person's income. It is this unalterable linkage between the expenditures and incomes of millions of thinking households and businesses that makes the study of the economy both interesting and unique. This relationship means that at a national level, if one group is saving money, another group must borrow and spend that money to keep the economy running. If everyone is saving and no one is borrowing, all of the saved funds will leak out of the economy's income stream, resulting in less income for all.

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[1] A longer version of this paper is here at the WEA online conference Capital Accumulation, Production and Employment

[2] Piketty, Thomas (2014) *Capital in the Twenty-First Century.*

For example, if a person with an income of $1,000 decides to spend $900 and save $100, the $900 that is spent becomes someone else's income, which means it is already circulating in the economy. Typically, the $100 that he saved is deposited with a financial institution such as a bank, which then lends it to someone else who can make use of the money. When that person borrows and spends the $100, total expenditures in the economy amount to $900 plus $100, which is the same as the original income of $1,000, and the economy moves forward.

In a normal economy, this function of matching savers and borrowers is performed by the financial sector, with interest rates moving higher or lower depending on whether there are too many or too few borrowers. If there are too many borrowers for the saved funds, interest rates will go up and some of those borrowers will drop out. If there are too few borrowers, interest rates will come down and prompt potential borrowers who stayed on the side-lines to step forward.

The government also has two types of policy, known as monetary and fiscal policy, to help stabilize the economy by matching private-sector savings and borrowings. The most frequently used of the two is monetary policy, in which the central bank raises or lowers interest rates to help the matching process along. Since a state of too many borrowers is usually associated with a strong economy, a higher policy rate might be appropriate to prevent overheating and inflation. Similarly, a state of too few borrowers is usually associated with a weak economy, in which case a lower policy rate might be needed to avert a recession or deflation.

In fiscal policy, on the other hand, the government itself borrows and spends money to build social infrastructure such as highways or airports. Compared with monetary policy, which can be decided very quickly by the central bank governor and his or her associates, fiscal policy tends to be very cumbersome in a democracy during peacetime because elected representatives must agree on how much to borrow and where to spend the money. Because of the political nature of these decisions and the time it takes to implement them, most recent economic fluctuations have been dealt with using monetary policy.

The paradox of thrift as a macroeconomic phenomenon

Now that we have covered the basics, consider an economy in which everyone wants to save but no one wants to borrow even at near-zero interest rates. There are at least two sets of circumstances where such a situation might arise. The first is one in which private-sector businesses cannot find investment opportunities that would pay for themselves. After all, the private sector will not borrow money unless it believes it can pay back the debt with interest. And there is no guarantee that such opportunities will always be available.

In the second set of circumstances, private-sector borrowers sustain huge losses and are forced to rebuild savings or pay down debt to restore their financial health. Such a situation may arise following the collapse of a nationwide asset price bubble in which a substantial part of the private sector participated with borrowed funds. When the bubble bursts, borrowers are left with huge liabilities but no assets to show for the debt. With a huge debt overhang, these borrowers have no choice but to pay down debt or increase savings regardless of the level of interest rates in order to restore their financial health.

If there are no borrowers for the saved $100 in the above example, total expenditures in the economy drop to $900 while the saved $100 remains in financial institutions or under mattresses. This means the economy has shrunk 10 percent, from $1,000 to $900. That $900 is now someone else's income. If that person decides to save 10 percent and there are still no borrowers, only $810 would be spent, causing the economy to contract even further to $810. The economy will then contract to $730 if borrowers remain on the side-lines. This is what is called a deflationary spiral.

The $100 that is left in the financial sector could still be shifted among various asset classes. It could even create mini-bubbles from time to time. But without real-economy borrowers, it will not be able to support transactions that add to GDP.

The contractionary process does not continue forever, since the savings-driven leakages from the income stream are eliminated once people become too poor to save. For example, if an income of $500 makes it impossible for a person to save any money, that person will naturally spend the entire $500. If the person receiving that $500 as income is in the same situation, she will also spend the entire $500. The result is that the economy finally stabilizes at $500 in a situation that we would call a depression.

Keynes had a name for this state of affairs, in which everyone wants to save but is unable to do so because no one is borrowing. He called it the paradox of thrift. It is a paradox because if everyone tries to save, the net result is that no one can save.

Disappearance of borrowers finally recognized after 2008

Until 2008 the economics profession considered a contractionary equilibrium (a $500 economy) brought about by a lack of borrowers to be an exceptionally rare occurrence – the only recent example was the Great Depression, which was triggered by the stock market crash in October 1929 and during which the US lost 46 percent of nominal GNP in the $1000-$900-$810-$730 process described above. Although Japan fell into a similar predicament when its real estate bubble burst in 1990, its lessons were almost completely ignored by the economics profession until the Lehman shock of 2008[3].

Economists failed to consider the case of insufficient borrowers because when macroeconomics was developing as a separate academic discipline starting in the 1940s, investment opportunities for businesses were plentiful: new "must-have" household appliances ranging from washing machines to televisions were being invented one after another. With businesses trying to start or expand production of all these new products, there were many borrowers in the private sector and interest rates were quite high, at least in comparison with the post-2008 world.

With borrowers never in short supply, economists' emphasis was very much on the availability of savings and the use of monetary policy to ensure that businesses got the funds they needed at interest rates low enough to enable them to continue investing. Economists also disparaged fiscal policy – i.e., government borrowing and spending – when inflation became a

[3] One exception was the National Association of Business Economists in Washington, D.C., which awarded its Abramson Award to a paper by the author titled "The Japanese Economy in Balance Sheet Recession," published in its journal *Business Economics* in April 2001.

problem in the 1970s because they were worried the public sector would squander the private sector's precious savings on inefficient pork-barrel projects.

During this period economists also assumed the financial sector would ensure that all saved funds are borrowed and spent, with interest rates moving higher when there are too many borrowers relative to savers and lower when there are too few. It is because of this assumed automaticity that most macroeconomic theories and models developed prior to 2008 contained no financial sector.

However, the advent of the Great Recession in 1990 for Japan and in 2008 for the West demonstrated that private-sector borrowers can disappear altogether in spite of zero or negative interest rates when faced with daunting financial problems after the bursting of a debt-financed bubble. In both post-1990 Japan and the post-2008 Western economies, borrowers disappeared completely due to the specific sequence of events described below.

First, people tend to leverage themselves up in an asset price bubble in the hope of getting rich quickly. But when the bubble bursts and asset prices collapse, these people are left with huge debts and no assets to show for them. With their balance sheets underwater, these people have no choice but to pay down debt or rebuild savings to restore their financial health.

For businesses, negative equity or insolvency implies the potential loss of access to all forms of financing, including trade credit. In the worst case, all transactions must be settled in cash, since no supplier or creditor wants to extend credit to an entity that may seek bankruptcy protection at any time. In order to safeguard depositors' money, many depository institutions such as banks are also prohibited by government regulations from extending or rolling over loans to insolvent borrowers. For households, negative equity means savings they thought they had for retirement or a rainy day are no longer there.

Since these conditions are very dangerous, both businesses and households will focus on restoring their financial health *regardless of the level of interest rates* until they feel safe again. With survival at stake, businesses and households are in no position to borrow even if interest rates are brought down to zero. There will not be many lenders either, especially when the lenders themselves have balance sheet problems. That means these households, businesses and financial institutions are effectively in *debt minimization* mode instead of the usual profit maximization mode.

No name for recession driven by private-sector debt minimization

Although it may come as a shock to non-economist readers, the economics profession never envisioned a recession driven by private-sector debt minimization until quite recently. Economists simply ignored the whole issue of financial health or the need to restore it when building their macroeconomic theories and models because they assumed the private sector is always maximizing profits. But two conditions must be satisfied for the private sector to be maximizing profits: it must have a clean balance sheet, and there must be attractive investment opportunities. By assuming that the private sector is always maximizing profits, economists assumed, mostly unconsciously, that both of these two conditions are always satisfied. And that was in fact the case for over 50 years – until the asset bubbles burst in Japan in 1990 and in the Western economies in 2008.

When that happened, not only did the surplus of borrowers disappear suddenly, but many borrowers also started paying down debt in spite of record low interest rates. Flow-of-funds data show the US private sector has been saving (including debt repayments) an average of 5.9% of GDP since the third quarter of 2008, with corresponding figures of 7.3% for Spain's private sector, 8.6% for Ireland's, and 4.6% for Portugal's. Businesses and households should be borrowing massively given today's ultra-low interest rates, but instead they have been *saving* huge amounts in an attempt to repair their balance sheets. And they will not start borrowing again until they feel comfortable with their financial health.

Yet economists continue to assume that there are many borrowers because that assumption is built into their models and theories. Their forecasts for growth and inflation based on those models and theories have completely missed the mark because that assumption is no longer valid in the post-bubble world. Moreover, because a profit-maximizing private sector is such a fundamental assumption in their theories, most economists failed to suspect that their models failed because this basic assumption about private-sector behavior is no longer warranted.

The economics profession not only neglected to consider the type of recession brought about by a debt-minimizing private sector, it never even had a name for the phenomenon. Indeed, the author had to come up with the name *balance sheet recession* in the late 1990s to describe this ailment, and the term is finally entering the lexicon of economics in the West in the wake of the 2008 collapse of Lehman Brothers and the subsequent global financial crisis. Economists' inability to understand that borrowers can actually disappear from the economy has already resulted in some very bad outcomes in modern history, including the Great Depression in the US and the rise of the National Socialists in Germany in the 1930s, as well as the emergence of similar groups in the Eurozone after 2008.

Paradox of thrift was the norm before industrial revolution

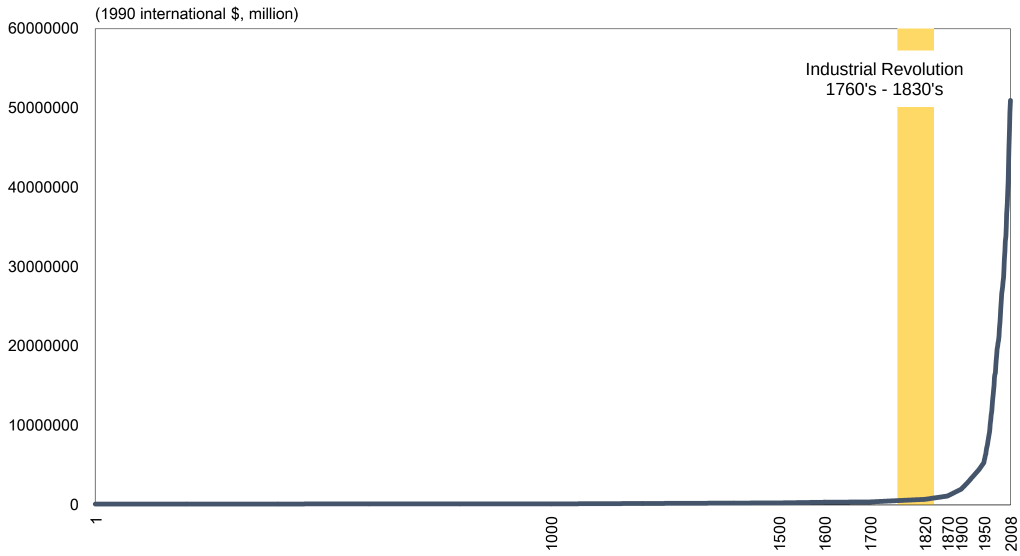
Looking further back in history, however, we can see that economic stagnation due to a lack of borrowers was much closer to the norm for thousands of years before the industrial revolution in the 1760s. As shown in Exhibit 1, economic growth had been negligible for centuries before that. There were probably many who tried to save during this period of essentially zero growth, because human beings have always been worried about an uncertain future. Preparing for old age and the proverbial rainy day is an ingrained aspect of human nature. But if it is only human to save, the centuries-long economic stagnation prior to the industrial revolution must have been due to a lack of borrowers.

For the private sector to be borrowing money, it must have a clean balance sheet and promising investment opportunities. After all, private-sector businesses will not borrow unless they are sure they can pay back the debt with interest. But with little or no technological innovation before the industrial revolution, which was essentially a technological revolution, there were few investment projects capable of paying for themselves. Businesses also tend to minimize debt when they see no investment opportunities because the probability of facing bankruptcy is reduced drastically if the firm carries no debt. Given the dearth of investment opportunities prior to the industrial revolution, it is easy to understand why there were so few willing borrowers.

Because of this absence of worthwhile investment opportunities, the more people tried to save, the more the economy shrank. The result was a permanent paradox of thrift in which people tried to save but their very actions and intentions kept the national economy in a depressed state. This state of affairs lasted for centuries in both the East and the West.

Powerful rulers sometimes borrowed the funds saved by the private sector and used them to build social infrastructure or monuments. On those occasions, the vicious cycle of the paradox of thrift was suspended because the government injected the saved funds (the initial savings of $100 in the example above) back into the income stream, generating rapid economic growth. But unless the project paid for itself – and politicians are seldom good at selecting investment projects that pay for themselves – the government would at some point get cold feet in the face of a mounting debt load and discontinue its investment. The whole economy would then fall back into the paradox of thrift and stagnate. Consequently, many of these regimes did not last as long as the monuments they created.

Exhibit 1. Economic growth became norm only after industrial revolution



Source: Angus Maddison, "Historical Statistics of the World Economy: 1-2008 AD", http://www.ggdc.net/maddison/Historical_Statistics/vertical-file_02-2010.xls

Countries also tried to achieve economic growth by expanding their territories, i.e., by acquiring more land, which was the key factor of production in pre-industrial agricultural societies. Indeed, people believed for centuries that territorial expansion was essential for economic growth. This drive for prosperity was the economic rationale for colonialism and imperialism. But both were basically a zero-sum proposition for the global economy as a whole and also resulted in countless wars and deaths.

Four possible states of borrowers and lenders

The discussion above suggests an economy is always in one of four possible states depending on the presence or absence of lenders (savers) and borrowers (investors). They are as follows: (1) both lenders and borrowers are present in sufficient numbers, (2) there are borrowers but not enough lenders even at high interest rates, (3) there are lenders but not enough borrowers even at low interest rates, and (4) both lenders and borrowers are absent. These four states are illustrated in Exhibit 2.

Of the four, only Cases 1 and 2 are discussed in traditional economics, which implicitly assumes there are always borrowers as long as real interest rates can be brought low enough. And of these two, only Case 1 requires a minimum of policy intervention – such as slight adjustments to interest rates – to keep the economy going.

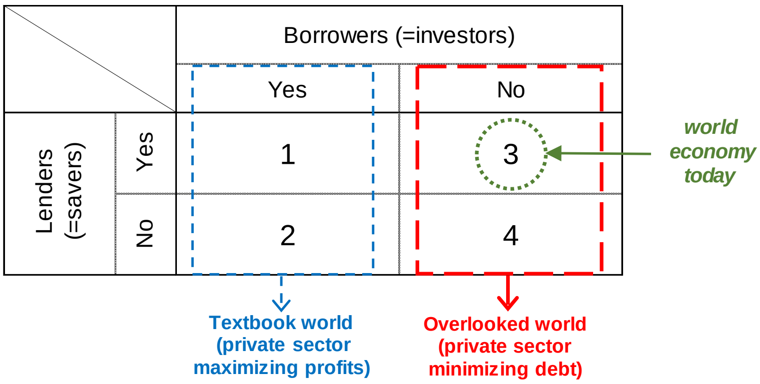
The causes of Case 2 (insufficient lenders) may be found in both financial and non-financial factors. Non-financial factors might include a culture that does not encourage saving or a country that is simply too poor and underdeveloped to save. A restrictive monetary policy may also qualify as a non-financial factor that weighs on savers' ability to lend. (If the paradox of thrift leaves a country too poor to save, this would be classified as Case 3 or 4 because it is actually due to a lack of borrowers.)

Financial factors weighing on lenders might include an excess of many non-performing loans (NPLs), which depresses banks' capital ratios and prevents them from lending. This is what is typically called a credit crunch.

When many banks encounter NPL problems at the same time, mutual distrust among lenders may lead to a dysfunctional interbank market, a state of affairs typically known as a financial crisis. Over-regulation of financial institutions by the authorities can lead to a credit crunch as well. An underdeveloped financial system may also be a factor.

Cultural norms discouraging savings, as well as income (and productivity) levels that are simply too low for people to save, are developmental phenomena typically found in pre-industrialized societies. These issues can take many years to address.

Exhibit 2. Borrowers and lenders: four possible states



1. Lenders and borrowers are present in sufficient numbers (textbook world) ⇒**Ordinary interest rates**
2. Borrowers are present but not lenders due to the latter's bad loan problems (financial crisis, credit crunch) ⇒**Loan rates much higher than policy rate**
3. Lenders are present but not borrowers due to the latter's balance sheet problems and/or lack of investment opportunities (balance sheet recession, "secular" stagnation) ⇒**Ultra-low interest rates**
4. Borrowers and lenders both absent due to balance sheet problems for the former and bad loan problems for the latter (aftermath of a bubble burst) ⇒**Ultra-low interest rates, but only for highly rated borrowers**

Non-developmental causes of a shortage of lenders, however, all have well-known remedies in the literature. For example, the government can inject capital into the banks to restore their ability to lend, or it can relax regulations preventing financial institutions from performing their role as financial intermediaries. In the case of a dysfunctional interbank market, the central bank can act as lender of last resort to ensure the clearing system continues to operate. It can also relax monetary policy.

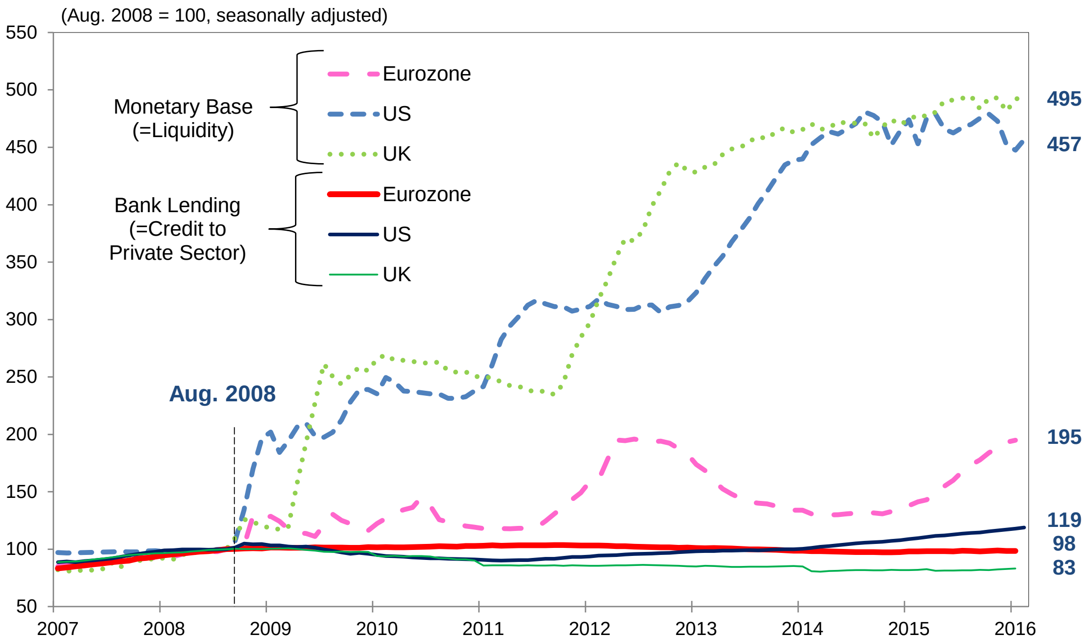
The conventional emphasis on monetary policy and concerns over the crowding-out effect of fiscal policy are justified in Cases 1 and 2, where there are borrowers but (for a variety of reasons in Case 2) not enough lenders.

A shortage of borrowers and the other half of macroeconomics

The problem is with Cases 3 and 4, where the bottleneck is a lack of *borrowers*. This is the other half of macroeconomics that has been overlooked by traditional economists.

As noted above, there are two main reasons for an absence of private-sector borrowers. The first is that they cannot find attractive investment opportunities that will pay for themselves, and the second is that their financial health has deteriorated to the point where they are unable to borrow until they repair their balance sheets. An example of the first case would be the world that existed prior to the industrial revolution, while examples of the second case can be found following the collapse of debt-financed asset price bubbles.

Exhibit 3. Massive liquidity supply and record low interest rates after 2008 failed to increase credit to private sector



Notes: 1. US monetary base and UK's reserve balances data are seasonally unadjusted.
2. UK's bank lending data exclude intermmediate financial institutions.
3. Base money's figures of Eurozone are seasonally adjusted by Nomura Research Institute.
Source: Nomura Research Institute, based on FRB, ECB and Bank of England data.

Borrowers who have absented themselves because their balance sheets are underwater will not return until their negative equity problems are resolved. Depending on the size of the bubble, this can take many years even under the best of circumstances. Furthermore, the economy will enter the \$1,000–\$900–\$810–\$730 deflationary scenario mentioned earlier if the private sector as a whole is saving money (or paying down debt) in spite of zero interest rates.

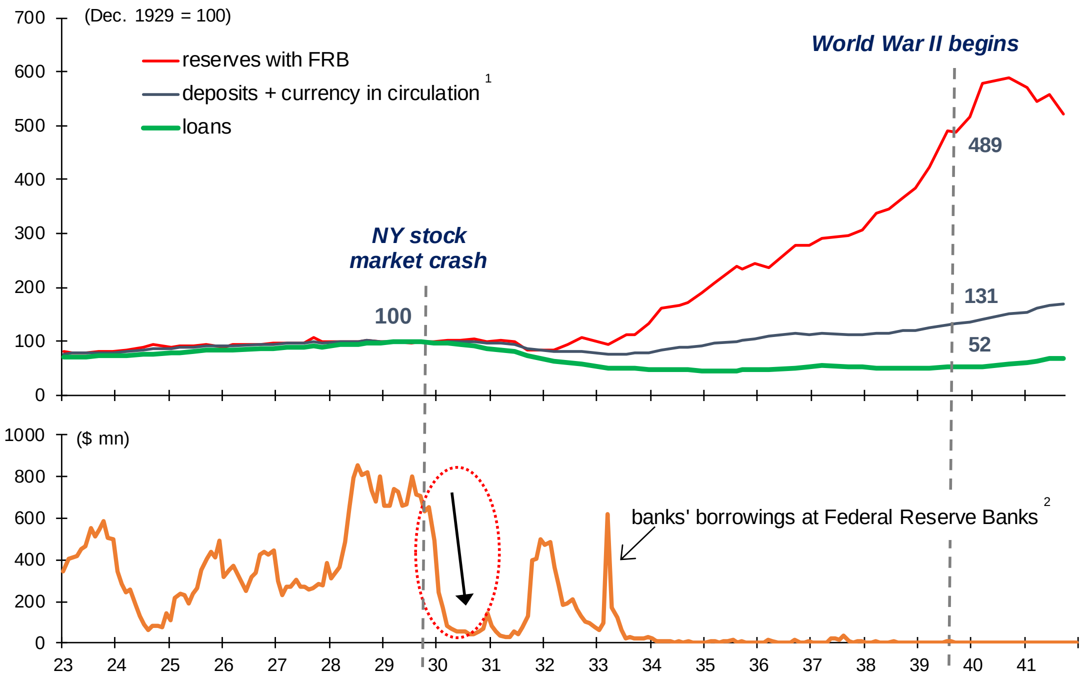
When borrowers disappear, there is very little that monetary policy, the favorite of traditional economists, can do to prop up the real economy. Exhibit 3 shows that the close relationship between central-bank-supplied liquidity, known as the monetary base, and growth in private-sector credit seen prior to 2008 broke down completely after the bubble burst and the private sector began minimizing debt. This exhibit makes it clear that the monetary base and credit to the private sector were closely correlated prior to 2008, just as economics textbooks teach. In other words, the private sector was utilizing all the funds supplied by the central bank, and economies were in Case 1 of Exhibit 2.

But after the bubble burst, forcing the private sector to repair its balance sheet by minimizing debt, no amount of central bank accommodation could increase borrowings by the private sector. The US Federal Reserve, for example, expanded the monetary base by 357 percent from the time Lehman went under. In an ordinary (i.e., textbook) world, this should have led to similar increases in the money supply and credit, driving corresponding increases in inflation.

Instead, credit to the private sector increased only 19 percent over seven and a half years. A central bank can always add liquidity to the banking system by purchasing assets from financial institutions. But for that liquidity to enter the real economy, banks must lend out those funds: they cannot give them away because the funds are ultimately owned by depositors. A mere 19 percent increase in lending means new money entering the real economy from the financial sector has grown only 19 percent since 2008. Similar patterns have been observed in the Eurozone and the UK. This explains why inflation and growth rates in the advanced economies have all failed to respond to zero interest rates or astronomical injections of central bank liquidity since 2008.

Unsurprisingly, the same decoupling of monetary aggregates was observed in the US during the Great Depression and in Japan after 1990. Exhibit 4 shows the monetary base, the money supply, and credit to the private sector before and after the October 1929 stock market crash. It shows that the three were moving together until the crash, just as textbooks teach, but diverged sharply afterwards as the US private sector sought to repair its battered balance sheet by minimizing debt. This can be seen from the fact that loans to the private sector fell the farthest, by as much as 54.7 percent from the 1929 peak, a phenomenon that was also observed in the post-2008 recessions.

Exhibit 4. Decoupling of monetary aggregates observed in 1930s US

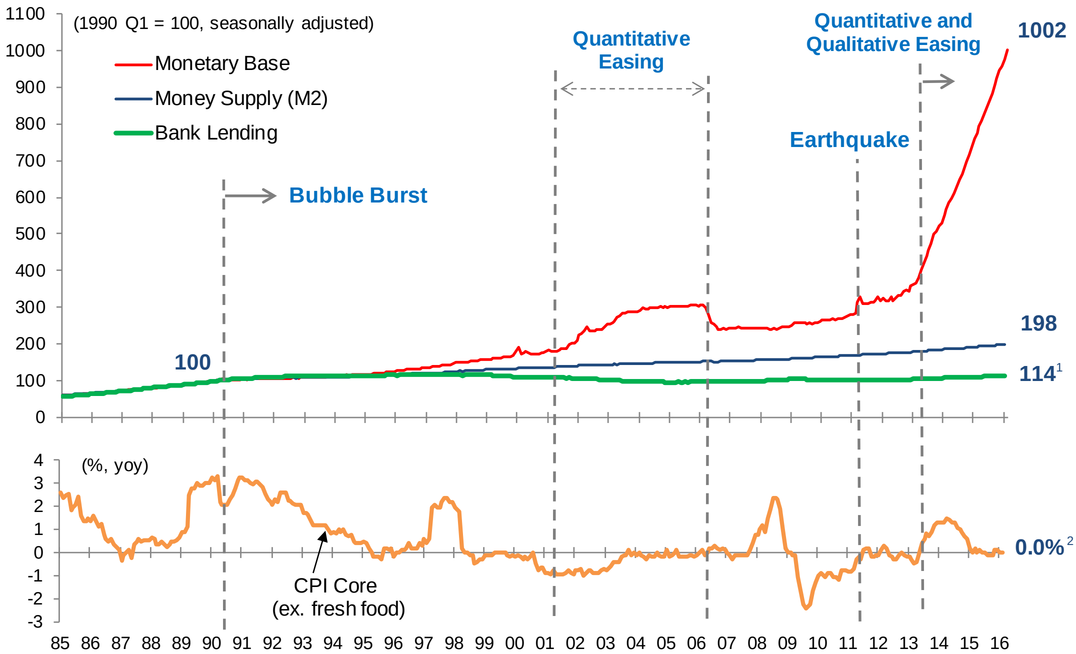


Notes: 1. deposits = demand deposits adjusted + other time deposits
2. Only this data series is based on member banks in 101 leading cities. All other data series are for all membr banks.
Source: Nomura Research Institute, based on the data from Board of Governors of the Federal Reserve System (1976), *Banking and Monetary Statistics 1914-1941*, pp.72-75 pp.138-163 and pp.409-413

Believers in monetary policy might argue that in the 1930s the Fed did not expand the monetary base as quickly as it did post-Lehman, and that this lack of early action contributed to the severity of the subsequent depression in the 1930s. A close look at the reserve data, however, indicates that American banks were actually paying borrowed reserves back to the Fed at a rapid pace immediately after the stock market crash, as shown in the bottom of Exhibit 4. Between June 1929 and March 1930, bank borrowings from the Fed fell 95 percent, from $801 million to just $43 million. This was probably because the collapse in loan demand left banks with no reason to hold borrowed reserves. And with lenders so eager to return reserves back to the Fed, there was no reason for the Fed to *increase* reserves.

The same decoupling of monetary aggregates was also observed in Japan after its bubble burst in 1990, as shown in Exhibit 5. Here, too, the Bank of Japan's massive injections of reserves to the banking system failed to increase lending to the private sector or boost inflation (shown at the bottom of Exhibit 5).

Exhibit 5. Decoupling of monetary aggregates observed in post-1990 Japan



Notes: 1. Figures for bank lending are seasonally adjusted by Nomura Research Institute.
2. Excluding the impact of consumption tax.
Source: Bank of Japan

The behavior of monetary aggregates following a bubble's collapse suggests that monetary policy loses its effectiveness when the private sector is minimizing debt, i.e., when the economy is in Cases 3 and 4 in Exhibit 2. Central banks have continued to miss their inflation targets since 2008 because private sectors in the developed economies are all minimizing debt. And they are doing so because their balance sheets are impaired. The fact that a number of central bank governors continue to insist that further monetary easing will enable them to meet their inflation targets suggests they still do not understand why their models have failed, a disturbing thought indeed.

Once the bubble bursts and investors are left facing debt overhangs, no amount of monetary easing by the central bank will persuade them to borrow money. These businesses and households will not resume borrowing until their balance sheets are fully repaired. Some may never borrow again – even after their balance sheets are restored – if they were badly traumatized by the painful deleveraging experience. When the private sector as a whole is not borrowing money even at zero interest rates because it has to repair its balance sheet, the economy will fall into the deflationary spiral described above because an absence of borrowers prevents saved funds from re-entering the economy's income stream.

Self-corrective mechanism of economies in balance sheet recessions

When private-sector borrowers disappear and monetary policy stops working, the correct way to prevent a deflationary spiral is for the government to borrow and spend the excess savings in the private sector ($100 in the example above). In other words, the government should mobilize fiscal policy and serve as *borrower of last resort*. If the government borrows and spends the $100 left unborrowed by the private sector, total expenditures will amount to $900 plus $100, or $1,000, and the economy will move on. This way, the private sector also has the income it needs to pay down debt or rebuild savings. The government should attempt fiscal consolidation only after the private sector is ready to borrow again. Otherwise it risks restarting the deflationary spiral.

The bond market will also encourage the government to act as borrower of last resort during this type of recession by keeping government bond yields very low. This happens because the government is the only remaining borrower in a balance sheet recession. Fund managers at life insurers and pension funds who must earn an investment return but are not allowed to take on too much foreign exchange risk or principal risk (i.e., they cannot invest all their money in stocks) have little choice but to buy government bonds. Their rush into government debt pushes yields to exceptionally low levels and encourages the government to act as borrower of last resort in what may be called the self-corrective mechanism of economies in balance sheet recessions.

It is a self-corrective mechanism because the government should be able to find projects that can earn enough to pay those exceptionally low yields. To the extent that those projects are self-sustaining, additional borrowing by the government will not burden taxpayers. And the government's fiscal action will support the economy and provide the private sector with income to repair its balance sheet.

Exceptionally low government bond yields were first observed in post-1990 Japan and since 2008 can be seen in Western economies as well. It is also hoped that modern governments will be better than the emperors and kings of the past at selecting projects that will ultimately pay for themselves.

Borrowers may remain traumatized by the long and painful experience of deleveraging even after they have repaired their balance sheets. Under such conditions, which were observed in the US for decades after the Great Depression and in Japan more recently, the authorities may need to provide incentives to borrow and invest, such as accelerated depreciation allowances.

Economies do not stay in Case 4 for long

When a bubble bursts, the economy typically finds itself facing an absence of both lenders and borrowers (Case 4). Lenders disappear from the scene because during the bubble they lent money to now-insolvent speculators, and the resulting non-performing loans have eroded their capital. In fact, many lenders may be effectively bankrupt themselves.

The whole society suffers when impaired balance sheets leave banks unable to function. That is why the government and the central bank respond to banking sector problems with the kinds of policies described in the discussion of Case 2 on page 7. Even though some of these policies, such as capital injections to the banks, are not always popular, the necessary remedies are well known and, once implemented, will usually resolve lenders' problems within two years. Once banks are functioning again, the economy moves from Case 4 to Case 3.

In contrast to lender-side problems, there are no quick fixes for problems at borrowers, whether they are due to balance sheet difficulties or a lack of technological innovation. An economy in Case 3 can therefore remain there for years if not decades.

It should be noted that if the debt overhang at borrowers is small enough for the rest of the society to absorb, debt forgiveness, debt-for-equity swaps, and similar measures can be used to address the problem. But if a large part of the society is facing the same overhang problem, which is usually the case when a nationwide asset price bubble bursts, such measures merely transfer the problem from one part of society to another without solving it. When the problems are broad-based, therefore, measures to help all borrowers rebuild their balance sheets are needed, and this process takes time.

When a lack of investment opportunities deters borrowers

If borrowers are absent because businesses cannot find attractive investment opportunities, which was the cause of the economic stagnation that lasted for centuries before the industrial revolution, a very different mind-set is needed to solve the problem. To begin with, there are many different potential causes for this problem depending on the stage of economic development, each requiring a different policy response.

Today's developed economies all started out as agrarian societies, and the centuries-long paradox of thrift finally ended with the arrival of the industrial revolution. The invention of new products and the machines needed to make them produced a huge number of investment opportunities for the first time in history. Private-sector businesses that would not borrow money unless they were sure they could pay it back found many promising projects and started borrowing. The financial sector also developed to meet the newfound demand for funds. This self-financing process could continue as long as the debt-financed projects were sound enough to pay for themselves.

Thus began a virtuous cycle in which investments created more jobs and income, which in turn created more savings to finance more investments. Unlike the government-financed investments in earlier centuries that eventually ran into financing difficulties, private-sector-led investments could sustain themselves as long as attractive new products were continuously brought to market. The result was the rapid economic growth observed since the industrial revolution.

At the beginning of the industrial revolution, constraints to growth included a lack of social infrastructure (e.g., transportation networks), insufficient savings to fund investments, an illiterate work force, and the slow pace of technological innovation. But some of these constraints were soon transformed into investment opportunities in the form of railways and other utilities. The urbanization of the population alone created massive investment opportunities as rural workers moved to the cities to work in factories. As new household appliances, cars, cameras and airplanes were invented and developed in rapid succession, a lack of investment opportunities was seldom a constraint to growth during this period.

Household savings also became a virtue instead of a vice from a macroeconomic perspective, and economies where people felt responsible for their own future and saved more tended to grow more rapidly than those where people saved less.

Borrower availability and the three stages of economic development

The availability of investment opportunities, however, is never guaranteed. It depends on a myriad of factors including the stage of economic development, the pace of technological innovation and scientific breakthroughs, the ability of businesspeople to uncover such opportunities and their willingness to borrow, the availability of financing at reasonable interest rates, the protection of intellectual property rights, and the state of the economy and world trade.

The importance of each of these factors also depends on a nation's stage of economic development. The pace of innovation and breakthroughs is probably more important for countries already at the forefront of technology, while the availability of financing and the protection of intellectual property rights might be just as important for emerging economies.

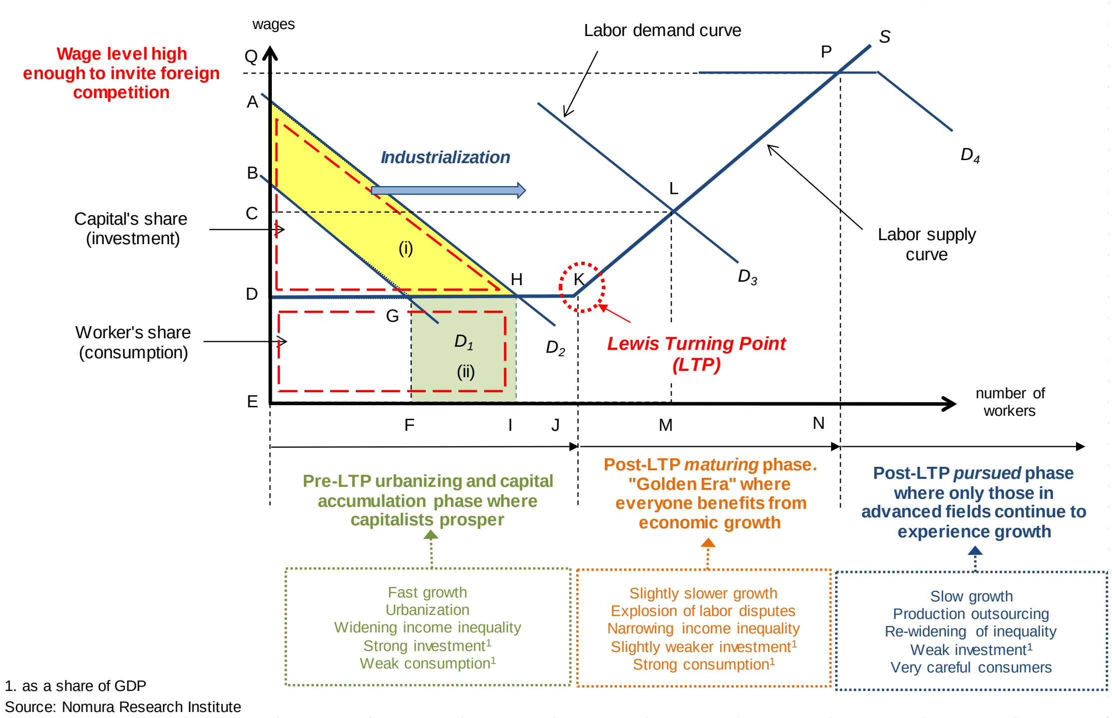
When Germany was emerging as an industrial power, for instance, the UK accused the Germans of copying its products and demanded the use of "Made in Germany" labels to distinguish imports from the British originals. Japan faced similar accusations from Western countries, as did China from both the West and Japan. Today many Chinese businesses are demanding that the Beijing government implement stronger intellectual property rules because they worry that any product they develop will be quickly copied by domestic competitors, rendering their research and development efforts worthless. Thus the ability to copy goes from being a huge positive at one stage of economic development to a major negative later on.

In terms of the availability of investment opportunities, it may be useful to divide the industrialization process into three stages: urbanizing economies, which have yet to reach the Lewis Turning Point (LTP), maturing economies, which have already passed the LTP, and pursued economies, which are in the final stage. The LTP refers to the point at which urban factories have finally absorbed all the surplus rural labor. (In this paper, LTP is used only because it is a well-known term for a point in a nation's economic development and does not refer to the economic growth model proposed by Sir Arthur Lewis.)

At the beginning of industrialization, most people are living in rural areas. Those with technical knowledge of how to produce goods and where to sell them are limited to the educated elite, who are very few in number. Families whose ancestors have lived on depressed farms for centuries have no such knowledge. Most of the gains during the initial stage of industrialization therefore go to the educated few, while the rest of the population simply provides labor for the industrialists.

The pre-LTP urbanizing economy is extremely lucrative for those few business owners, since they can secure a boundless supply of labor from rural districts simply by paying the going wage. In this world, capitalists need not worry about a shortage of labor and can expand their businesses essentially without limit as long as they have the necessary production facilities and a market for their products. Capitalists who grasp such investment opportunities before the LTP is reached can earn huge profits, further increasing their incentive to expand.

Exhibit 6. Three phases of industrialization/globalization



1. as a share of GDP
Source: Nomura Research Institute

Exhibit 6 illustrates this from the perspective of labor supply and demand. The labor supply curve is almost horizontal (DHK) until the Lewis turning point (K) is reached because there is an essentially unlimited supply of rural laborers seeking to work in the cities. Any number of such laborers can be assembled simply by paying the going wage (DE).

In this graph, capital's share is represented by the area of the triangle formed by the left axis, the labor demand curve, and the labor supply curve, while labor's share is represented by the rectangle below the labor supply curve. At the time of labor demand curve D_1, capital's share is the triangle BDG, and labor's share is the rectangle DEFG. During this phase of industrialization, the capital share BDG may be shared by a few persons or families, whereas the labor share DEFG may be shared by millions of workers.

Successful businesses in this world will continue to invest in an attempt to make even more money. That raises the demand for labor, causing the labor demand curve to shift steadily to the right (from D_1 to D_2) even as the labor supply curve remains flat. As the labor demand curve shifts to the right, total wages received by labor increase from the area of the rectangle DEFG at time D_1 to the area of rectangle DEIH at time D_2 as the length of the rectangle below the labor supply curve grows. However, the growth is linear. The share of capital, meanwhile, is likely to increase at more than a linear rate as the labor demand curve shifts to the right, expanding from the area of the triangle BDG at D_1 to the area of the triangle ADH at D_2.

Growth exacerbates inequality during pre-LTP stage

Until the LTP is reached, GDP growth is likely to increase the portion of GDP that accrues to the capitalists, exacerbating inequalities. A key reason why a handful of families and business groups in Europe a century ago and the zaibatsu in Japan prior to World War II were able to accumulate such massive wealth is that they faced an essentially flat labor supply curve (wealth accumulation in North America and Oceania was not quite as extreme because these economies were characterized by a shortage of labor). Some in post-1979 China became extremely rich for the same reason.

During this phase, income inequality, symbolized by the gap between rich and poor, widens sharply as capitalists' share of income (the triangle) often increases faster than labor's share (the rectangle). Because capitalists are profiting handsomely, they will continue to borrow and re-invest profits in a bid to make even more money. Sustained high investment rates mean domestic capital accumulation and urbanization also proceed rapidly. This is the take-off period for a nation's economic growth.

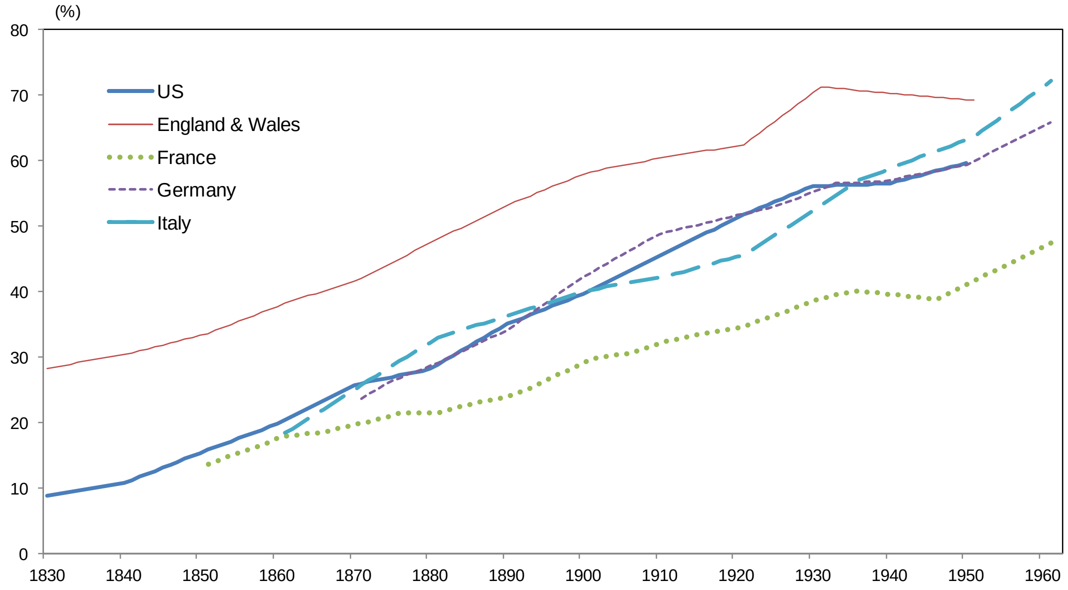
Until the economy reaches the Lewis turning point, however, low wages mean most people will still lead hard lives, even though the move from the countryside to the cities may improve their situations modestly. For typical workers this was no easy transition, with 14-hour workdays not at all uncommon until the end of the 19th century. According to the OECD, annual working time in the West in 1870 was around 2,950 hours, or double the current level of 1,450 hours[4]. Business owners, however, were able to accumulate tremendous wealth during this period.

Stage II of industrialization: the post-LTP maturing economy

As business owners continue to generate profits and expand investment, the economy eventually reaches its LTP. Once that happens, urbanization is largely finished and the total wages of labor – which had grown only linearly until then – start to increase much faster since there is no more surplus labor in the rural areas and any additional demand for labor pushes wages higher. In other words, the post-LTP labor supply curve will have a significant positive slope. In Exhibit 6, even if labor demand increases only modestly, from J to M, total wages accruing to labor will rise dramatically, from the area of rectangle DEJK to the area of rectangle CEML.

[4] Maddison, Angus (2006) *The World Economy. A Millennial Perspective (Vol. 1). Historical Statistics (Vol. 2)*. OECD, p. 347.

Exhibit 7. Western urbanization* continued until 1960s



* Percentage of population living in urban areas with 20,000 people or more in England & Wales, 10,000 or more in Italy and France, 5,000 or more in Germany and 2,500 or more in the US.
Sources: U.S. Census Bureau (2012), *2010 Census*, Peter Flora, Franz Kraus and Winfried Pfenning ed, (1987), *State, Economy and Society in Western Europe 1815-1975*

Once the LTP is reached, labor has the bargaining power to demand higher wages for the first time in history, which reduces the profit share of business owners. But businesses will continue to invest as long as they are achieving good returns, leading to further tightness in the labor market. It is at this point that the inequality problem begins to correct itself.

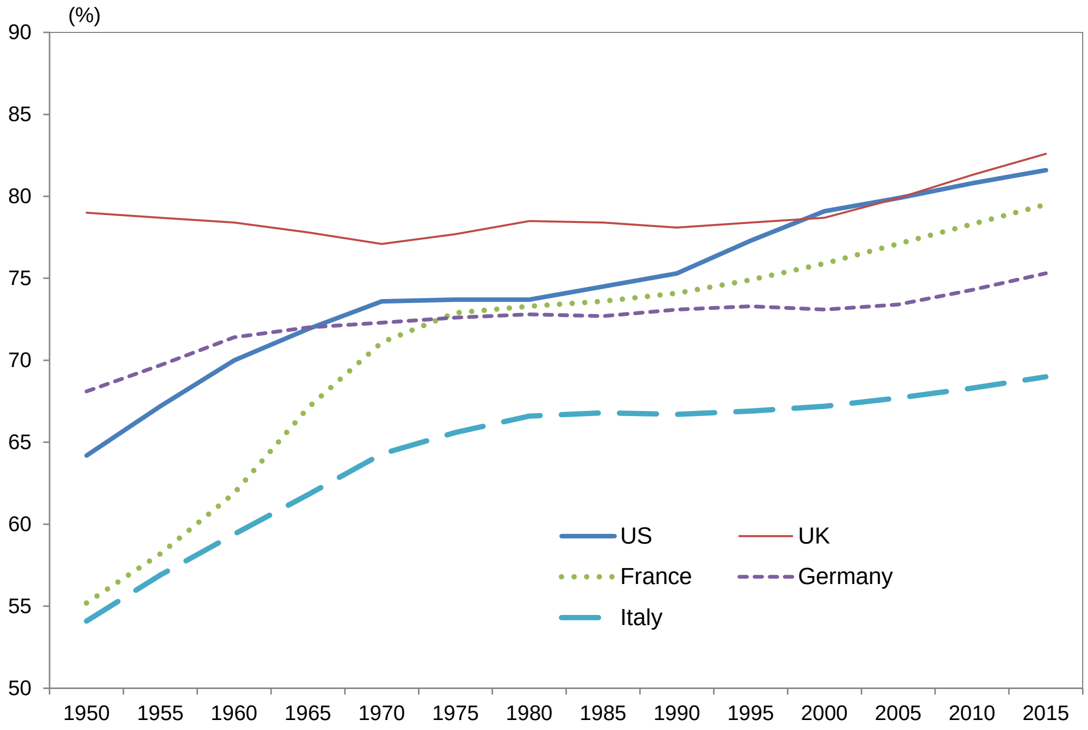
A significant portion of the US and European populations still lived in rural areas until World War I, as shown in Exhibit 7. Even in the US, where – unlike in Europe – workers were always in short supply, nearly half the population was living on farms as late as the 1930s. The mobilizations for two world wars then pushed these economies beyond the LTP, and standards of living for average workers began to improve dramatically. With workers' share of output increasing relative to that of capital, inequality diminished as well, ushering in the so-called Golden Sixties in the US. With incomes rising and inequality falling, this post-LTP maturing phase may be called the *golden era* of economic growth.

As labor's share increases, consumption's share of GDP will increase at the expense of investment, and with reduced capital accumulation, growth will slow as well. At the same time, the explosive increase in the purchasing power of ordinary citizens means most businesses are able to increase profits simply by expanding existing productive capacity. From that point onward the economy begins to "normalize" in the sense in which we use that term today.

Once the economy reaches its LTP and wages start growing rapidly, the workers begin to utilize their newfound bargaining power. The huge number of strikes many countries in the West experienced from the 1950s to the 1970s reflects this development.

Capitalists initially resist labor movements with union busters and strike busters. But as workers grow increasingly scarce and expensive, the capitalists must back down and start accepting some of labor's demands if they want to keep their factories running. After about 20 years of such struggles, both employers and employees begin to understand what can be reasonably expected from the other side, and a new political order is established. The political order dominated by center-left and center-right political parties now in place in the West and Japan reflects this learning process.

Exhibit 8. Western urbanization slowed in 1970s



Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, custom data acquired via website.

With rapid improvements in the living standards of most workers, the post-LTP maturing phase is characterized by broadly distributed benefits from economic growth. Even those with limited skills can make a good living, especially if they belong to a strong union.

Higher wages force businesses to look harder for profitable investment opportunities. On the other hand, the explosive increase in the purchasing power of ordinary workers who are paid ever-higher wages creates major investment opportunities. Businesses invest heavily in productivity-enhancing equipment to meet this demand from increasingly rich consumers at a time of rising wages. Even if workers' skill level remains unchanged, their productivity increases during this period because of such investment made by businesses, which is necessary for them to remain competitive.

Government tax receipts also increase rapidly during this period, allowing the government to offer an ever-expanding range of public services. That, in turn, reduces the sense of inequality among the population. In the West this golden era lasted until around 1970.

Stage III of industrialization: the post-LTP pursued economy

This golden age does not last forever. The first signs of a serious threat to Western economic growth appeared when businesses in the US and Europe encountered Japanese competition in the 1970s. Initially this was blamed on the wage gap between Japan and the Western economies. But the wage gap had always existed. The real reason was that Japanese businesses were approaching and, in some cases, surpassing the technological and marketing sophistication of the West while at the same time benefiting from lower wage costs.

Many in the West were shocked to find that Japanese cars required so little maintenance and so few repairs. The Germans may have invented the automobile, and the Americans established the process by which they could be manufactured cheaply, but it was the Japanese who created cars that do not break down. The arrival of the Nikon F camera in the 1960s also came as a huge shock to the German camera industry because it was so much more rugged, adaptable, easy to use and serviceable than German Leicas and Exaktas, and professional photographers around the world switched to the Japanese brand. For the first time since the industrial revolution, the West found itself being pursued by a formidable competitor from the East.

Once a country is being chased by a technologically savvy competitor, often with a younger and less expensive labor force, it becomes far more challenging for businesses in the pursued country to find attractive investment opportunities at home. This is because it often makes more sense for them to buy directly from the "chaser" or to invest in that country themselves. Indeed, many US and European companies happily bought Japanese products to add to their product lines or sell through their dealerships. These products carried proud American or European brands but were actually made in Japan. By the mid-1970s, for example, General Motors was buying cars from Toyota, Ford from Mazda, and Chrysler from Mitsubishi. In the "German" camera industry, Leicas were increasingly made with Minolta components – if not produced entirely by the Japanese company – and cameras with such venerable names such as Exakta and Contax were made entirely in Japan.

Businesses in the pursued country no longer have the same incentive to invest in productivity-enhancing equipment at home because there is now a viable alternative – investing in or buying from lower-cost production facilities abroad. In other words, capital invested abroad often earns a higher return than when it is invested at home. Productivity gains made possible by investments in productivity-enhancing equipment at home therefore slow down significantly.

According to US Bureau of Labor Statistics data compiled by Stanley Fischer at the Fed[5], productivity growth in the non-farm business sector averaged 3.0 percent from 1952 to 1973. Average productivity growth then fell to 2.1 percent for the 1974 to 2007 period, and to 1.2 percent from 2008 to 2015. These numbers not only confirm the trend mentioned above, but also suggest that worker productivity in the future will depend increasingly on the efforts of individual workers to improve their skills instead of on corporate investment in productivity-enhancing equipment.

[5] Fischer, Stanley (2016) "Reflections on Macroeconomics Then and Now," remarks at "Policy Challenges in an Interconnected World" 32nd Annual National Association for Business Economics Economic Policy Conference, Washington D.C., March 7, 2016.
https://www.federalreserve.gov/newsevents/speech/fischer20160307a.htm

In terms of Exhibit 6, labor demand curve D_4 in a post-LTP pursued economy becomes largely horizontal at wage level EQ, where outsourcing to foreign production sites becomes a viable alternative. This means real wage growth will be minimal from this point onward except for those with abilities that are not easily replicated abroad.

With domestic investment opportunities shrinking, economic growth also slows in the pursued countries. This is very much the reality of Western economies today, with a steadily increasing number of emerging countries joining the chasers.

Japan's ascent forced changes in the West

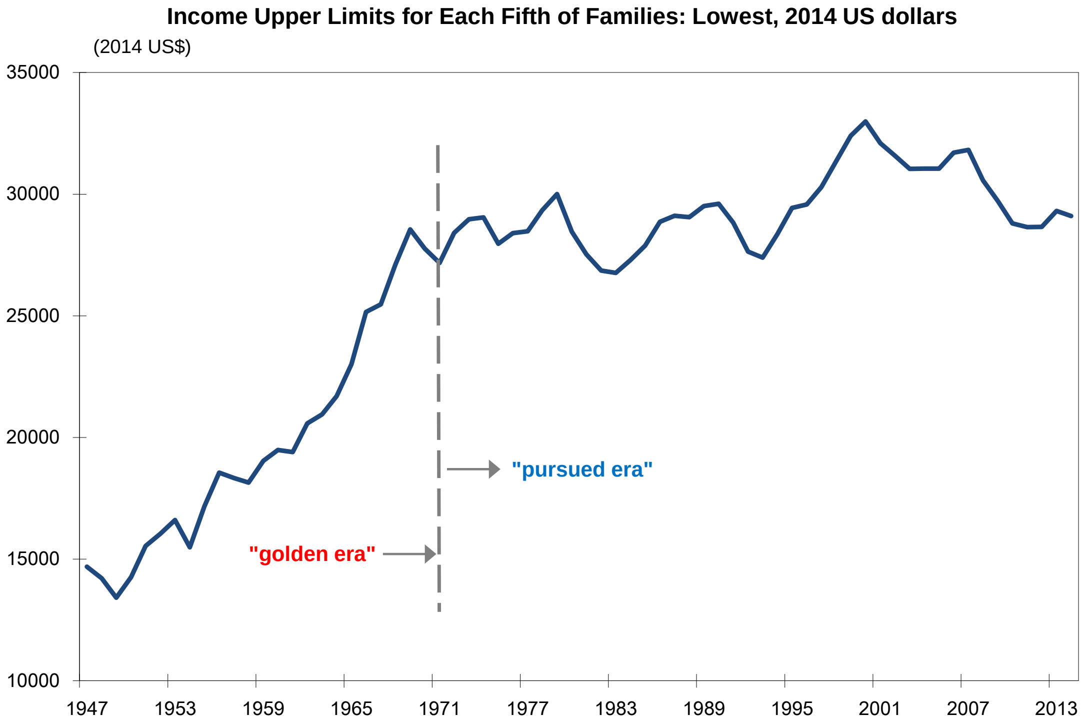
The Japanese ascent disturbed the US and European industrial establishments in no small way. As many workers lost their jobs, ugly trade frictions ensued between Japan and the West. This marked the first time that Western countries that had already passed their LTPs had been chased by a country with much lower wages.

Many well-known US companies such as Zenith and Magnavox folded under the onslaught of Japanese competition, and the West German camera industry, the world's undisputed leader until around 1965, had all but disappeared by 1975. While Western companies at the forefront of technology continued to do well, the disappearance of many well-paying manufacturing jobs led to worsening income inequality in these countries.

There was initially tremendous confusion in the West over what to do about the Japanese threat. As the Japanese took over one industry after another, many industry and labor leaders sought protection via higher tariffs and non-tariff barriers. France, for example, ruled that all Japanese video recorders must clear customs in the remote countryside village of Poitiers, which had few customs officers, to discourage their entry into the country. This was done even though France had no local manufacturers of video recorders. Others argued for exchange rate realignments that were realized in the Plaza Accord of 1985, which halved the dollar's value against the yen.

Still others said the West should study Japan's success and learn from it, which resulted in a Western infatuation with so-called "Japanese management." At the time, many well-known business schools in the US actively recruited Japanese students so they could discuss Japanese management practices in the classroom. Some even argued that eating fish – and sushi in particular – would make them as smart as the Japanese. All in all, Western nations' confidence in being the most technically advanced economies in the world was shattered.

Exhibit 9. Incomes of lowest 20% of us families shot up until 1970 but stagnated thereafter



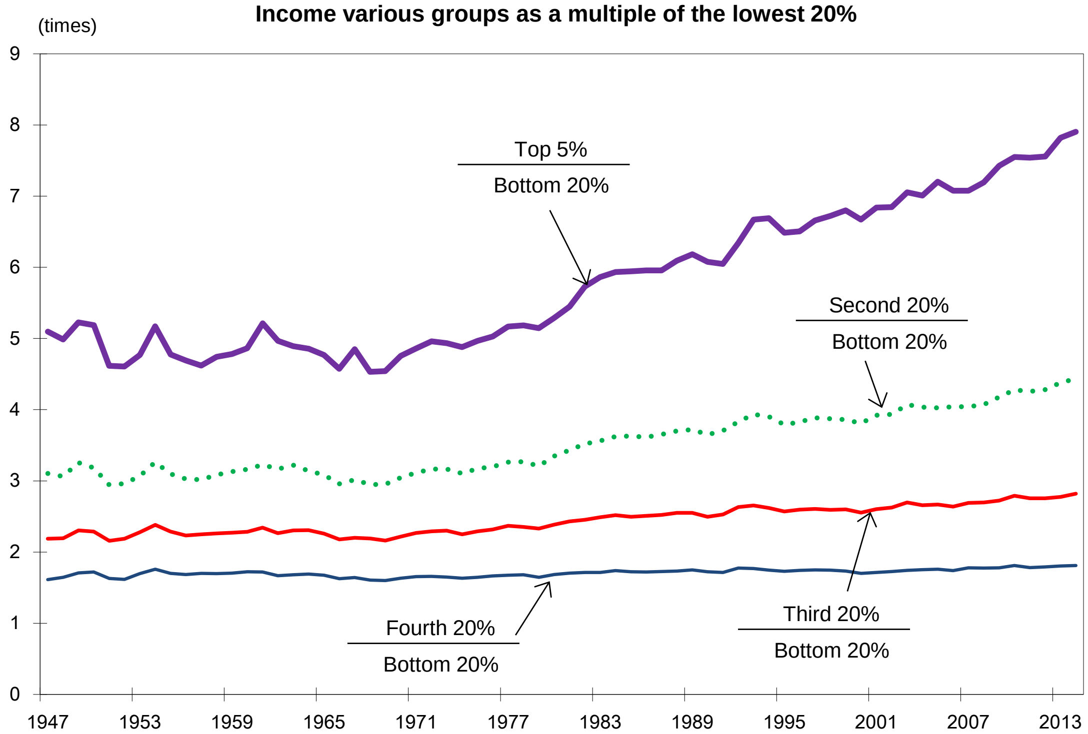
Source: Current Population Survey, 2015 Annual Social and Economic (ASEC) Supplement

Some of the pain Western workers felt was naturally offset by the fact that, as consumers, they benefited from cheaper imports from Japan. And businesses with advanced technology were still doing well. But it was no longer the case that everyone in society was benefiting from economic growth. Those whose jobs could be transferred to lower-cost locations abroad saw their living standards stagnate or actually fall.

Inequality worsens in post-LTP pursued stage

Exhibit 9 shows the real income of the lowest quintile of US families from 1947 to 2014. It shows that even for this group, incomes grew rapidly in the post-LTP maturing stage lasting until around 1970. Since then, income growth has stagnated as the country entered the post-LTP pursued phase. Exhibit 10, which shows the income growth of other quintiles relative to the lowest 20 percent, demonstrates that the ratios remain remarkably stable until 1970 but diverge thereafter.

Exhibit 10. US income inequality began to worsen after 1970



Source: Nomura Research Institute, based on the data from Current Population Survey, 2015 Annual Social and Economic (ASEC) Supplement

Exhibit 11. Annualized growth rates of US family income by income quintile

(annualized, %)

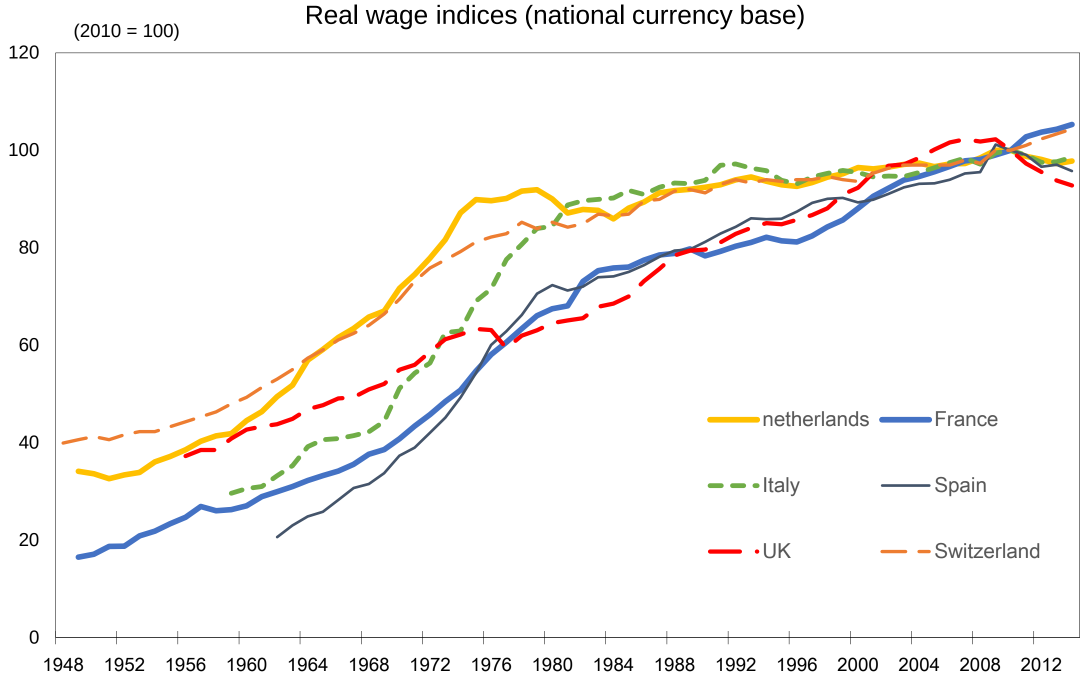
	lowest 20%	second 20%	third 20%	fourth 20%	top 5%
Post-LTP maturing phase 1947-1970	2.805	2.854	2.861	2.719	2.496
Post-LTP pursued phase 1970-2014	0.107	0.345	0.657	0.965	1.270

Source: Nomura Research Institute, based on the data from Current Population Survey, 2015 Annual Social and Economic (ASEC) Supplement

Exhibit 11 shows annualized income growth by income quintile in the post-LTP maturing phase from 1947 to 1970 and the post-LTP pursued phase from 1970 to 2014. It shows that the lowest 60 percent actually enjoyed slightly faster income growth than those at the top before 1970, indicating a decrease in income inequality. This was indeed a golden era for the US economy in which everyone was becoming richer and enjoying the fruits of economic growth.

The situation changed drastically, however, once Japan started chasing the US. Exhibit 9 shows that the income growth of the lowest quintile stagnated from that point forward, all the way to the present. Exhibits 10 and 11 show that the income growth of other groups was only slightly better – except for the top 5 percent, which continued to experience significant income gains even after 1970. This group probably includes those who were at the forefront of innovation as well as those who were able to take advantage of Japan's emergence.

Exhibit 12. Real wages in six European countries after WWII



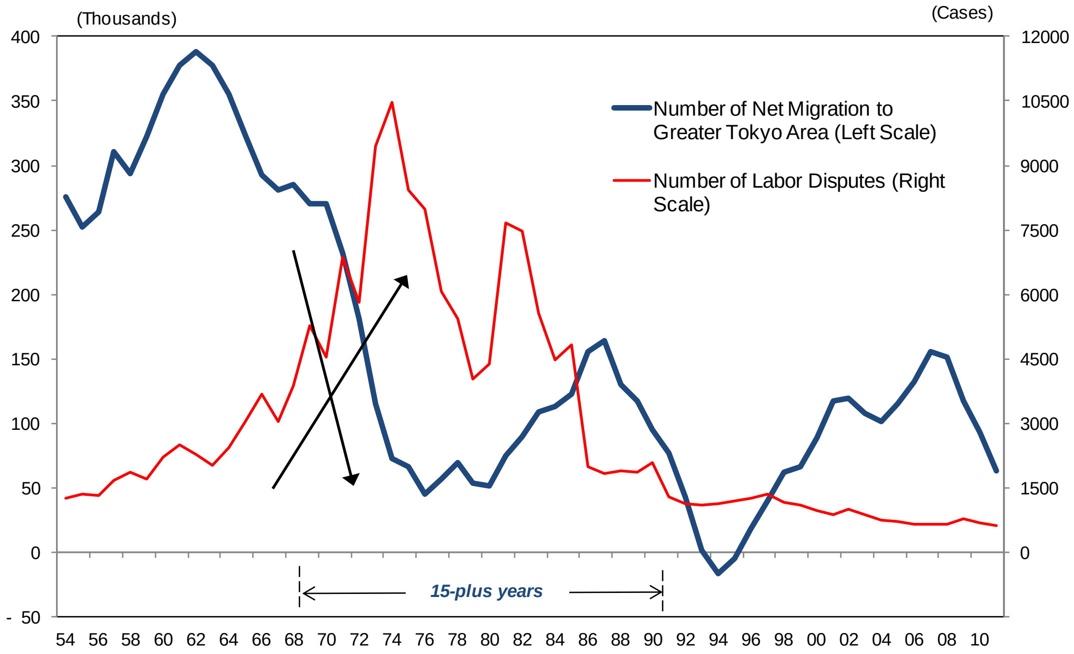
Source: Nomura Research Institute, based on the data from IMF, *International Financial Statistics* and Swiss Federal Statistical Office, *Swiss Wage Index*

Exhibit 11 demonstrates that income growth for different income quintiles was quite similar during the golden era but began to diverge significantly once the country became a chased economy. Income growth for the top 5 percent group dropped from 2.49 percent per year during the maturing stage to just 1.27 percent during the pursued stage, but that is still 12 times higher than the growth rate for the lowest 20 percent.

Similar developments were observed in Europe. Exhibit 12 shows real wages in six European countries. With the possible exception of the UK, all of these countries experienced rapid wage growth until the 1970s followed by significantly slower growth thereafter.

The three stages of Japanese industrialization

Exhibit 13. Labor demand skyrockets after passing Lewis turning point (1): Japan



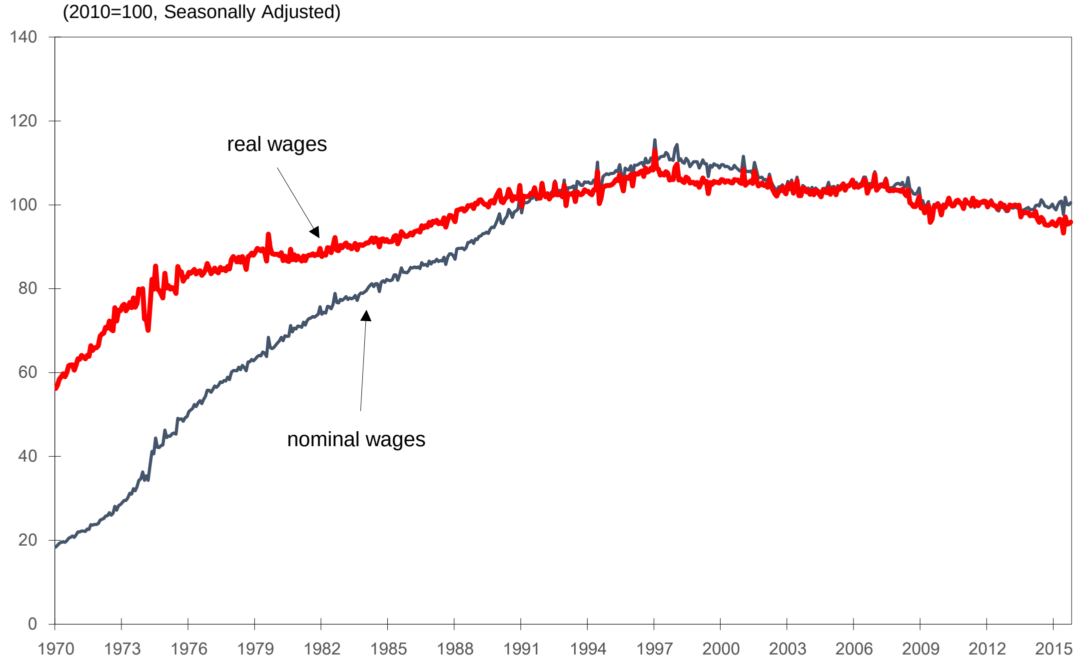
Note: Greater Tokyo Area consists of Tokyo Metropolis, Kanagawa prefecture, Saitama prefecture and Chiba prefecture.
Sources: Ministry of Internal Affairs and Communications, *Report on Internal Migration in Japan*, and Ministry of Health, Labour and Welfare, *Survey on Labour Disputes*

Japan reached its LTP in the mid-1960s, when the mass migration of rural graduates to urban factories and offices, known in Japanese as *shudan shushoku,* finally came to an end. During this period, investment opportunities in Japan were plentiful because the hard work needed to develop new products and processes had been done in the West. All Japan needed to do was make those products better and less expensive, a task the Japanese system was well suited for. Rapid urbanization and the need to rebuild cities devastated by US bombing during the war also offered plenty of "low-hanging" investment opportunities.

Indeed, the main constraint on Japanese growth at that time was on the savings side, i.e., there was not enough savings to meet the investment demand from Japanese businesses. Japan found itself in an extreme variant of Case 1 where the number of borrowers completely overwhelmed the number of lenders. Japanese interest rates in those years were therefore quite high, leading the government to ration savings to high-priority industries. The government and the Bank of Japan also implemented numerous measures to encourage savings by Japanese households.

Once Japan reached its LTP in the mid-1960s, the number of labor disputes began to skyrocket, as shown in Exhibit 13, and Japanese wages began to increase sharply (Exhibit 14). In other words, Japan was entering the post-LTP maturing phase that the West had experienced 40 years earlier.

Exhibit 14. Japanese wages peaked in 1997 when country entered post-LTP pursued stage



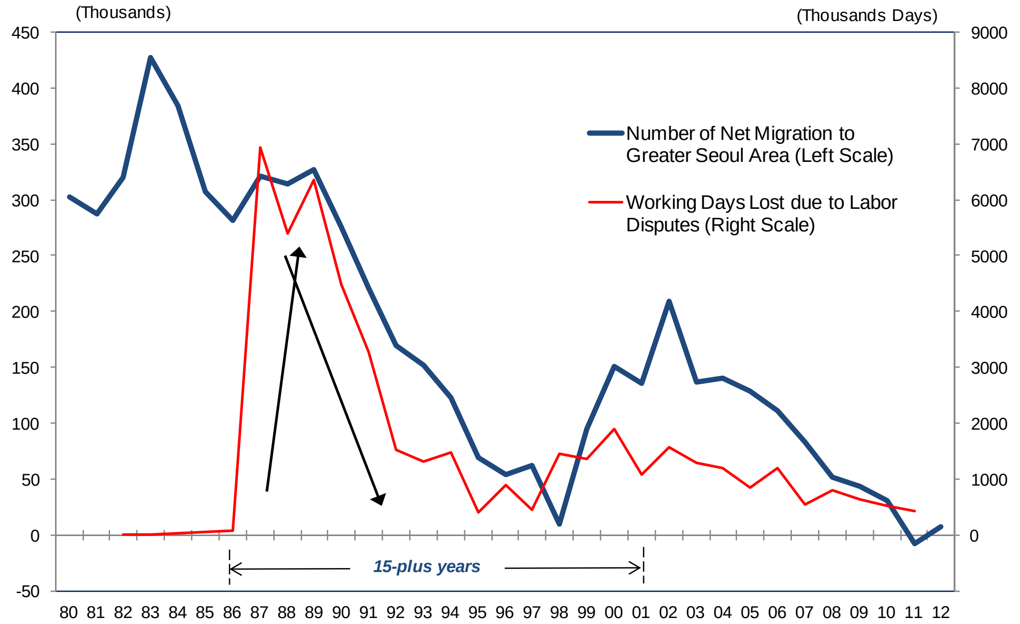
Source: Ministry of Health, Labour and Welfare, Japan, *Monthly Labour Survey*

Japan was fortunate in that it was not being chased at the time, enabling it to focus on catching up with the West. Wages were increasing rapidly, but Japanese companies invested heavily at home to improve the productivity of the work force. As long as productivity rose faster than wages, Japan's golden era of strong growth and prosperity could continue.

Labor's share of profits rose along with wages, and Japan came to be known as the country of the middle class, with more than 90 percent of the population identifying itself as such. The Japanese were proud of the fact that their country had virtually no inequality. Some even quipped in those days that Japan was how Communism was *supposed* to work.

The happy days for Japan lasted until the mid-1990s, when Taiwan, South Korea and China emerged as serious competitors. By then, Japanese wages were high enough to attract chasers, and the country entered its post-LTP pursued stage. As Exhibit 14 shows, Japanese wages stopped growing in 1997 and started stagnating or falling thereafter.

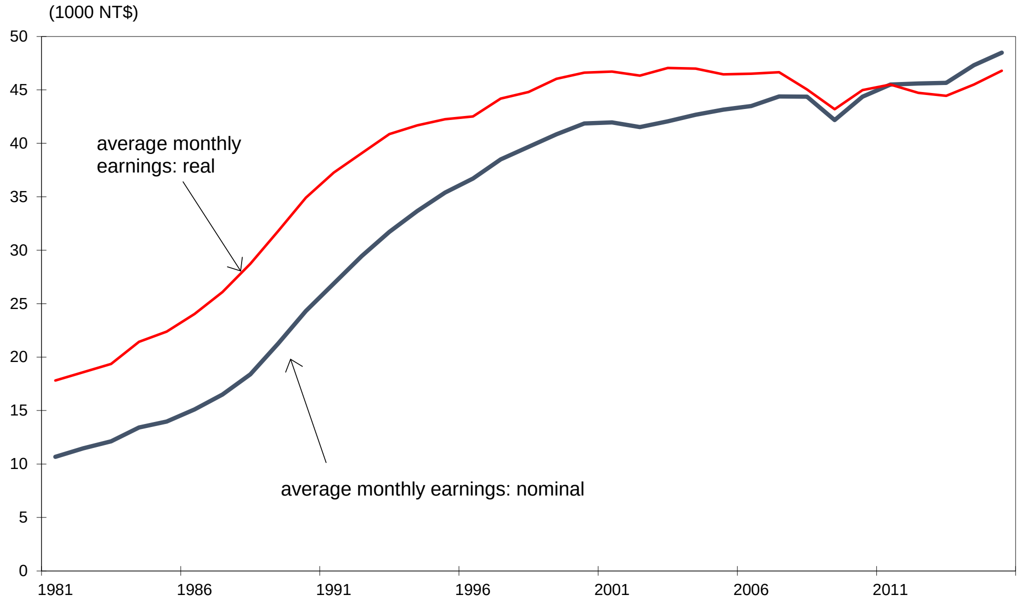
Exhibit 15. Labor Demand skyrockets after passing Lewis turning point (2): South Korea



Note: Greater Seoul Area consists of Seoul city, Incheon city and Gyeonggi-do.
Sources: Statistics Korea, *Internal Migration Statistics* and *Korea Statistical Year Book*

Although these three Asian countries were also chasing the West, the shock to Japan was larger because it was the first time the country had been chased since it opened itself up to the world in the 1868 Meiji Restoration. All of Japan's institutions, ranging from education to employment, were optimized for catching up with the West, not fending off competitors from behind. In contrast, the Europeans and Americans who had experienced the Japanese onslaught 25 years earlier and had made the necessary adjustments to their economies were less disturbed by the emergence of China.

Exhibit 16. Taiwanese wages peaked around 2005 when country entered post-LTP pursued stage



Source: Nomura Research Institute, based on the data from Directorate General of Budget, Accounting and Statistics (DGBAS), the Executive Yuan, Taiwan, *Consumer Price Indices* and *Average Monthly Earnings*

Today the Japanese are worried about the problem of income inequality as well-paying manufacturing jobs have migrated to lower-cost countries. They are also concerned about the appearance of the so-called working poor who used to work in manufacturing but are now forced to take low-end service jobs. Some estimate that as many as 20 million out of a total population of 130 million are now living in poverty[6]. In other words, the country is experiencing what the West went through when it was being chased by Japan.

Similar concerns are being voiced in Taiwan and South Korea as they experience the same migration of factories to China and other even lower-cost locations in Southeast Asia. These two countries passed their LTPs around 1985 and entered a golden age that lasted perhaps until 2005. The frequency of Korean labor disputes also shot up during this period (see Exhibit 15) as workers gained bargaining power for the first time and won large wage concessions. In Taiwan, wages grew rapidly during the post-LTP golden period but peaked around 2005 and stagnated thereafter (Exhibit 16). Now both countries are feeling the pinch as China steadily takes over the industries that were responsible for so much growth in the past.

Free trade has rendered war obsolete

To understand Asia's emergence and where globalization is headed, we need to understand how the free-trade regime introduced by the US transformed the world economy after 1945. Before 1945, there were many constraints to trade that slowed down industrialization as described above – namely, a lack of aggregate demand and difficulties in accessing markets. In those days, most countries imposed high tariffs on imported products both to raise revenues and to protect domestic industries. If workers constituted the main source of consumption demand in the pre-LTP urbanizing world, they could not have provided enough demand for all the goods produced because their share of income was so low, while capitalists typically had a higher marginal propensity to save. Consequently, aggregate supply often exceeded aggregate demand.

To overcome this constraint, European powers turned to colonization and imperialism in a bid to acquire sources of raw materials and captive markets where they could sell the goods they produced. It was indeed believed for centuries that national economies could not grow without territorial expansion. That led to countless wars and killings until 1945.

When World War II ended, the victorious Americans introduced a free-trade regime known as the General Agreement on Tariff and Trade (GATT) that allowed any country with competitive products to sell to anyone else. Although the concept and practice of free trade were not new, the US took the monumental lead by opening its vast domestic market to the world. With the US economy accounting for nearly 30 percent of global GDP at the end of World War II, the impact of this game-changing move was huge.

The US was partly motivated by the need to fend off the Soviet threat by rapidly rebuilding Western Europe and Japan, but the free-trade regime allowed not only Japan and Germany but also many other countries to prosper without the need to expand their territories. Indeed, it is difficult to find a country that grew rapidly in the post-1945 world that did *not* make use of the US market.

[6] *Nikkei Business* (2015) "Tokushu: Nisen Mannin-no Hinkon (20 Million Japanese in Poverty)," in Japanese, Nikkei BP, Tokyo, March 23, 2016, pp. 24-43.

The advent of free trade made obsolete the whole notion that territorial expansion was a necessary condition for economic growth. While victorious allies after World War II were busy fighting indigenous independence movements in their colonies at enormous expense, Japan and Germany – which had lost all of their overseas and some of their domestic territories – quickly grew to become the world's second and third largest economies. In other words, post-war Japan and Germany proved that what is really needed for economic growth is markets and investment opportunities, not territories. Economic growth will accelerate if markets can be accessed without the expense of acquiring overseas territories.

The relative infrequency of wars after 1945 is often attributed to the Cold War and the deterrent of Mutually Assured Destruction ("MAD"), but the drastic reduction in conflicts between countries that had been fighting since history began may also be due to the fact that territorial expansion was no longer a necessary or sufficient condition for economic prosperity in the free-trade era. Indeed, colonies became more of a liability than an asset for economic growth once the free-trade regime took hold. Today almost no one sees territorial expansion as a prerequisite for economic prosperity, a development which should be seen as one of the greatest achievements of human civilization.

In Asia, it was the Japanese who discovered in the 1950s that their economy could still grow and prosper by producing quality products for the US market. They then put their best and brightest to the task while leaving complicated diplomatic and national security issues to be decided by the Americans. The spectacular success of Japan then prompted Taiwan, South Korea and eventually the rest of Asia to follow the same export-oriented growth formula in a process dubbed the "flying geese" pattern of industrialization.

China is in post-LTP maturing stage of industrialization

The biggest beneficiary of the US-led free trade movement, of course, was China, which was able to transform a desperately poor agrarian society of over one billion people into the world's second-largest economy in just 30 years. The 30 years following Deng Xiaoping's opening of the Chinese economy in 1979 probably qualify as the fastest and greatest economic growth story in history, with the per capita GDP of over a billion people growing from just over $300 to nearly $8,000. China wasted no time in integrating itself with the global economy, enabling it to attract huge quantities of foreign direct investment, not just from the West and Japan but also from Asian tigers such as Taiwan, Hong Kong, Singapore and South Korea.

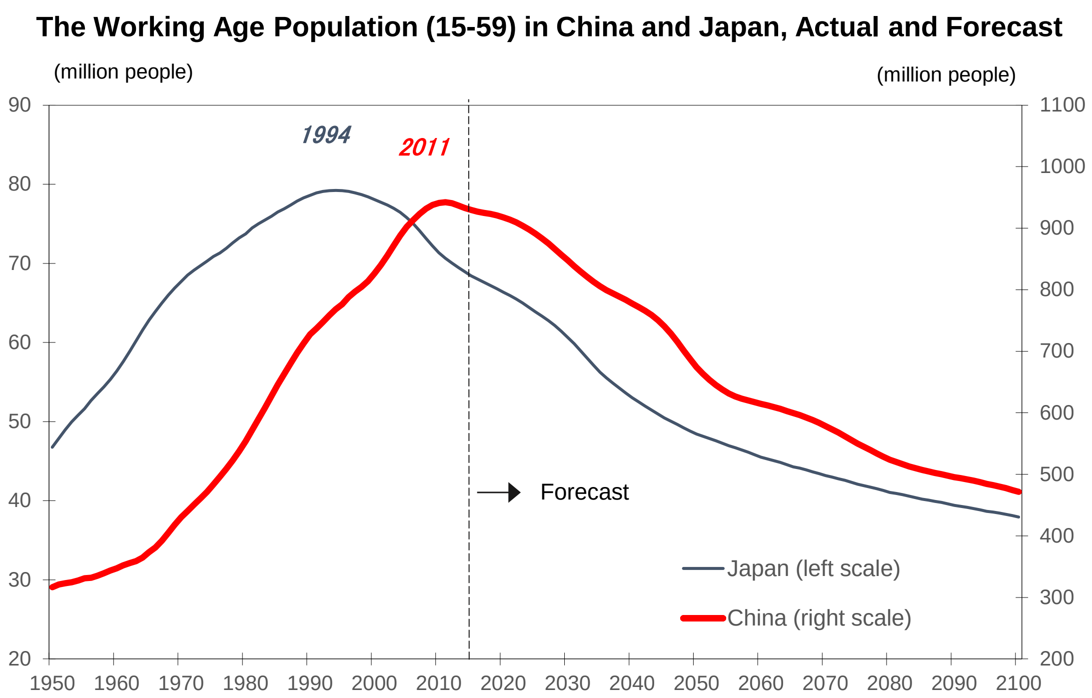
More precisely, China's fantastic economic growth was made possible by the US-led free-trade system, which allowed Chinese companies (and foreign companies producing in China) to sell their products anywhere in the world. It was that access to the global market that prompted so many businesses from around the world to build factories in China. It could have taken China far longer to achieve the growth it did were it not for the markets provided by the US-led free-trade regime.

Businesses in the West and elsewhere that were able to take advantage of China found almost unlimited investment opportunities there and operated like the capitalists in their own countries' pre-LTP eras. Those investments added massively to China's economic growth and transformed the country into "the world's factory."

But those in Asia and the West who have to compete with Chinese workers are experiencing zero or even negative income growth. Foreign businesses expanding rapidly in China are also likely to be investing less at home, which has a depressing effect on domestic growth and productivity. Indeed, slow productivity growth in advanced countries is the flip side of the massive productivity growth in China and other emerging markets that was made possible by investments by companies in advanced countries.

Those in the advanced economies who are still wondering what has happened to all the enthusiasm for fixed capital investment need only get a window seat on a flight from Hong Kong to Beijing (or vice versa) on a nice day. They will see below an endless landscape of factory upon factory that stretches in all directions. Most of those plants were started with foreign capital because when Deng Xiaoping opened up the economy in 1979, there were no capitalists left in China: they had all either been killed or driven into exile by the Communist revolution in 1949 and Mao's Cultural Revolution in the 1960s. The point is that businesses in advanced countries are still investing, but not necessarily in their home countries.

Exhibit 17. China may grow old before it grows rich: working age population* has started to contract



Note: The Chinese National Statistical Office defines the working age population as the people from 15 to 59.
Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, custom data acquired via website.

Post-LTP China faces "middle income trap"

China is also subject to the same laws of industrialization, urbanization and globalization as other countries. China actually passed its LTP around 2012 and is now experiencing sharp increases in wages. This means the country is now in its golden era or post-LTP maturing phase. Because the Chinese government is wary of public disturbances of any kind, including strikes and other labor disputes, it is trying to pre-empt such disputes by administering significant wage increases on an annual basis. Businesses are therefore required to raise wages under directives issued by local governments. In some regions these administered wages have been increased at double-digit rates in order to prevent labor disputes. It remains to be seen whether such pre-emptive actions by the government can substitute for a process in which employers and employees learn through confrontation what can reasonably be expected from the other party.

At the same time, the working age population in China actually started to shrink in 2012. From a demographic perspective, it is highly unusual for the whole labor supply curve to begin shifting to the left just as a country reaches its LTP. The huge demographic bonus China enjoyed until 2012 is not only gone, but has now reversed, as shown in Exhibit 17. That means China will not be able to maintain the rapid pace of economic growth seen in the past, and in fact growth has already slowed sharply.

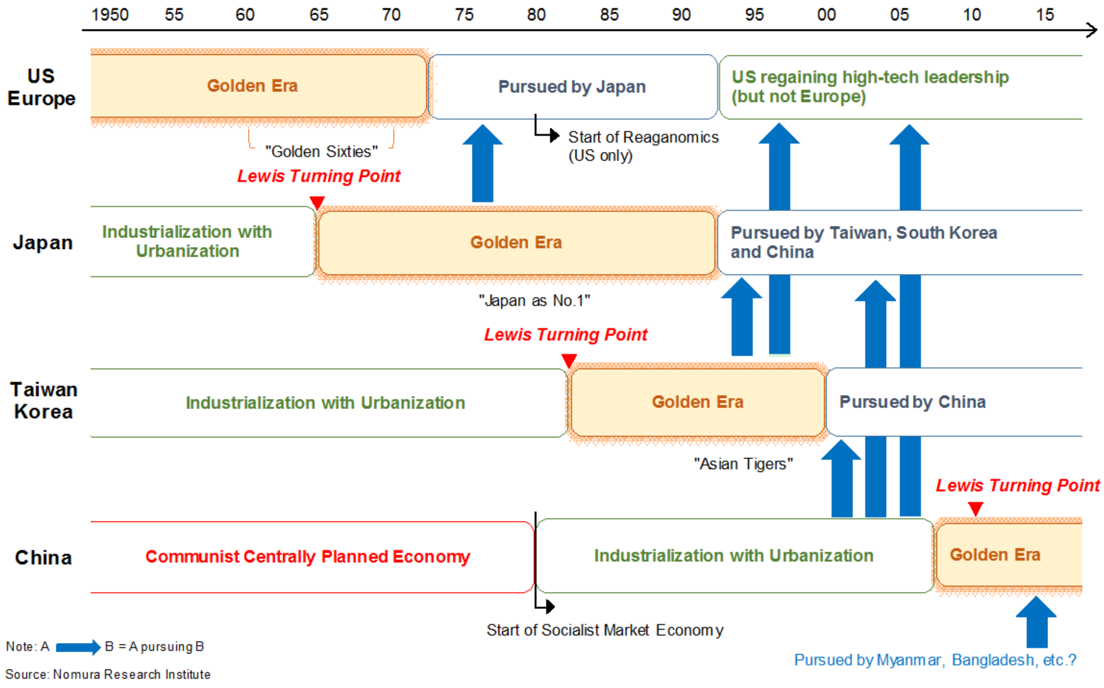
Higher wages in China are now leading both Chinese and foreign businesses to move factories to lower-wage countries such as Vietnam and Bangladesh, prompting fears that China will become stuck in the so-called “middle-income trap”. This trap arises from the fact that once a country loses its distinction as the lowest-cost producer, many factories may leave for other lower-cost destinations, resulting in less investment and less growth. In effect, the laws of globalization and free trade that benefitted China when it was the lowest-cost producer are now posing real challenges for the country.

The easy part of China’s economic growth story is over. The challenge now is how to raise the productivity of each and every Chinese worker to offset higher wages when it is easier for businesses to make money by simply moving factories to lower-cost locations. That is precisely the challenge advanced countries faced when they were chased by the emerging economies, including China, some decades earlier.

Growth, happiness and maturity of nations

The discussion above regarding the stages of economic growth is summarized in Exhibit 18. Here, “Industrialization with Urbanization” refers to the pre-LTP urbanization phase, “Golden Era” to the post-LTP maturing phase, and “Pursued by __” to the post-LTP pursued phase. The bold arrows point in the direction of pursuit.

Exhibit 18. Growth, happiness and maturing of nations



It appears that countries are reaching their "Golden Eras" sooner with the accelerated globalization made possible by free trade and rapid advances in information technology, but the eras themselves are becoming shorter as more countries join the globalization bandwagon. For example, the golden era for the US and Western Europe lasted for about 40 years until the mid-1970s, while Japan's lasted around 30 years, ending in the mid-1990s. The golden era for Asian NICs like Taiwan and Korea was probably around 20 years, coming to an end in 2005 or so. It will be interesting to see how long this era lasts for China, where policymakers are already worried about the middle-income trap.

If the happiness of nations can be measured by (1) how fast inequality is disappearing and (2) how fast the economy is growing, then the post-LTP maturing period would qualify as the period when a nation is at its happiest. With strong demand for workers from a rapidly expanding industrial sector forcing the service sector to offer comparable wages to retain workers, almost all members of society benefit from economic growth as wages rise for everybody. Everyone is hopeful for the future, and inequality is shrinking rapidly.

From a global perspective, this implies that nations are at their happiest – i.e., inequality is disappearing and people are enjoying the fruits of their labor – when they are either well ahead of other nations or are chasing other economies but are not being pursued themselves.

The West was at its happiest until Japan started chasing it in the 1970s because it was ahead of all other economies. It was a French person who said before the Berlin Wall came down that the world would be a much nicer place if there were no Japan and no Soviet Union.

The Japanese were at their happiest when they were chasing the West but nobody was chasing them. The nation's happy days were over when the Asian Tigers and China began pursuing Japan in the mid-1990s. The Asian Tigers then enjoyed their own golden era for about 20 years until China started pursuing them.

The key issue in most advanced countries now that they are in the post-LTP pursued phase is how a society at this stage of development should re-organize itself. Unfortunately, the policy debate is seldom coached in such terms. Instead, the slogans used by many presidential and prime ministerial hopefuls in these countries suggest that many still long for the return of the golden era they remember from the pre-pursued days. But until they fully appreciate their economic reality in a global context, they are unlikely to do much to improve the lives of ordinary people.

The rise and fall of Communism

The preceding description of how inequality increases and decreases before and after the LTP also explains why so many people found Communism appealing at a certain juncture in history. Marx and Engels, who lived in pre-LTP industrializing Europe, were outraged by the horrendous inequality around them and the miserable working and living conditions for ordinary people. As indicated above, it was not uncommon for people to work 16 hours a day in a dirty, dangerous industrial environment while capitalists rapidly accumulated wealth. Any intellectual with a heart would have been hard-pressed to stand quietly in the face of the social and economic inequality of the time.

Marx responded to this inequality by proposing the concept of Communism, which called for capital to be owned and shared by the laborers. He argued that if capital is owned by the workers, the exploitation of workers would end and workers would enjoy a greater share of the output. Many embraced Communism enthusiastically because for “exploited” workers forced to work long hours in dreadful conditions it appeared to offer the hope of a better life with little to lose. In that sense, the birth of Communism may itself have been a historical imperative of sorts.

Marx and Engels’ greatest mistake, however, was to assume the extreme inequality they witnessed (points G and H in Exhibit 6) would continue forever. In reality, it was just one inevitable step on the path towards industrialization. If capitalists are earning large profits in the period before LTP, they will probably continue to invest in the hope of making even more money. It is that drive for more profits that eventually pushes the economy to reach and pass the LTP, when a totally different labor-market dynamic kicks in.

As soon as the economy reaches its LTP and wages start increasing rapidly, the appeal of Communism wanes as workers begin to realize they can get what they want within the existing framework. Such periods are characterized by frequent strikes and labor disputes of all kinds as workers start to utilize their newfound bargaining power for the first time. After 15 or 20 years of such struggles, employers and employees alike begin to understand what can be reasonably expected from the other side, and a new political order based on that understanding is put in place.

Although the resultant center-left and center-right political parties served advanced countries well in their post-LTP maturing stage, it remains to be seen whether they are the most appropriate arrangements in the post-LTP pursued stage, which is characterized by a very different labor dynamic.

Ironically, countries that adopted Communism before reaching their LTPs, such as pre-1979 China and pre-1986 Vietnam, ended up stagnating because the profit motive needed to promote investment and push the economy beyond its LTP was lost.

Interestingly, when labor becomes too powerful and expensive *before* the country reaches its LTP, the economy also ends up stagnating, for both economic and political reasons. First, because the protected workers are too expensive for capitalists to expand production, the economy stops growing and becomes stuck in the pre-LTP phase. Second, unionized and privileged workers end up creating a two-tier labor market with a permanent underclass that is denied meaningful jobs because the economy is not expanding (or at least not fast enough). This two-tier labor market then creates massive political problems that slow down the economy even further, as seen in some Latin American countries since the 1950s.

The discussion above suggests that many if not most inclusive social and political reforms are possible only after a country passes its LTP. Even in advanced countries, most inclusive reforms such as Civil Rights movement in the US took place in the post-LTP era. This suggests that sequencing matters and that, like physics and chemistry, economics has certain laws of growth that must be observed. People in emerging countries who want more inclusive reforms might first need to grow their economies beyond the LTP.

Real driver behind Thomas Piketty's inequality

Income inequality has recently become one of the hottest and most controversial issues in economics, not just in the developed world but also in China and elsewhere. Many are growing increasingly uncomfortable with the divide between the haves and the have-nots, especially after Thomas Piketty's *Capital in the 21st Century* opened up a fresh debate on the optimal distribution of wealth, an issue that had been largely overlooked by the economics profession.

Although the author cannot claim to have understood all the implications of Piketty's enormous contributions, the analysis presented here contradicts one of the key historical points he makes. Namely, he claims that the extreme inequality that existed prior to World War I was corrected by the wealth destruction of two world wars and the Great Depression. He then goes on to argue that the retreat of progressive taxation in the developed world starting in the late 1970s ended up creating a level of inequality that approaches that which existed prior to World War I.

Although he has ample data to back his assertions, the pre-World War I results he obtained may be due to the fact that those countries were all in the pre-LTP industrialization stage, where inequality grows rapidly. The post-World War I results he obtained may also be due to the West entering the post-LTP maturing phase or "golden era" of industrialization where everyone enjoys the fruits of economic growth. Although Piketty attributes this to the destruction of wealth brought about by two world wars and the introduction of progressive income taxes, this was also a period in which urbanization came to an end in most of these countries. The four decades through 1970 were a golden era for Western economies when they were ahead of everyone else and were being chased by no one.

Finally, Piketty's post-1970 results may be attributable to the fact that Western economies entered their post-LTP pursued phase when Japan and others began chasing them. For

Western capitalists able to utilize Asian resources, it was a golden opportunity to make money. But this was not a welcome development for manufacturing workers in the West who had to compete with cheaper imports from Asia.

This also suggests that the favorable income distributions observed by Piketty in the West before 1970 and in Japan until 1990 were *transitory* phenomena. These countries enjoyed a golden era of growing incomes and shrinking inequality not because they had the right kind of tax regime but because the global economic environment was such that nobody was chasing them.

Just because such a desirable state of affairs was observed once does not mean it can be preserved or replicated. Any attempt to preserve that equality in the face of fierce international competition would have required massive and continuous investment in human and physical capital, something that most countries are not ready to implement. It is not even certain whether such investments constitute the best use of resources, since businesses would still be under pressure from shareholders to invest in countries producing higher returns.

It will also be difficult for governments to force businesses to invest at home when the return on capital is much higher elsewhere. This means a much more extreme form of protectionism may be needed to keep cheaper foreign goods out and force businesses to invest at home.

The US experience in fending off Japan

Instead of trying to return to a lost golden era, advanced nations being chased from behind should implement policies that allow them to fend off the pursuers. Assuming that free trade is here to stay, the primary concern of policymakers in most of the developed world today should be how to increase investment opportunities when the economy is in the post-LTP pursued phase. The US experience in fending off Japan is instructive on this point.

When the US began losing industries left and right to Japanese competition starting in the mid-1970s, it pursued a two-pronged approach that tried to keep Japanese imports from coming in too fast while simultaneously making domestic industries more competitive.

The US utilized every means available to prevent Japanese imports from flooding the market. Measures adopted included accusations of dumping, Super 301 clauses, gentlemen's agreements of all kinds, and currency devaluation via the Plaza Accord of 1985.

At the same time, "Japanese management" was all the rage at US business schools in the 1980s and 1990s. Ezra Vogel's *Japan as Number One: Lessons for America*, published in 1979, was widely read by people on both sides of the Pacific. The challenge from Japan, coupled with the aftermath of the Vietnam War, sent US confidence to an all-time low while consumption of sushi went up sharply.

As a resident of Japan who had worked for the Federal Reserve as an economist and also held American citizenship, the author was frequently asked by the US Embassy in Tokyo to explain the US trade position to Japanese TV audiences, as the author was a frequent guest on those programs. Although the author tried his best to explain to the Japanese public why it was in their own interest to find compromises with the US, he will never forget the intense mutual hostility that characterized the US–Japan trade relationship from the mid-1980s to the mid-1990s. The author not only received his share of death threats, but trade frictions were so bad that it began to resemble a racial confrontation.

After trying everything else, however, the US seems to have concluded that when a country is being pursued from behind the only real solution is to run faster – i.e., to stay ahead of the competition by continuously generating new ideas, products and designs. In this regard the US has been fortunate that the supply-side reforms of President Ronald Reagan – who cut taxes and deregulated the economy drastically starting in the early 1980s – had the effect of encouraging innovators and entrepreneurs to come up with new ideas and products.

Reaganomics itself was a response to the so-called stagflation of the 1970s, which was accompanied by frequent strikes, sub-standard manufacturing quality, and mediocrity all around. It was a reaction against labor, which was still trying to extend gains made during the post-LTP maturing stage without realizing that the US had already entered the post-LTP pursued stage in the 1970s with the arrival of Japanese competition. The fact that the US was losing so many industries and good jobs to Japan also created an urgent sense that it was necessary to break from the past.

When President Reagan lowered taxes and deregulated the economy, people with ideas and drive began to take notice. These people then began pushing the technological frontier of the IT industry, eventually enabling the US to regain the lead it lost to the Japanese in many high-tech areas. In other words, the US learned how to run faster.

More specifically, deregulation and lower taxes helped improve the allocation of resources, especially of human capital, within the US economy. With both money and the best minds flowing toward promising high-tech areas, the US was able to acquire a new engine for growth.

Although the US success in regaining the high-tech lead from Japan was a spectacular achievement, it took nearly 15 years. Reagan's ideas were implemented in the early 1980s, but it was not until Bill Clinton became president that those ideas actually bore fruit. The US economy continued to struggle during Reagan's two terms and the single term of George H.W. Bush, who served as Vice President under Reagan.

The senior Bush achieved monumental diplomatic successes that included the end of the Cold War, the collapse of the Soviet Union, and victory in the first Gulf War. Yet he lost his re-election campaign to a young governor from Arkansas by the name of Bill Clinton who had only one campaign slogan: "It's the economy, stupid!" That Bush lost that election suggests the economy was still far from satisfactory in the eyes of most Americans 12 years after Reaganomics was launched.

Once Clinton took over, however, the US economy began to pick up even though few can remember his administration's economic policies. The economy was doing so well that the Federal government was running budget surpluses by Clinton's second term. The conclusion to be drawn here is that while supply-side reform is essential in encouraging innovation, it will take many years for such measures to produce macroeconomic results that average people can recognize and appreciate. The fact that structural reforms take so long to bear fruit also means they are no substitute for fiscal stimulus if the economy is in a balance sheet recession.

The challenge of finding and encouraging innovators

The problem is that not everyone in a society is capable of coming up with new ideas or products. And it is not always the same group that generates new ideas. It also takes an enormous amount of effort and perseverance to bring new products to market. But without innovators willing to persevere to create new products and industries, the economy will stagnate or worse.

The most important consideration for countries being pursued, therefore, is how to maximize the number of people capable of generating new ideas and products and how to incentivize them to maximize their creative efforts.

On the first point, only a limited group of people in any society is capable of coming up with new ideas. Often they are not in the mainstream, because those in the mainstream have few incentives to think differently from the rest. Some may also show little interest in educational achievement in the ordinary sense of the word. Indeed, many successful start-ups have been founded by college dropouts. Many innovators may actually infuriate and alienate the establishment with their "crazy" ideas. If they are sufficiently discouraged by the orthodoxy, they may withdraw altogether from their creative activities. Consequently, finding these people and encouraging them to continue in their creative pursuits is no easy task.

In this regard, the system of liberal arts education served the West well. In particular, the notion that students must think with their own minds and substantiate their thinking with logic and evidence instead of just absorbing and regurgitating what they have been taught is crucial in training people who can think differently and independently. In some top universities in the US, students who simply reproduce what the professor said may only get a B; an A requires that they go beyond the professor. This encourages them to challenge the status quo, which is the only way to come up with new ideas and products.

This Western liberal arts education has a long tradition starting with the Renaissance and Enlightenment, where the value of the human intellect was finally recognized after being suppressed for centuries by the Catholic Church. This long struggle to free the intellect from church authorities was no easy battle – many brilliant thinkers were burned at the stake. The implication here is that citizens' creativity may not be fully utilized in societies where the authorities, including educational establishments, continue to act like the Catholic Inquisitors of the past.

The problem, however, is that a true liberal arts education is expensive. It requires first-rate teachers to guide the students, and teachers with such capabilities are usually in strong demand elsewhere. Indeed, tuition at some of the top US universities has reached almost obscene levels. Furthermore, the ability to think independently does not guarantee that students will immediately find work upon graduation. As such, this type of education is usually accorded to a limited few who can afford it, which exacerbates the already widening income gap in post-LTP pursued economies.

The need for the right kind of education

In contrast, the cookbook approach to education, where students simply learn what teachers tell them, is cheaper and more practical in the sense that students at least leave school knowing how to cook. The vast majority of the population is exposed only to this type of education, where there is limited room to express creative ideas. Many creative minds could be buried in such establishments like the proverbial diamonds in the rough.

The US always had an excellent liberal arts education system that encouraged students to challenge the status quo. As such, it was able to maintain the lead in scientific breakthroughs and new product development even as it fell behind the Japanese and others in manufacturing those new products at competitive prices.

In contrast, many countries in catch-up mode adopted a cookbook-style education system, which can prepare the maximum number of people for industrial employment in the shortest possible time. When a country is in catch-up mode, this type of education system is often sufficient and more practical because the hard work of inventing and developing something new is already being done by someone else in the developed world.

However, these countries will have to come up with new products and services themselves once they exhaust the low-hanging investment opportunities from industrialization and urbanization. The question then is whether they can alter their educational systems to produce the independent, innovative thinkers needed for sustained economic growth. This can be a major challenge if the society has discouraged people from thinking outside of the box for too long, since both teachers and students may be unable to cope with the new task of producing more independent thinkers.

One way to overcome or sidestep this problem is to import creative thinkers and innovators from abroad. The immigrant-friendly US is full of foreign-born innovators competing with each other as well as with native innovators in universities and in the business world. Singapore is also pushing hard to attract foreign talent by inviting not just well-known names but also their entire teams and families to do research in Singapore. Pursued countries should consider implementing and augmenting similar programs to acquire and retain people capable of creating new ideas and products.

For many traditional societies in Europe and Japan, some sort of shake-up may also be needed to open fields to new outside-the-box thinkers. In Japan, long years of economic stagnation and the diminished appeal of established companies are prompting some college graduates to consider starting businesses for the first time in many decades. This is a welcome development in a country where tradition and authority still carry a great deal of weight. Some younger engineers in Japan, for example, find it difficult to challenge the achievements of older engineers in the same company because such actions can be viewed as a sign of disrespect. Such seniority-based rigidity has discouraged innovation in no small way. Some European designers are also migrating to the US and Australia to free themselves from traditional constraints on how and where they can express their creative talents. Tradition-bound societies therefore have a desperate need for new businesses that are open to new ideas and innovations.

Importance of having the right tax and regulatory environment

Regarding the second point – the need for appropriate financial and tax regimes to encourage creative activity – it must be stressed that to create something out of nothing and actually bring it to market often requires insane amount of effort that “any rational person will give up,” in the words of Steve Jobs. In a similar vein, Thomas Edison famously claimed a new invention is 1 percent inspiration and 99 percent perspiration.

Although some individuals are so driven that they require no external support, most mortals find outside encouragement important during the long, risky, and difficult journey to produce something that no one has seen before. Financial, regulatory, and tax regimes should do everything possible to encourage such individuals and businesses to continue with their pioneering efforts.

Piketty cited the retreat of progressive tax rates as the cause of widening inequality in the post-1970 developed world. But the US, which led the reduction in tax rates, has regained its high-tech leadership while Europe and Japan, which shied away from similar cuts in tax rates, have stagnated. This outcome suggests a tax regime that was reasonable when no one was chasing the country may no longer be appropriate when the country is being pursued.

An advanced economy that is being pursued must run faster if it hopes to remain an advanced economy. And it is the outside-the-box thinkers who will create the innovations and breakthroughs that enable these countries to stay ahead by providing new investment opportunities. Sustained and substantial fiscal stimulus is absolutely necessary during a balance sheet recession, but at all other times the policy priority for a country in the post-LTP pursued phase should be to implement tax incentives and other measures designed to maximize innovation and investment opportunities.

The difficulty of achieving public consensus

Unfortunately for many countries, these sorts of measures are often decried as “favoring the rich” and rejected out of hand. For emerging economies with plenty of low-hanging investment opportunities, such objections may not lead to a noticeable economic slowdown. But in a mature economy that needs to outrun its pursuers, an inability to fully utilize the creative and innovative potential of its people can have detrimental consequences for the entire population. The future growth of developed countries facing this challenge from the emerging world may well depend on how quickly they can achieve a social consensus and develop the necessary infrastructure, such as a liberal arts education system and an innovator-friendly corporate culture and tax system, to maximize their innovative capacity.

This may require a new consensus in which those who are unable to think outside the box understand and appreciate the fact that their wellbeing is dependent on those who can. Indeed, the whole of society must understand that such thinkers are essential to generating the new investment opportunities that will keep the economy out of prolonged stagnation.

This is far from easy, however. As Thomas Piketty noted, inequality in the West began increasing in the 1970s and is reaching “alarming” levels in some countries. This increasingly unequal distribution of income is prompting many developed countries to raise taxes on the rich. But such actions, which represent the opposite of supply-side reforms, could easily backfire by discouraging innovation and risk-taking, the most important drivers of economic growth in a pursued country.

To make matters worse, most Western economies were engulfed in balance sheet recessions when their housing bubbles burst in 2008. This development exacerbated the shortage of borrowers first seen in the 1970s when these countries entered their post-LTP pursued phases.

Moreover, these countries will be saddled with huge public debt when they finally emerge from their balance sheet recessions because they implemented fiscal stimulus to fight the recession. The natural tendency of orthodox economists and policymakers faced with a large national debt is to raise taxes wherever possible. But such wanton tax hikes may discourage businesses from investing aggressively in new innovation, thus prolonging sub-par economic growth.

In other words, the economies currently emerging from balance sheet recessions need to resist the temptation to raise taxes that may thwart innovation. Only in this way can they gain the escape velocity needed to fend off competitors from behind. This is particularly important in Japan, where debt levels are truly onerous.

Of all the post-LTP pursued economies, the US probably comes closest to having achieved this sort of consensus on a growth-friendly tax regime, which is why it is attracting innovators from around the world. But with the rich getting ever richer while the remaining 80 percent of the population have seen little income growth for the last 20 years, the temptation to raise taxes on the rich is getting stronger even in the US. The real challenge for countries being pursued is how to persuade voters to maintain innovator-friendly tax regimes when the public debt is so large and the vast majority of the population has experienced no income growth for many years.

Labor's role in three stages of economic development

If incentives are needed for innovators in the pursued economies to maximize their output, what is in store for ordinary workers? It was already mentioned that when the economy is in the pre-LTP urbanizing phase, capitalists can take advantage of workers because there are so many rural laborers willing to work for the going wage in urban factories. Workers really have no bargaining power until the country reaches its LTP. During this stage, the limited opportunities for education and vocational training in rural areas mean most workers are neither well-educated nor highly skilled when they migrate to the cities. And with so many of them competing for a limited number of urban jobs, there is little job security.

Once the economy passes the LTP, however, the tables are turned completely in favor of the workers. The supply of surplus workers in the rural areas is exhausted and the labor supply curve takes on a significant positive slope. As long as some businesses are trying to expand their workforce, all businesses will be forced to pay ever-higher wages. At this stage, businesses also have plenty of reasons to expand because workers' purchasing power is increasing rapidly.

And at this stage, expansion means *domestic* expansion: firms have little experience producing abroad, and domestic wages, while rising, are still competitive.

To satisfy demand while paying ever-higher wages, businesses invest in labor-saving equipment to keep costs down. Domestic demand for cost-saving and productivity-enhancing machinery is therefore very strong during this period, and that manifests itself in the form of heavy capital investment. With strong demand for funds to finance capital investments, the economy is firmly in Case 1 of Exhibit 2. The new equipment effectively raises the productivity of employees even if the workers themselves are no more skilled or educated than before the country reached its LTP.

With wages rising rapidly, job security for workers also improves significantly as companies try to hold on to their employees. Lifetime employment and seniority-based remuneration systems become more common. The emerging power of unions also forces employers to enhance job security. Working conditions improve as businesses offer safer, cleaner working environments to attract and retain workers.

During this post-LTP maturing period, therefore, businesses are investing to keep labor costs down, which in turn allows them to pay the higher wages dictated by the labor market. In contrast to the pre-LTP period when businesses were effectively “exploiting” workers because there were so many of them, businesses in the post-LTP maturing period were “pampering” workers with productivity-enhancing equipment so they can afford to pay them more.

At some point, however, wages reach point EQ in Exhibit 6, and businesses are forced to look for alternative production sites abroad because domestic manufacturing is no longer competitive, for two possible reasons. One is that domestic wages have gone up too far relative to overseas wages. The other is that, even if domestic wages have not increased, foreign producers may have picked up sufficient technical know-how and marketing savvy to challenge domestic producers. These two factors could also appear simultaneously. Although different industries may reach this point at different times, a country can be said to have entered its post-LTP pursued stage if a meaningful number of industries have reached this point.

The way businesses perceive workers then changes again because they now have the option of using overseas labor resources. Many businesses are likely to find that a unit of capital invested abroad goes much further than if it is invested at home in labor-saving equipment. This means they have fewer incentives to invest at home, and fixed-capital investment, which was such a major driver of economic growth during the post-LTP maturing phase, begins to slow down. As investment slows, growth in labor productivity, which shot up during the post-LTP maturing phase, also starts to decelerate. Wages, too, begin to stagnate.

It is at this point that the ability of individual workers begins to matter for the first time because only those who can do something that overseas workers *cannot do* will continue to prosper. This is in contrast to the previous two stages, where wages were determined largely by macro factors such as labor supply and institutional factors such as union membership, both of which had little to do with the skills of individual workers. Once the supply constraint is removed by the possibility of producing abroad or outright outsourcing, the only reason a firm will pay a high wage at home is because a particular worker can do something that cannot be easily done abroad.

If workers were “exploited” during the pre-LTP urbanization stage and “pampered” during the post-LTP maturing stage, they are entirely on their own in the post-LTP pursued stage. This is because businesses are much less willing to invest in labor-saving equipment to increase the productivity of domestic workers. Workers must invest in *themselves* to enhance their productivity and marketability.

Indeed, job security and seniority-based wages become increasingly rare in industries forced to grow more agile and flexible to fend off pursuers. It is no accident that lifetime employment and seniority-based wages, which were common in the US until the 1970s, disappeared once Japanese competition appeared. The same has happened to the Japanese labor market since China emerged as a competitor in the mid-1990s.

Those who take the time and effort to acquire skills in demand will continue to do well, while those without such skills will be earning close to a minimum wage. Those who benefited from union membership during the post-LTP maturing phase will find the benefits of membership in the new pursued era are not what they used to be. This means inequality will increase again even though *when adjusted for skill levels* it may not change all that much.

Workers in post-LTP pursued economies must therefore think hard about their individual prospects and what skills they should acquire in the new environment if they want to maintain or improve their living standards. The answer to this question will differ depending on the individual, and in that sense they are truly on their own. The "good old days," when businesses invested to increase workers' productivity so they could pay them more money, are gone for good.

Summers' secular stagflation thesis

When Larry Summers first mentioned secular stagnation in 2013, the US was in a midst of balance sheet recession where the private sector was saving over 7 percent of GDP at zero interest rates. He then added later that the return on capital was already falling in the West in the 1970s, long before the advent of the global financial crisis in 2008[7].

The sudden loss of momentum in Western economies after 2008 is obviously due to the fact that they are all suffering from serious balance sheet recessions. Similarly, when Alvin Hansen coined the term "secular stagnation" in 1938, the US was in the midst of the greatest balance sheet recession of all, the Great Depression, and its unemployment rate was 19 percent.

In contrast, in Germany, where sustained and substantial fiscal stimulus needed to fight balance sheet recession was implemented starting in 1933, unemployment rate fell from 28 percent in that year to only 2 percent in 1938, and no-one was talking about secular stagnation.

The fact that both Hansen and Summers mentioned secular stagnation during balance sheet recessions and the fact that Germany which overcame balance sheet recession by 1938 was not suffering from stagnation suggest that the main driver of "secular stagnation" is actually balance sheet recession.

The pre-2008 decline in return on capital, however, may be due to the fact that Western countries reached their post-LTP pursued phase when an increasing number of businesses in these countries found it more attractive to invest in emerging economies.

[7] See Lawrence H. Summers's webpage on secular stagnation: http://larrysummers.com/category/secular-stagnation/

This pattern of emerging economies taking away investment opportunities from developed countries will continue until all economies have passed their Lewis Turning Points. Although China has already done so, India and many others have a long ways to go. The current transition process is therefore likely to continue for many years to come.

Rethinking macroeconomics

Macroeconomics is still a very young science compared to such disciplines as physics and chemistry. It started when Keynes began taking about the concept of aggregate demand in the 1930s, only 85 years ago. As a very young science, it has achieved only limited coverage of the broad range of economic phenomena and remains prone to fads and influences.

The profession's immaturity was amply demonstrated by the fact that only a handful of economists saw the Great Recession coming, and even fewer predicted how long it would take to recover from it. This is because most macroeconomic theories and models developed during the last 85 years assume that private-sector borrowers will always emerge if only the central bank lowers real interest rates far enough. This kind of thinking led Nobel laureate Paul Krugman to argue that if an inflation target of 2 percent is not enough to bring expectations of real interest rates down far enough, central banks should shoot for a 4 percent target. The assumption here, of course, is that the economy is in Case 2 in Exhibit 2.

This way of thinking implicitly assumes (1) that there are always investment opportunities worth borrowing for and (2) that borrowers always have clean balance sheets. But by presuming that there are always willing borrowers, economists have assumed away the two most critical challenges to economic growth, i.e., the existence of attractive investment opportunities and of businesspeople able and willing to take on the risks entailed in those investments.

Moreover, most economists simply *assumed* a rate of long-term potential growth based on the trend growth of capital, labor and productivity and argued that policymakers should strive to bring the economy back to that growth path. But such "potential growth rates" mean absolutely nothing when businesspeople on the ground are either unable (because of balance sheet concerns) or unwilling (because of a shortage of investment opportunities) to borrow money and invest it. This also suggests that conventional economics has no meaningful theory of economic growth.

When macroeconomics was in its formative years in the 1940s and 1950s, most advanced economies had passed their LTPs and were in the midst of a golden age with no pursuers. New products were being invented one after the other, and people were optimistic about the future. Balance sheets were also strong thanks to the astronomical government spending during World War II that repaired the balance sheet damage wrought by the Great Depression.

Even though the extraordinary effectiveness of fiscal policy in lifting the developed economies out of the Great Depression during World War II was obvious for all to see, Keynes, who argued for such policies, never realized that fiscal stimulus should be used *only* when the private sector is minimizing debt. Because of this critical omission by him and the Keynesians who followed, the post-war fad among economists was to believe that fiscal policy could solve all problems. But with private-sector balance sheets already repaired, the government's attempt to fine-tune the economy with fiscal policy in the 1950s and 1960s only resulted in more inflation, higher interest rates, and a general misallocation of resources.

When inflation became a problem in the 1970s, the pendulum swung to the opposite extreme, with people like Milton Friedman arguing that monetary policy and smaller government were the answer to most economic problems. Some even tried to rewrite history by arguing that the Great Depression could have been avoided with better use of monetary policy by the Fed[8].

When the private sector lost its head in a bubble and sustained massive balance sheet damage in Japan in 1990 and then in the West in 2008, the economics profession was still beholden to monetary policy fads, and many economists argued for more monetary easing even though fiscal policy is the only tool that can address balance sheet recessions. Fiscal policy was mobilized immediately after the Lehman collapse, but by 2010 the orthodoxy had regained its grip on power, forcing countries at the G20 summit in Toronto to pledge to cut their fiscal deficits and effectively throwing the world economy into reverse.

Policymakers who realized soon afterwards that they were facing balance sheet recessions and that the Toronto agreement had been a mistake, including former Fed Chair Ben Bernanke and current Chair Janet Yellen, issued strong warnings about the fiscal cliff to ensure the government continued to serve as borrower of last resort. That helped keep the US economy from shrinking. Japanese Finance Minister Taro Aso also recognized this danger and made fiscal stimulus the second "arrow" of Abenomics. Their actions went a long way towards supporting the Japanese and US economies, where unemployment rates now stand at the full-employment levels of 3.2 percent and 5.0 percent, respectively.

In the Eurozone, however, no such understanding emerged in policy circles, and millions are suffering from unemployment and deprivation because the Maastricht Treaty, which created the Euro, requires member governments to reduce the deficit to 3 percent of GDP *regardless* of the size of private sector savings. In other words, the Treaty makes no provision whatsoever for balance sheet recessions, where the private sector may be saving far in excess of 3 percent of GDP in spite of zero or negative interest rates. In view of the fact that Spain's private sector has been saving on average 7.3 percent of GDP since the third quarter of 2008, Ireland's 8.6 percent and Portugal's 4.6 percent, it is no surprise that these economies are suffering badly from the limitations imposed by the Treaty.

If the private sector is saving 7 percent of GDP but the government is allowed to borrow only 3 percent, the remaining 4 percent will leak out of the economy's income stream and become a deflationary gap. As a result, one Eurozone country after another fell off the fiscal cliff with devastating human consequences. Moreover, this balance-sheet-driven deflationary gap cannot be addressed with structural reforms or ECB monetary easing, the two measures employed by the Eurozone authorities to fight the recession. As a result, there are still 5 million *more* unemployed workers in the Eurozone today than when Lehman Brothers collapsed in 2008.

It is truly ironic that it is the Germans who are imposing this fiscal straitjacket on every country in the Eurozone even though they were the first victims of a similar fiscal orthodoxy back in 1929 when Allied governments imposed austerity on the Brüning administration. That devastated the German economy and pushed its unemployment rate up to 28 percent as

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[8] See Koo, Richard (2008) *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*, John Wiley & Sons (Asia), Singapore, Ch. 3.

mentioned earlier. But with established center-right and center-left political parties largely beholden to orthodox economics and insisting on a balanced budget, the only choice left for the German people after four years of suffering was to vote for the National Socialists, who argued against both austerity and reparation payments. People voted for the Nazis because the established parties, the Allied governments, and the economists were totally incapable of rescuing them from the four years of deflationary spiral and resultant poverty that followed the crash of 1929.

For better or for worse, Adolf Hitler quickly implemented the kind of fiscal stimulus needed to overcome a balance sheet recession – public works projects undertaken by the Nazis included construction of the nation's autobahn expressway system. By 1938, just five years later, the nation's unemployment rate had fallen to 2%. That prompted Joan Robinson, a famous British economist and a contemporary of Keynes, to say, "I do not regard the Keynesian revolution as a great intellectual triumph. On the contrary, it was a tragedy because it came so late. Hitler had already found how to cure unemployment before Keynes had finished explaining why it occurred."[9]

Germany's spectacular economic success also led Hitler to think he could win a war this time because the German economy was in a virtuous cycle and generating plenty of taxes to support re-armament efforts. In contrast, the US, UK and French economies, still beholden to fiscal orthodoxy, were in a vicious cycle of unattended balance sheet recessions with ever-dwindling tax receipts and military budgets.

That led to the tragedy of the Second World War. Once the war began, however, the democracies were able to carry out the same sorts of policies that Hitler had implemented six years earlier. Allied governments started acting as borrower and spender of last resort to procure tanks and fighter planes, and the US and UK economies jumped back to life, just as the German economy had done six years earlier. The combined productive capacity of the Allies soon overwhelmed that of the Third Reich, but not before millions had perished in the hostilities.

Perhaps the Germans today are so appalled by the utter brutality of the Nazi regime that everything Hitler did is now automatically rejected. This kind of total repudiation of a person or an era can be extremely dangerous because people will be totally naïve and unprepared when the next Hitler comes, since they were never taught all the *right* things that Hitler did to win the hearts of the German people.

With so many Nazi-like political parties gaining ground in countries suffering from balance sheet recessions but unable to do anything about them because of the ill-designed Maastricht Treaty, it is urgent that the people of Europe be made aware of this economic disease as quickly as possible.

More generally, economists must wake up to the fact that the world they have been analyzing, where the private sector is maximizing profits and monetary policy works because there are ample investment opportunities and the private sector has a clean balance sheet, describes only one half of the macroeconomic landscape (Cases 1 and 2 in Exhibit 2). In the other half, the private sector is effectively minimizing debt because of either balance sheet problems or a dearth of investment opportunities (Cases 3 and 4 in Exhibit 2). The economy can also shift

[9] Robinson, Joan (1972) "The Second Crisis of Economic Theory," *American Economic Review* 62(1/2), pp. 1-10.

from Case 1 to Case 3 or 4 very quickly after an asset bubble bursts. Even though government and central banks have the tools to move the economy from Case 4 to Case 3, it may take years if not decades for an economy in Case 3 to return to Case 1.

Only fiscal policy can support an economy in this second half in the short to medium run, while measures to encourage innovation become absolutely essential in the long run. But until university economics faculties start teaching students about the second half, policymakers and the public in general are likely to make mistakes or zigzag through when the economy is in the second half. Some may even backtrack on human rights progress if they feel a Nazi-like government is the only way to break through a policy orthodoxy that makes sense only when the economy is in Case 1 or 2.

The experiences of Japan since 1990 and of the West since 2008 have demonstrated that if balance sheet problems create a shortage of borrowers, the government must act as borrower of last resort via fiscal policy. If the absence of borrowers is due to a lack of worthwhile investment opportunities, the government must consciously implement supply-side reforms to taxes and regulation to maximize the output of private-sector innovators and entrepreneurs.

In the latter case, policymakers should also recognize that tax and regulatory regimes that were appropriate in earlier years, when there were numerous low-hanging investment opportunities and no country was chasing them, may no longer be optimal when those opportunities are exhausted and the country must come up with new products and services to stay ahead of pursuers. In some cases, the government may also have to direct fiscal spending toward the development of cutting-edge technology – in effect serving as innovator of last resort. And the need for these actions is growing larger every day in countries in the post-LTP pursued phase.

At the most fundamental level, the economics profession must realize that, apart from the early stages of industrialization, which are characterized by a surplus of easy investment opportunities, shortages of borrowers have always been a bigger problem for growth than shortages of lenders. Economists need to confront this problem head-on instead of making facile assumptions about “trend growth rates” and ever-present borrowers. The existence of investment opportunities and willing borrowers should never be taken for granted, especially in countries that are in balance sheet recessions or are being pursued from behind, a group that includes every advanced country in the world today.

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Karl Polanyi and the coming U.S. election

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It's hard not to notice, during the American Presidential election drama, that despite all the debates and speeches, and multiple candidates, the terms "Neoliberalism" and "austerity" have yet to be employed, much less explained, these being the two necessary words to describe the dominant economic "regime" of the past 35 years. And this despite the fact that most observers recognize that a "populist revolt" driven by economic unhappiness is underway via the campaigns of Donald Trump and Bernie Sanders. With Trump, of course, we are getting much more, the uglier side of American populism: racism, xenophobia and misogyny, at least; the culture wars at a higher pitch.

Yet when Trump commented on the violence which canceled his Chicago rally on the evening of March 11th, he stated that the underlying driver of his supporters' anger is economic distress, not the ugly cultural prejudices. The diagnoses for the root cause of this anger thus lie at the heart of the proposed solutions. For students of the Great Depression, this will sound very familiar. That is because, despite many diversions and sub-currents, we are really arguing about a renewed New Deal versus an ever more purified laissez-faire, the nineteenth century term for keeping government out of markets – once those markets had been constructed. "Interventions", however, as we will see, are still required, because no one, left or right, can live with the brutalities of the workings of "free markets" except as they exist in the fantasyland of the American Right.

Americans have never been known to be systematic thinkers about policy matters, least of all in an election year, but still, it is a remarkable thing not to be able to name in public forums the ideas which have ruled the economics profession for decades now, and therefore the policy options of elected officials who turn to economists for guidance. Barry Goldwater, renowned, if not done in, for his candor, had no difficulty naming the system *he opposed* in his acceptance speech in San Francisco, 1964, or in his ghostwritten book, the *Conscience of a Conservative*: it was liberalism in all its forms, but especially its interventions into private markets - Keynesianism. For Goldwater, that included federal Civil Rights legislation and even Society Security.

Therefore, some clarification is called for when deploying these two terms, or the Market Fundamentalism/Market Utopianism others have chosen, myself included, to more polemically describe the dominant economic orthodoxy of our time.

By Neoliberalism it is meant the revival of "*classical* economics" which first arose in the late 18th and early 19th centuries in England, with the founders' famous names living on into our own time: Smith, Ricardo, Townsend, Malthus, Mill and Bentham and a few others. Early economic writers tended to reach into the world of biology, of Nature, for their metaphors and analogies, and these excursions had two main tendencies: to cite nature's cooperative features, or alternatively, its tooth and claw brutalities, which was Malthus' grim legacy, one which we have not fully shaken to this day. Continuing this tradition, classical economics later flirted seriously with Social Darwinism (see the influence of William Graham Sumner in the

U.S. and Herbert Spencer in England), almost becoming engaged to it, and then underwent the "micro" revolution of marginal costs in the late 19th century as the profession strained for its "scientific" laurels.

David Harvey, the prolific, polymath Marxist writer, links the term Neoliberal to the later Victorian economists – Alfred Marshall, William Jevons and Leon Walras - who succeeded their earlier classical colleagues from the first decades of the 19th century. But the realities of the past 30 years in America leads one back to the primal cruelties described by Karl Polanyi in those early industrial days, in his masterpiece *The Great Transformation*, and the religious intensity of the first classicals, not the later Victorian ones, those who worked in an era when life for workers was supposed to have gotten much better, although the London of those better days still horrified savvy American observers like Jane Addams of the Settlement House movement.

Neoliberalism was later greatly influenced by the conservative work - the defense of markets against governmental interventions - of Friedrich von Hayek and Ludwig von Mises (The preference here is to keep the "von" in the names: it makes them sound more *sinister…*) in the 1920's and 1930's, and Milton Friedman in the 1970's, thinking which eventually eclipsed the Keynesian "revolution" of the 1930's, and its demand-labor focused "macro" policies and accompanying federal fiscal interventions. Friedman's great debates with John Kenneth Galbraith in the 1970's usefully date the decline of Keynesianism for the general public, and the rise of "supply-side" economics: keeping entrepreneurs happy (and hopefully, inventive) through tax breaks without end. Many of us recall the linking of justice in-the-law with justice in-the- economy, courtesy of the old Smith Barney television advertisements from the 1980's, starring John Houseman from the movie *The Paper Chase*: these noble stock brokers "make money the old fashioned way, they *earn* it." Decided British accent too, he had.

The "liberalism" part of *Neoliberalism* is confusing to the average citizen thinking about the modern political spectrum, since Neoliberalism is most certainly a *conservative doctrine* aimed at undermining every intellectual pillar of Keynesian true "liberals," Social Democrats, and Socialists of all stripes. In its formative years of 1790-1840, liberalism and its *liberal* economists were hell-bent on overturning the last vestiges of late feudalism, then mercantilism, which guided the treatment of the agricultural workforce in rural England. That workforce was about to be "conscripted", under threat of starvation, as labor in the new industrial mills of the English Midlands, the infamous "Satanic Mills". In this sense these economists were "liberal" reformers, urging dramatic individualism and heroic entrepreneurship upon society, to free economic activity from the last ethical restraints which Judeo-Christian morality had insisted upon. Ironically for the secular left of the 21st century, those biblical strictures, against usury, for example, are looking better and better as credit card interest rates soar between 18-25%, the rates being even higher for the notorious "pay day loans," the last borrowing resort for the poorest in the workforce. However, the words "freedom" and economic "liberty" do not explain much in the "abstract": historical eras and context text tell us much more about what they meant, the impacts for different parts of society.

And this is where the term "Market Fundamentalism" or Market Utopianism comes in. Karl Polanyi (1886-1964), in his magisterial work from 1944, *The Great Transformation*, explains that the English economy of those years, 1790-1840, was the landscape for the first great attempt in human history to *consciously* construct all-embracing markets for land, labor and money, to turn these many-faceted features of traditional human economic life into pure commodities, thus yanking them from their more organic historical connections to other, older governing values in traditional societies.

Polanyi, just to confuse the over-simplifications of today's Republican Right, and the broader Neoliberal worldview, was a socialist but not a Marxist. Yet his biography offers the Right these tantalizing facts: *The Great Transformation*, although begun and finished in England, and fittingly so given its subject matter, was mainly written at Bennington College in Vermont with a two-year grant from the Rockefeller Foundation, in 1941-1943.

Polanyi argued that what the classical economists claimed were universal laws, aiming to bring all nations into one giant market via "free trade" governed by the gold standard - and the guns of the British navy - were actually the very peculiar human constructs of a particular time and place. Polanyi also is *the only economist* who has satisfactorily explained where the *market fanaticism* of today's Right comes from: the original gambit of the early 19th century was so sweeping, so revolutionary, that it could only succeed in its Promethean mission with intensity equal to its impossible task. To paraphrase Polanyi, laissez-faire had to be planned, then legislated – then its horrors mitigated. Polanyi makes the proper connection: this movement closely resembles religious fanaticism, and perhaps that is a clue to the rise of the economic Right's religious allies within the Republican coalition: religious *fundamentalism* arose in the United States in the 1970s almost simultaneously with Market "fundamentalism". Here's how he puts it his second chapter: "The mechanism which the motive of gain set in motion was comparable in effectiveness only to the most violent outbursts of religious fervor in history. Within a generation the whole human world was subjected to its undiluted influence."

What is more, Polanyi says that the imposition of these terrible abstractions created such a shock in their initial manifestations that it set off an immediate reaction, the start of the "double movement", with neither labor nor capital able to live with the stark horrors presented by the social realities of the 1840s. This is when society first looked into the mirror of a "pure" market transformation and saw not progress but a social Frankenstein staring back instead: children broken on the looms, workers in their improvised, inadequate tenements, prostitutes roaming the streets if not starving in the gutters. In short, people no longer displaying human faces but the features of cornered animals. Had economic, social, and legal justice arrived? This was not justice; it was the very rape of that term.

Polanyi stresses the *social disruptions* as much as the degree of economic exploitation at the heart of the long running wage argument, which continues to this day, comparing the cultural shock of a whole new way of life for the formerly agricultural workers to the encounter between primitive cultures with more advanced European civilizations, documented in North American Indian tribes in their 16th and 17th century experiences, and African cultures under late 19th Century imperialism. This anthropological approach has doubtless made Polanyi a troublesome writer for many doctrinaire Marxists, and it was notable to see David Harvey quote from him in his fine book, *A Brief History of Neoliberalism*.

American voters in 2016 have been re-introduced to *democratic* Socialism, which has no better advocate than Polanyi. It has its origins, Socialism does, the parent plant, the late George Lichtheim (1912-1973) explained, in two great revolutions: the French and *the Industrial*. The struggle to win the right to vote in France and England was inseparable from that dual history. Eventually, well after 1850, wages did rise, along with the expanding franchise for the vote; whether that was due to the latent virtues of the system initially set up or the reforms engendered by its horrors is a debate which has not ceased. Today's Neoliberalism had nearly silenced serious left dissent by the late 1990s, or successfully isolated it in remote academic corners. Bill Clinton's two terms in the 1990s are proof of that. And there is the continuing tension between Neoliberal economics and democracy: notice the desperate, barely concealed attempt by the Republican Right to shrink the franchise, using as one of its main levers the racial stigmas from "The Great Incarceration" and the yet to be proven accusations of voter fraud.

This political "shunning" of the left happens even in the supposedly liberal Ivy League. The late political theorist Sheldon Wolin (1922-2015), shortly before his death, in an interview with Chris Hedges, spoke of the silent treatment he was given by the faculty at Princeton University when he placed a copy of his new magazine "Democracy" on the faculty lounge coffee table. He was shunned. Perhaps they did not like where he was going with his last book, or could see it coming much earlier: *Democracy Inc.: Managed Democracy and the Specter of Inverted Totalitarianism* (2008). Here is that interview, Segment Seven from a nine part series at the RealNewsNetwork:
http://therealnews.com/t2/index.php?option=com_content&task=view&id=31&Itemid=74&jumival=12621

Modern economic thought, and practice, since the 1970s, has witnessed a growing crescendo of Market Utopianism – the "purer the better" - is still the rallying cry of the Republican Right, even in the wake of the sobering events of 2008-2009 and despite some professional economists making substantial dents in the pretentions. And if you had any doubts about that, then you haven't been watching the Republican Presidential Primary debates of 2015-2016, or the sheer destructive obstructionism of its behavior towards President Obama as shamefully displayed in Congress. In its deliberate jamming of the democratic process itself, the Republican Right echoes the behavior if not the ideas of the Fascist parties in the Parliaments of Italy and Germany in the 1920s and early 1930s, before they became outright dictatorships. Republican words do not mock the democratic process itself, but that is their effect, and it is clear that the intent is to de-legitimize the fairly elected President of the United States. Therefore it is very important for American readers to be clear about where Karl Polanyi thought the original Market Utopianism of the early 19th century would lead, and the connections he drew between the origins of classical economics and the collapse of the "long" 19th century in the 1930s: "In order to comprehend German fascism, we must revert to Ricardian England."

Polanyi was far more broadly educated than most economists, perhaps an equal to Keynes. He was employed in Vienna in the 1920s as the "senior editor for the premier economic and financial weekly of Central Europe"– the *Financial Times* of its day and region. On the very first page of the opening chapter of *The Great Transformation*, Polanyi delivers his judgement on where the logic of mandating free markets as the dominant force in society would lead *if not tempered* with countervailing power:

> Our thesis is that the idea of a self-adjusting market implied a stark utopia. Such an institution could not exist for any length of time without annihilating the human and natural substance of society; it would have physically destroyed man and transformed his surroundings into a wilderness. Inevitably, society took measures to protect itself, but whatever measures it took impaired the self-regulation of the market, disorganized industrial life, and thus endangered society in yet another way. It was this dilemma which

> forced the development of the market system into a definite groove and finally disrupted the social organization based upon it.

That dilemma, the struggle over the nature of allowable interventions into the private market system to cope with its seemingly inevitable imbalances, gyrations, recessions and depressions, is still with us. There were prominent claims, however, in the late 1990s, that recessions were gone forever, the perpetual growth machine having been overseen by Alan Greenspan, and he was confident that the new financial derivatives would spread the risk to those who could best bear it. Greenspan was one of the members of Bill Clinton's "Committee to Save the World" along with Robert Rubin and Larry Summers. During that time they were Utopians *and would be Prometheans*.

The nature of these interventions was at the heart of the struggle to cope with the collapse of capitalism, 1929-1932, centered on currency issues (the Gold Standard and balanced budgets) and labor markets (public spending/public job creation vs tax increases/ budgets cuts – "austerity"). In the near collapse of 2008-2009, when financial markets froze around the world, the same basic arguments from the 1930s and indeed, the second half of the 19th century, could be heard swirling around President Obama's stimulus program. The main issues are still unresolved, and the now ancient stalemate that Polanyi so forcefully describes is a growing worry to some of the better economists in Washington, DC, who wonder what tools, if any, will be available to meet the next financial collapse. They worry as well, if they could ever be politically *deployed*.

Some would maintain, as Alan S. Blinder did in his review of Jeff Madrick's *Seven Bad Ideas: How Mainstream Economists Have Damaged America and the World*, that the "mainstream" of the profession is still neo-Keynesian (some would say only "emergency room" Keynesians) and not Market Utopian at all, but that remains to be proven in the realm of policy application via the political process. The attack of four well known "liberal" mainstreamers in a very public February, 2016 letter, upon a fellow professional for projecting high growth rates for candidate Sanders' policy proposals, and James Galbraith's stinging reply to them, casts some doubt as to just which channels the "mainstream" flows in.

Just in case his readers might have missed "our thesis" which Polanyi declared on the first page of his first chapter, he reiterated it with a bit more detail, 75 pages later:

> To allow the market mechanism to be sole director of the fate of human beings and their natural environment indeed, even of the amount and use of purchasing power, would result in the demolition of society. For the alleged commodity 'labor power' cannot be shoved about, used indiscriminately, or even left unused, without affecting also the human individual who happens to be the bearer of this peculiar commodity. In disposing of a man's labor power the system would, incidentally, dispose of the physical, psychological , and moral entity 'man' attached to that tag. Robbed of the protective covering of cultural institutions, human beings would perish from the effects of social exposure; they would die as the victims of acute social dislocation through vice, perversion, crime and starvation. Nature would be reduced to its elements, neighborhoods and landscapes defiled, rivers polluted, military safety jeopardized, the power to produce food and raw materials destroyed. Finally, the market administration of purchasing power would periodically liquidate business enterprise, for shortages and surfeits of money would

> prove as disastrous to business as floods and droughts in primitive society. Undoubtedly, labor, land, and money markets are essential to a market economy. But no society could stand the effects of such a system of crude fictions even for the shortest stretch of time unless its human and natural substance as well as its business organization was protected against the ravages of this satanic mill.

These are powerful indictments, secular jeremiads hurled against the Market Utopianism of the 19th century, and now applicable again to Neoliberalism and its present day program of austerity. Perhaps the main reason Polanyi's work has been kept on the margins of America economic life for so long – that is changing now, however slowly – is that the American economy of 1945-1971 stood so successfully upon the foundations of the New Deal, which Polanyi supported, without major panics and depressions, and with Wall Street curbed and Main Street employed, a far more egalitarian society than the one which surrounds us in 2016. There were significant exceptions, of course, delineated best by Michael Harrington's (1928-1989) *The Other America* (1962).

Were Polanyi's indictments too harsh? No, they were not, *if* one remembers the human wreckage strewn about the Western world in the wake of the events of 1929-1932 – and what followed politically in the 1930s, which plunged civilization into World War II, what the historian Max Hastings has recently called "the greatest event in human history". And they weren't too harsh if one understands the "previews" to the Great Depression – the financial panics and the recessions/depressions which usually followed in their wakes in the United States in the 19th century: 1837, 1857, 1873, and 1893, and that broader, but shallower depression-price deflation, what some have called the first "Great Depression", 1873-1896, which helped fuel the migration from rural Eastern Europe to the United States. These convulsions grew in scope, intensity and scale of human suffering so that the acute periods of social pain stretched four years, then more than a half a decade. And the comparisons are not too harsh if one remembers that public job creation and all the other counter-cyclical tools which the New Deal inaugurated on a large scale were absolutely forbidden by economic and political orthodoxy prior to that Great Depression/New Deal watershed.

Thus when successful businessman Jacob Coxey led his dissenting "army" on a long march from Ohio to a protest on the Capitol's steps in Washington, DC, in the spring of 1894, driven by the terrible conditions from the 1893 panic, he petitioned for the creation of public jobs building and repairing roads – and was promptly arrested for his efforts. Just another example, alas, of the ancient clash between democracy and economic orthodoxy, the theme being pursued today, in Europe, with intensity, by Yanis Varoufakis and the DiEm25 movement, as well as the Sanders campaign in the United States.

And we must face the facts of daily life for those who lived on the Lower East Side of New York, 1890-1910, or Hell's Kitchen at mid-town, the forties, on the West Side, the Irish Hell… and their equivalents in all the other major industrial cities, and then, much later in the 20th century, the "rise" of the black ghettoes in the Northeast and Mid-West, and parts of "sunny" California, where American racism joined in "solidarity" with the worst features of the lowest rungs of industrial life, the most dangerous jobs, the last hired-first fired syndrome, leading to the formation of a true American "Lumpenproletariet".

The ultimate cruelty for black citizens turned out to be that the later years of "The Great Migration" from the rural South, between 1917-1970, ran headlong into the beginnings of another “Great Migration”: the flight of industry, of capital, fleeing first to the nearby union-free suburbs, then to the rural Midwest, and eventually to the American South and the U.S. Mexican border region, then on to Puerto Rico and finally, Asia. It was in these desperate but widespread pockets of underclass American life, and in the 13 states of Appalachia, that the poorer people of America lived out their own version of Polanyi’s awful England of the 1840s.

Two more important points need to be made in addition to Polanyi’s stark warnings about the dangers of pure free market-driven societies. One comes on the very first page of his masterpiece, that there were four pillars to that long 19th century, the one that began in the late 18th century and stretched, in reality and foundational principles, to the collapse of 1929-1932. And those pillars formed an interlocking nexus of the social/military with economic life. The first was the *balance of power* between nations that began with the Congress of Vienna in 1815; the second was the *international Gold Standard*, which required balanced budgets domestically and in trading accounts as well, or else the British navy would appear on the errant nation’s horizon – a form of militarily enforced “austerity”; third, the “*self-regulating market*,” the one that was built in England first…then held up as a model for the whole world, and fourth, *the “liberal” state*, with that word having a meaning somewhat closer to the Tories of the second half of the 19th century in Britain than to the New Deal liberals of the second half of the 20th century in America. Polanyi supplies an immediate qualifier to that liberal state, which he says was a creation of the market ideas and mechanisms, or more precisely, those whom imposed it. And therefore, he must logically say that the free market was the key element which underlay all the other institutions.

Let us now shift to the modern day neoliberal equivalents of this interwoven nexus that was crucial to that long 19th century, to those ideas which have ruled the Republican Right since at least 1980, and to which the Democratic Party, chiefly in economic and foreign policy matters, has deferred since the rise of Bill Clinton, although the outlines were clear to attentive observers during the tarnished one term presidency of Jimmy Carter, 1976-1980.

The contemporary cognitive scientist and linguist George Lakoff has given us a very useful and compact version of the Republican Right’s moral and policy synthesis, a ten word summary of the pillars of Neoliberalism in our era, and they do echo very closely what Polanyi sketched out for us as the core of 19th century civilization in Europe. Lakoff put it this way: the Republican Right stands for “free markets; smaller government; lower taxes; family values; strong defense.” He also took a stab at what a ten word equivalent would be for Progressives, but it does not resonate with the same clarity and if one understands the *many diverse movements composing* the Democratic Party, it is not difficult to see why. One might count seven, if one includes corporate America and the professionals who serve them, the upper 20% of the income demographic that the 1% vs the 99% glides over. Revealingly, Lakoff’s formulation did not include the word “equality”. One attempt at a unifying summary might be: universal healthcare, full employment, greater equality, economic security and environmental protection, to which the corporate wing would likely object for every value. Yet one can also hear Feminists, Black Lives Matter, the Hispanic Caucus and LGBT activists complaining that their issues are being submerged – or ignored, or subsumed, under these oppressive “universals”. And unions? They have lost their independent voice, as demonstrated most vividly by their lack of stirring Labor Day national addresses. And they were perhaps the preeminent “countervailing” domestic power during the post World War II “golden decades”.

As tight as Lakoff’s ten words seem to be in describing the Republican Right’s 20th century recreation of the 19th century’s core values, they fail to capture the razor sharp cutting blades the movement uses to carve up what's left of liberalism, the faint vestiges of the New Deal which hung on through the Reagan era. To do the Right full justice, we have to see how President Bill Clinton's famous declaration fit in so seamlessly with their program, which was to dismantle the New Deal and shrink the size of government to the point where it could be "drowned in a bath tub": anti-tax activist Grover Norquist's death threat for "liberalism".

When President Bill Clinton declared the "Era of Big Government Over" in his 1996 State of the Union Address, he was signaling far more than what those words literally stated. The year and unstated context are as important as the declaration itself. Market Utopianism was at its zenith, economic downturns banished, or so many thought: all the right Washington players and a probably a majority of the economics profession. The crucial *unstated premise* in Clinton's declaration was that *big problems* stemming from the *private sector* economy were over as well. It was a major premise already on the way to being disproved: by the collapse of the Mexican peso in 1994-1995, trying to swim in the immediate wake of NAFTA; the Asian crisis of 1997; the Russian bond disaster of 1997-1998; and the collapse of the Promethean hedge fund Long Term Capital Management in 1998, the fund put together by the "best minds" in mathematical economics. But of course, since the Committee to Save the World and the Federal Reserve were there as an emergency room crew, who needed legislation and federal programs? This was the late 20th century's equivalent of the rescue operations of financier J.P. Morgan in the wake of the 1907 panic.

The Clinton pronouncement did a good job of hiding the numerous policy implications that flowed from his premise (and wish?). The government was no longer going to be an ally of progressive movements outside of government, because there would be no big programs to promote, a mutually reinforcing dynamic of lowered expectations that is still playing out today in 2016 between the campaigns of Bernie Sanders and Hillary Clinton. And there were no powerful movements either, least of all from the economic left, none pushing a coherent program; the greater force on that side of the political spectrum had become the "ecological left." The de-regulatory movement that went hand-in-hand as the enabler of the financialization of the economy and further political empowerment of Wall Street accelerated under Clinton, with near catastrophic consequences in 2007-2008.

Closely related to the de-regulatory push which the Democrats facilitated in alliance with the Republican Right was the growing movement for "privatization" of all formerly public functions: military, diplomatic, educational, social services, the prison and criminal justice system, even entire probation systems. Perhaps most publicly prominent in this trend was the move towards Charter Schools, the attacks upon teacher unions, and overthrowing the seniority system for teachers. Hedge fund leaders and high tech-social media champions like Mark Zuckerberg played a major role in this movement as principal funders, with a large dose of accommodation from the Obama Administration and Democratic urban mayors like Cory Booker in Newark, now a U.S. Senator.

The Clinton pronouncement of 1996 does a very good job at keeping the discussion of taxation off the policy table, which the Republican Right has dominated ever since Proposition 13 passed in California in 1978. This policy direction goes hand-in-hand with the neglect of American infrastructure, the inability to raise the gas tax, or raise the funds for any major left proposal for national health insurance, proper family leave programs or pre-school programs.

It also meshes nicely with the declaration of various leaders of the Republican Right in Congress, which may also be actively shared, or silently accommodated to, by almost the entire Democratic Party short of Senator Sanders and a few members of the Progressive Caucus: *that "only the private sector can create jobs".* In order to believe this fiction, one does indeed have to bury the history of the New Deal, which is the still barely breathing historical legacy which refutes it (along with the domestic production record during World War II), the Civilian Conservation Corps and the WPA's public work projects now nearly erased from citizen memory. If citizens all need jobs and only the private sector can create them, and it refuses do so unless the public gives it an even greater share of GDP, then have we not created a powerful dynamic to further imbalance the distribution of power in society, reinforced now by Supreme Court decisions putting the wealthy in the drivers' seats of the political system?

The logical questions following upon Bill Clinton's dramatic pronouncement are these: what will replace big government in an era of growing *private sector* economic crises? What will stop the spiral of America's decline from world economic leadership (disputed, as we will see by the Clinton campaign) which is driven in good part by inadequate tax revenue despite the money leaving labor's hands and congealing in the accounts of the 1% - here and abroad, given the rise of tax havens? Are not average citizens, the political parties and the public good itself now at the mercy of the economic powers of the private sector? Acquiescence in all of these dynamics was signaled in that 1996 declaration of Bill Clinton's that the era of "Big Government" was over.

As one proof that Clinton's declaration had turned into Neoliberal catechism, we have CNN host Chris Cuomo's grilling of Senator Sanders at one of the televised town halls in early 2016, trying to get him to confess that his policy proposals violate this major commandment dominating *the political sphere* in the name of *economic reality*, the additional fitting irony being that Chris is the son of one of the last embers still glowing from the old New Deal's ideals, of the late Governor Mario Cuomo of New York. It wasn't a question; it was more of a secular Inquisition, a mini-McCarthy hearing on the potential violations of the boundaries drawn around political economy.

And what about that other major term of our neoliberal era, **austerity,** which is so cruel sounding, as if it came from the mouth of a Dickens villain from the mid-Nineteenth century? It is such an ingrained assumption that the word was never uttered during the American presidential debates. Mark Blyth, who has written a passionate, readable book about it, subtitled "The History of a Dangerous Idea", defines it as "a form of voluntary deflation in which the economy adjusts through the reduction of wages, prices and public spending to restore competitiveness, which is (supposedly) best achieved by cutting the state's budget, debts and deficits" which will "inspire 'business confidence'". Blyth considers it very dangerous because it was the failed "classical" response to the Great Depression, 180 degrees in opposition to the Keynesian prescriptions, and also exactly what Germany has been prescribing today for Greece with predictably disastrous results, as Yanis Varoufakis had forecast and then resigned over in 2015.

Another way to look at austerity is that it functions as the policy "operating system" of Neoliberalism. Yet in America, it has some particularly sadistic policy edges meant to bleed the remains of the New Deal federal government until it expires, what has been called the "starve the beast" direction. If "sadistic" sounds too strong for your middle class sensibilities, please follow closely the tale of the lead in the water for Flint, Michigan, where the poor got lead to drink and General Motors got the science driven clean-up, a story which even tops the cruelty of Wall Street banks selling very complex "interest rate swap" deals as budget deficit

stop-gap measures to rural school boards in Pennsylvania – and local and state governments around the world. In both cases, this was the Austerity reality show, and the little people weren't just "fired", they were crucified on a cross of austerity. You can still find Bruce Bartlett's informative article, "Starve the Beast", online here at
http://www.independent.org/publications/tir/article.asp?a=641

It has been noted that the Republican Right is gripped with a near religious intensity about their policy goals, and this registers its highest pitch in their anti-tax commandments and the pledge that Grover Norquist requires of their candidates, which is enforced via primary election challenges by groups like the "Club for Growth". It has become particularly effective since the 1970s as middle class/working class wages and incomes have stagnated or declined, so that these segments of society look for any financial relief within their grasp, and the Republican Right is only too happy to offer the anti-tax pledge to them as an emblem of its fidelity. It is usually accompanied by a not very well disguised Greek Chorus singing gently offstage, reminding them that most of their tax money was going to lazy minorities anyhow, not "hardworking families" like themselves, a phrase which carries within its unspoken terms the old 19th Century distinction between the deserving and undeserving poor. Hillary Clinton has sung this song as well, a milder tune, to the middle class in 2016, pledging her own version of "no new taxes".

In the United States, the "no new taxes" declaration has particular saliency, and cruelty, because almost all state and local governments must balance their budgets by law, even in times of recession and financial crisis, and if the Republican Right is successful in applying this reasoning to the federal government, it means that the Keynesian fiscal response to economic crisis has been entirely taken off the table, except for tax cuts. If the left proposes increased spending for a jobs program, via infrastructure spending or, heaven forbid, direct public job creation like the old Civilian Conservation Corps, then budget balancing is thrust forward as the Commandment, no matter how much the Right ignored it in their own administrations since 1980.

The "Starve the Beast" direction is also reinforced by one of the great "common sense" myths of American political life, the "kitchen table" wisdom that governments must balance their budgets just like families, thus assuring that all sectors, public and private, will be "contracting" during times of economic stress – just like the Great Depression. Disbelief accompanied my own online survey in 2010 in Maryland, at what state- wide candidates were saying on these matters. Democrats were indistinguishable from Republicans, even in this post Great Financial Crisis mood, most repeating verbatim the kitchen table wisdom equating family and governmental budgets, with no mention that the federal government, with the powers delegated to the Federal Reserve, was an entirely different institution with specially designed powers… the crucial difference which can mean life or death for citizens - and local governments in a severe economic crisis. Thus the family's "kitchen table" common sense supplies the butcher's knife to cut the umbilical cord of *federal* stimulus spending, the result being millions of families foreclosed upon.

And thus, sadly, the intellectual fulcrum point of American political economy is no different in 2016 than it was in 1929-1932, Modern Monetary Theory and the life of Keynes be damned. In terms of economic ideas we are still in the late 19th century, and as Karl Rove has declared, that's just where he and the Right want us to be, secure in the embrace of William McKinley, not listening to William Jennings Bryan's sermons about being "crucified on a cross of gold (or fiscal austerity)".

And what a world that long 19th Century was. If Mr Rove wants us to remember it for its spectacular economic growth, lack of a federal *regulatory* state and the illegality of unions, he certainly will not dwell upon, or perhaps even mention, the growing intensity of its economic crises, with even the king of the trusts, Mr. Morgan himself, realizing after 1907, that the slumps of the age would have to mitigated by a hybrid institution, the Federal Reserve. Karl Polanyi was correct: no one, not even the kings of the private sector, could live with the effects of a "pure" free market.

Someone exploring the evolution of political economy in America is more than likely to come across a very powerful sentence uttered by President Woodrow Wilson, usually placed as an epigraph introducing an important chapter of larger works. Wilson said, in a bold, direct way, what no modern president or candidate except perhaps Bernie Sanders could even be imagined as saying in public, the words being heresy to the illusions of our age, which shares much in common with the one Wilson was addressing: *"'The Truth is, we are all caught in a great economic system which is heartless.'"*

Wilson was a progressive Conservative or conservative Progressive. Richard Hofstadter, whose classic *The American Political Tradition* appeared in 1948, entitled his 44-page chapter about him "The Conservative as Liberal." Wilson's powerful, compact judgement about our economic system is taken from the collection of his campaign speeches from 1911-12, published in book form as *The New Freedom*, and upon rereading it in 2016 it is remarkable how similar Wilson sounds to the Democratic candidates, sometimes leaning towards Sanders, sometimes sounding closer to the more cautious Clinton.

In private correspondence, according to Hofstadter, Wilson seemed to be evolving into a Social Democrat, especially in matters of energy and natural resource ownership; in public, on economic reforms, he was caught in that whirlpool which spins so many progressive reformers round and round: he brandished anti-trust rhetoric and *thought jailing even just one prominent corporate lawbreaker would be sufficient shock to restore the "common good".* In fact and policy, though, he longed to restore the past, the economy of Lincoln's antebellum boyhood, of many small competing firms. In reality, from his Progressive Era to the New Deal, and into our own times, America has never put a vigorous, sustained anti-trust policy into action. The reason for the failure to do so, most likely, is because such a program would mean accepting what those further to the left have always said about capitalism itself: left to its own inclinations, it tends towards oligopoly if not monopoly.

Wilson was a Southerner at heart, raised by parents with deep roots in the Protestant ministry, and it is not unfair to say he was, at his worst, a moralistic*, racist* Victorian, linking him even more to the feel of the 2016 campaign, as black activists at Princeton University seek to rename buildings and schools for someone better, and those at Yale do the same for John C. Calhoun. Wilson's name today evokes a string of epithets from even the most refined on the academic left, like Corey Robin. Yet in re-reading his book, it is hard not to see a better side to him, someone who grasped that the private powers, the interlocking trusts of the late Gilded Age, were deeply impairing if not destroying democracy.

The New Freedom reminds us that we have now had three great Gilded Ages in America: the original, 1880-1916; then "the frenzy" of 1922-1929; and 1980 through to the present, with the high-water mark coming in the "Roaring" late 1990's, with the crash of 2008-2009 still not marking the end of "Part III" because we have nowhere come close to dealing with the loss of industrial jobs overseas, wage stagnation or the great maldistribution of wealth. In other words, we still don't have a new, green New Deal, one that will have to come up with freshly invented countervailing forces to keep private economic power from strangling democracy. Hofstadter says that was also Wilson's great failing: he called for a revitalization of American democracy, but not for economic democracy. The American state he envisioned was going to be a neutral arbiter among competing interests rather than a champion of the middle and working classes. His intervention into World War I left stranded, for a generation, the moderate reforms his administration did pass, and gave us an all too realistic preview of how powerful and reactionary the American state can be when embarked upon one of its "crusades" against evil "others". Even when these directed enthusiasms, or orchestrated hatreds, did not start out that way, they have usually ended up being aimed at the American Left.

For now, however, consider these brief passages for the connection of President Wilson to our own times and troubles, the better similarities, from the *pre-war* Wilson. All are taken from the early chapters of *The New Freedom*:

> Since I have entered politics, I have chiefly had men's views confided to me privately. Some of the biggest men in the United States, in the field of commerce and manufacture, are afraid of somebody, are afraid of something. They know there is a power somewhere, so organized, so subtle, so watchful, so interlocked, so complete, so pervasive that they had better not speak above their breath when they speak in condemnation of it…if he enters certain fields, there are organizations which will use means against him that will prevent his building up a business which they do not want to have built up… Why? *Because the laws of this country do not prevent the strong from crushing the weak*…
>
> All over the union people are coming to feel they have no control over the course of affairs… until two years ago we had witnessed with increasing concern the growth in New Jersey of a spirit of almost cynical despair. Men said: '*We vote; we are offered the platform we want; we elect the men who stand on that platform, and we get absolutely nothing.'* So they began to ask: 'What is the use of voting? We know that *the machines of both parties are subsidized by the same persons,* and therefore it is useless to turn in either direction.'…
>
> We are in a temper to reconstruct economic society, as we were once in a temper to reconstruct political society…*We stand in the presence of a revolution,* not a bloody revolution; America is not given to the spilling of blood, but *a silent revolution, whereby America will insist upon recovering in practice those ideas which she has always professed, upon securing a government devoted to the general interest and not to special interests*…
>
> *The law is still living in the dead past which we have left behind…We have not adjusted the law to the facts of the new order*. (Editor's Note: *the emphases* are mine, not Wilson's.)

In early May, 2016, the American Presidential Primary looks as if it has clarified the choices: it will likely be Donald Trump versus Hillary Clinton, barring a Black Swan legal event against Secretary Clinton. Senator Bernie Sanders has had a powerful impact in pushing her further to the left than her natural political inclinations would probably lead - which is to the moderate side of Neoliberalism. It remains to be seen if Sanders has founded a movement with life beyond his candidacy. It is appropriate to ask, then, if Karl Polanyi's insights, his framework for understanding capitalism, can help us make sense of these political dynamics in the world's most hyper-capitalist developed economy.

In the campaign so far, it is clear that citizen unhappiness with the economic status quo has driven both Trump and Sanders' supporters, with cultural grievances, and worse, making the Trump phenomenon more difficult to explain, although those familiar with all that is meant by the dynamics of "Weimar Culture" will have less trouble. Alternatively, President Obama and Secretary Clinton have been emphasizing the success of the American recovery since the 2008-2009 financial crisis, especially the drop in the formal unemployment rate to 4.7%. This focus has its evasions.

Within the space of just five months, there have been two important studies released, the first from a pair of Princeton University economists, documenting increased pain – increased suicide rates -– especially among working class citizens, 45-54 years old – and another showing increases in suicide for all categories but the elderly and black men, the overall rate now the highest for the nation in 30 years. The cheerful official facade also evades the more telling statistics of how low the labor force participation rate has fallen, and how high the unemployment rates for non-college young black people are, between 30 and 51 percent, depending on the measuring tools. It is the young, both in and out of the workforce, including college graduates, who have most deeply embraced Senator Sanders' narrative about the acute economic distress. And it is Senator Sanders who has explained his democratic socialist roots by linking them to FDR's Second Bill of Rights, the "Second Bill" serving as the outline for an American version of social democracy, given in his State of the Union address from 1944, with Sanders repeating its ringing declaration that "necessitous men are not free men." This framing is very close to where Polanyi leads us in his concluding chapter's discussion in *The Great Transformation*, entitled "Freedom in a Complex Society", and published in the same year as FDR's speech.

And what about Polanyi's dramatic assertions about where free market fundamentalism might lead, if not mitigated by various "interventions", his dramatic opening page declaration about the "stark utopia" in store, that would end up "annihilating the human and natural substance of society?" If one adds the Trump vote to the Sanders vote, it is clear that a majority of the American *voting* public believes something dramatic has happened, that the economy is vastly underperforming, even as the solutions from the two camps have few points of intersection. The suicide findings add another dimension to the overall sense in the nation that something has gone terribly wrong.

If citizens have the inclination to look a bit further, there are indeed two recent works which place the reality at the bottom of American society close to Polanyi's bleak warning. They are Michelle Alexander's *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* and the *Harvard Law Review's* study of "Policing and Profit**"** from April of 2015. This is where the realities of America's long and ugly history of racial dynamics meet the mechanisms of austerity, Neoliberalism's drive for lower taxes and the privatization of prisons and the probation systems – and much else. The results are perhaps the more jarring in that they have reached a culmination under the nation's first black President, who has continued the policies which drive the trends, especially the War on Drugs. And yet, in step with the

Zeitgeist, which their factual revelations challenge directly, neither of these startling works actually invokes the term Neoliberal, and both emphasize racial over economic forces.

All through late 2015 and early 2016, observers of American politics have struggled to explain the phenomenon of Donald Trump, but none have tried to do so with the assistance of Polanyi's "double movement," which is the pattern, often denied on the Right, of interventions into the market mechanisms to ease the suffering and social disruption, for both businesses and workers, and to protect the environment. Chapters Eleven, Twelve and Thirteen of *The Great Transformation*, which present the "double movement" in considerable detail - and documentation - for the second half of the 19th Century and on into the 1930's, contain some of the best fine-grained judgements and most distinguished writing about political economy in modern history.

We should remember that Polanyi states that the double movement ends in legislative turmoil and eventually, Parliamentary paralysis. This set the stage, in the 1930's, for the triumph of fascism in Germany; it happened earlier in Italy. The contemporary manifestation, "the gridlock in Washington, DC" is so familiar it needs no additional emphasis here.

Let us not be shy: many serious observers, from all parts of the spectrum, have issued warnings about Mr. Trump's tendencies in this direction, towards a homegrown U.S. fascism without the organized Brown and Black shirts. Trump has clearly, by choosing to run as a Republican in this era, placed himself on the Right side of the ideological spectrum, even as he has brought down the wrath of the Republican Right "establishment" by making explicit what in previous years had only been hinted at. Most observers agree he has succeeded by splitting off the working and lower middle class segments of the Right from the more affluent constituencies in the Republican coalition, partly by his ugly cultural framing, and partly by turning against "free trade" as practiced by both parties. Yet his tax proposals do not at all square with his populist job creation rhetoric, in fact are anti-egalitarian, and most of his other economic policy pronouncements are no more substantive than blustery promises and wishes. His emblazoned slogan – Make America Great Again! – is a way of hiding, by assertive nationalism, the bitterness of his anti-modernist supporters and denying the claims of progress made by both President Obama and Secretary Clinton. Yet, still, the race offers a billionaire running against a mere multi-millionaire who insists that America *has never lost its greatness*. And then there is author Thomas Frank, in *Listen Liberal*, reminding us that a good portion of the top 20% income demographic has moved, since the 1960s, from the Republican party into the Democratic camp, further alienating the crucial white working class voter, especially the men, because it is this new Democratic demographic that has authored the "political correctness" catechism.

Trumpism arises at this late moment after each of the major party's efforts to mitigate the fallout from the unleashed markets of the late 1990s have failed: the Right's efforts to militarily bring "democracy" to the Middle East (and a clearly Neoliberal constitution to Iraq), after the opening provided by the tragedy of 9/11 and a vast intervention to bail out the collapsed airline industry. Whatever the multi-causal motivation, including the logical extension of Neoliberal Globalization's burdens, it became a multi-trillion dollar exercise in military Keynesianism, and futility, with even more now being promised by the man who says Iraq was a terrible mistake but that he will smite ISIS in one grand stroke, meanwhile expanding the military to even greater magnitudes of world supremacy. In addition to their complicity with military Keynesianism, there was also the Democratic Centrist attempt to mitigate the Great Financial Crisis of 2008-2009 through Federal Reserve monetary gymnastics and emergency room Keynesianism. It was New Deal lite, with no CCC or WPA, no public job creation or any reference to FDR's Second Bill of Rights until Senator Sanders' heretical speech at Georgetown University in November of 2015. These efforts were crowned by a willingness to increase the public debt to save Wall Street, but not to save millions of evicted homeowners, leaving many citizens with a very bitter aftertaste that has lingered into the election year.

Who can say where Trumpism leads, or if it can win in November of 2016? In many ways, openly expressed by Trump himself, his movement can be seen as the climax of the Republican Right's attempt to maintain Victorian moral values in the sexual and cultural realm against the waves of Creative cultural Destruction unleashed by its own championed Free Market Forces in the economic realm, ever since the 1960's. Hence the attack upon Political Correctness. When this framing is used against President Obama, it hurls the accusation of American economic and military decline – due to "liberal" weakness. "True Conservatives" to Trump's Right bristle at the notion that this New York real estate tycoon is the defender of their "traditional" values.

It is not an exaggeration to see in these themes a milder version of Weimar dynamics. The opposing candidate, the first major woman contender for the Presidency, will, by her symbolism alone, raise these three aspects to a fever pitch, even as her own diplomatic history will be deployed defensively to show how tough she can be in foreign policy. We will also hear many references to the high-tide wonders of Market Utopianism in the late Roaring 1990s, under her husband's policies.

The sophistication of Polanyi's handling of the double movement, how cross-class alliances of a surprising and counter-intuitive nature affected policy struggles in the political arena, means that his insights can inform us about the most ominous year in American politics since 1896. Unfortunately, even the best insights cannot predict the outcome.

In the broadest terms, the contest still, with all due respect to Sanders' achievements, is between the Neoliberal Right, now in its populist phase, and the Neoliberal Center, trying to move left, some would say "fake left" – but not too far. If the Democratic Party background papers of the primary season, of Larry Summers and Joseph Stiglitz from early 2015, are the intellectual source springs for Clinton's policies, then structural interventions into the labor markets remain beyond the pale. This despite the low labor participation rate, infrastructure and global warming crises all making the obvious case for public jobs and a new Civilian Conservation Corps. This shows the power still of Neoliberalism in economics, our modern day version of the four pillars which Polanyi explained were the mainstays of the 19th Century's "classical" economy, the one that ended in disaster in 1929-1932. If Trump wins in November, we simply don't know what form his governance will take, especially its economic policies. But Polanyi has made the outline of the possibilities remarkably clear. In Germany in the 1930s, the worst case, those four pillars were demolished and something new and terrifying put in their place. Brace yourself.

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The political economy of the Paris Agreement on human induced climate change: a brief guide

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Introduction

In Paris during December 2015 an international conference of the world's governments agreed to adopt the text of a treaty to control the greenhouse gas (GHG) emissions causing human induced climate change, from 2020 onwards.[1] As concerns have been rising over extreme weather events, changing seasonal weather patterns, coastal flooding and submergence of small island nations, the Paris Agreement was greeted with an almost euphoric sense of achievement in the media and policy communities. There appear to be two substantive reasons for hailing this a great success.

First, 195 countries and, most importantly, all the major GHG polluters agreed to the text. Paris was the 21st Conference of the Parties (COP), 197 countries, who are signed-up to the United Nations Framework Convention on Climate Change (UNFCCC) adopted in 1992 and effective 1994. Previously, under the 1997 Kyoto Protocol, only a limited number of some 35 countries were ever prepared to consider limits on their capacity to emit GHGs. Legitimate questions are then: why? what happened to the Kyoto Protocol that promised large emissions reductions from 2008-2020? and does Paris really change anything? That is, the Paris Agreement needs to be understood in the historical policy context of the last quarter century. I will argue that this brings into question its claims to success, but also reveals how major policy shifts have occurred.

Second, in Article 2 the Paris Agreement states that parties to the agreement will hold global average temperature increases "to well below 2°C" and "pursue efforts" to limit this to 1.5°C, in order to reduce the risk and impacts from climate change. This needs to be seen in the context of a switch in policy. Unlike the Kyoto Protocol, there are no hard and fast targets for GHG control, nor commonly agreed baselines or reductions. Under the new unilateralism of international policy, favoured by the USA, independent voluntary reductions were proposed and submitted before the Paris COP. These were not discussed or critically analysed in Paris but are noted "with concern" to be inadequate for limiting temperature to 2°C (Clause 17). A conservative estimate is that these intentions "are more in line with a total warming of 3°C" (*The Economist* 12th December, 2015). Yet governments seem optimistic enough to sign-up for a 1.5°C target.

The central question is, how far does any of this take the world forward in preventing human induced climate change? I will explain the divorce between what the Paris Agreement claims it will do and what governments are actually doing through their commitment to economic growth at all costs. I start by exploring the evolution of policy on limiting GHGs.

[1] The final version of the 36-page document of adoption consists of 139 Clauses in a preamble declaration and an Annex which is the actual Paris Agreement in 29 Articles. Moving text from the Articles to the Clauses was a method of downgrading and removing it from the legally binding treaty.

The Kyoto Protocol and the lead into Paris

The Kyoto Protocol, only came into force in 2005, eight years after its adoption, when Russia finally ratified. It contained national, legally binding, reduction targets for GHG emissions of 5%, on average, in the 1st Commitment Period 2008-2012. Second and subsequent commitment periods were mentioned (Article 3) but not specified. Much larger cuts are needed to achieve stabilisation of GHGs in the upper atmosphere.[2] Negotiations for a 2nd Commitment Period (2013-2020) led to the 2012 Doha Amendments with 20% reductions on 1990 levels being put forward, but almost exclusively for European countries (not even Japan committed itself). It never became operational because too few signed-up and only seven countries have so far ratified (the Paris declaration pleads for them to do so in Clause 105). So nothing happened, and that is why there was a Paris Agreement instead, and Kyoto is dead. However, this has left an eight year policy gap.

A quick reprise of what happened is informative. Under the Kyoto Protocol neither China nor India had any targets. The USA signed Kyoto under President Carter's Democratic Administration, but never ratified, and then President Bush's Republican Administration withdrew its signature in 2001 (an act of dubious legality). The Obama Administration chose not to reverse this move, despite it being possible (Ash, 2014), and cited jobs as a priority over climate protection. Bush's withdrawal left the whole Protocol in jeopardy of never coming into force due to a lack of major emitters to meet its operational target level. Under the 1st Commitment Period, Russia had no required reductions, but did not want to ratify due to concerns over the economic impact. However, due to the collapse of the Soviet Union, its industrial sector declined and disappeared so that by 1997 its CO_2 emissions had fallen 51% from 1990 levels (calculation using data from Olivier et al., 2015). This meant Russia could benefit from selling emissions permits on the basis of having already exceeded its target, what has been euphemistically called 'Russian hot air'. Similarly, West German reunification with a collapsed East German industrial sector made meeting targets easy for the new unified Germany, because it had already cut emissions relative to the 1990 baseline. This also facilitated the European Economic Community, or European Union (EU) 15, in negotiating a collective target to be met by an internal arrangement (under 'flexible mechanisms') whereby seven EU countries either avoided any emissions reductions or actually increased their emissions up to 27%. Canada ratified with a 1st Commitment Period target of 6% reductions, but in 2011 withdrew (effective 2012), by which time its CO_2 emissions had increased 20% over 1990 levels. Australia did not ratify until 2007 and even then it was actually committed to an 8% increase in emissions!

In summary, the Kyoto 1st Commitment Period ended-up requiring GHG emissions reductions averaging 7.6% from 21 European countries plus Japan, while requiring nothing of, or allowing increases by, other countries. The European Commission (2016) states that the 1st Commitment Period covered 18% of global GHG emissions with a goal of an average 5% net reduction. So, basically, 20 years was spent by the UNFCCC trying to cut global emissions by 0.9%. During this period the main contributions to actual emissions reductions have been: (i) the collapse of the Soviet Union with the demise of industrial emissions from Russia and Eastern Europe; (ii) the recession since the 2007-2008 financial crisis. That is, actualised GHG reductions have required significant declines in economic growth and shrinking of industrial production and consumption. International policy has been a failure.

[2] For example, Parry et al. (2008) specify 80% emissions reductions on 1990 levels by 2050 in order to stand a chance of avoiding temperature rises above 2°C.

The politics of the Paris deal

The European Commission (2015: 4) had officially proposed “that the 2015 Agreement should be in the form of a Protocol under the UNFCCC”. A Protocol would have provided a treaty with a much stronger legal status with binding targets (like Kyoto) rather than independently set intentions. In addition, the same communication stated this new Protocol “should enter into force as soon as countries with a collective total of 80% of current global emissions have ratified it” (European Commission, 2015: 4). The idea here was to enforce mitigation action beyond the almost exclusively European countries who ended-up taking responsibility under the Kyoto Protocol.

The rule for treaty activation under the Kyoto Protocol (Article 25) was ratification by:

> “…not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I”

“Parties included in Annex I” means a Party included in Annex I to the UNFCCC and covered 35 countries plus the EU15. The Paris Agreement (Article 21) requires:

> “…at least 55 Parties to the Convention accounting in total for at least an estimated 55 per cent of the total global greenhouse gas emissions [...] on or before the date of adoption of this Agreement by the Parties to the Convention.”

The first requirement in number of parties is the same as Kyoto, while dropping reference to Annex I countries is meant to achieve the wider participation goal.

The treaty requires both signature and ratification[3] to become effective and the Kyoto experience is not very encouraging. However, during the Opening for Signature of the Paris Agreement, held at UN Headquarters in New York on 22 April 2016, 175 Parties (174 countries and the European Union) signed the Agreement, and the ability to sign will remain open for one year. Yet, only 15 countries ratified the Agreement and by late June only another two had ratified. All countries have different procedures to follow to allow them to ratify an international treaty. The process is expected to take some time for the EU because it requires agreement of 28 national governments, who vote separately in their various parliaments; only Hungary had done so after six months.

The early ratifiers of the Paris Agreement account for just 0.04% of global GHG emissions. The first to ratify were the small island states (e.g., Maldives, Marshall Islands, Tuvalu) whose land area is highly susceptible to being totally submerged by sea level rise, storm surges and increasingly extreme weather events. For example, the natural land height of the 1,192 islands that constitute the Maldives is on average 1.5 meters above sea level and 80% is less than a meter high. They have everything to lose and little responsibility for having created the problem in the first place. They also hope to benefit from international finance for adaptation and technology transfer for a low carbon energy transition.

[3] I use ratification to also cover acceptance, approval and accession.

Like the small island States, most countries have little or no responsibility for creating the problem. Just 1% of current global CO_2 emissions, from fossil fuel and cement, comes from 120 countries while five countries are responsible for 60% of global emissions (based on 2014 data, source Olivier et al., 2015). The big CO_2 polluters are China (30%), USA (15%), India (7%), Russia (5%), and Japan (4%). Then comes Germany (2%). As a group the EU28 would rank 3rd (10%) led by Germany followed by the UK, Italy, France and Poland (approximately 1% each). Fossil fuel intensive economies and producers try to deflect responsibility by criticising others for their land use practices, such as deforestation and agriculture, that both release GHGs and destroy sinks that absorb GHGs. These are serious concerns and switching to total GHGs, from just CO_2, and including emissions from land use change and forestry does push Indonesia and Brazil up the league table into 5th and 6th positions. However, this does not change the list of countries accounting for about 70% of GHG emission nor those at the top.

What the requirement for 55% of total global GHG emissions means is that, for the Paris Agreement to become effective, some of the major emitters will need to ratify, and the exact calculation basis (left unspecified) will affect how many. Even if the entire world ratified, without at least one of China, USA or India the treaty will not come into effect. Conversely if all the top seven GHG polluting countries ratify the target would likely be met, even with the vagaries of the unspecified date and calculation basis.

In the lead up to Paris, Europe was particularly sensitive to the needs of the USA. The President wants to avoid a vote in the Republican dominated Senate that would block ratification. Its climate denialists, led by Senator Inhofe – who ironically Chairs its Environment Committee – have published a report attacking both the Paris Agreement and the Obama Administration's attempts to reduce GHGs, while claiming planned emissions reductions will prove illegal (United States Senate Committee on Environment and Public Works, 2016). The President can ratify a treaty without the Senate's approval, unless this conflicts with domestic law (Ash, 2014). This seems the only route open for Obama (even if an executive order can be revoked by a subsequent President). Despite this the USA successfully used concerns over the inability of the President to sign an agreement to force both a Protocol and binding targets off the agenda (Ash, 2014; Davenport, 2014).

The European Commission (2015 p.7) failed to get the robust mitigation commitments which it defined as "economy-wide targets with emissions budgets"; these have "advantages including certainty, transparency, flexibility and, if used widely, reducing the risk of carbon leakage". Rather than a set of planned and coordinated reductions with a common base year, as under Kyoto, that would have targeted fossil fuel combustion and those responsible for creating GHGs, the Paris Agreement has "intended nationally determined contributions". The fear of not getting the big players on board led to the idea of these voluntary unilateral targets that are currently totally inadequate.

Intended nationally determined contradictions

The USA has played a double game, talking big on climate change while expanding fossil fuel production and consumption. Indeed, in total contradiction of Obama's public expressions of concern over climate change his period in office has seen an unprecedented expansion in oil and gas production making it the number 1 world producer ahead of Saudi Arabia (Reuters, 2013). In a speech at an oil town, Cushing, on 22nd March 2012, Obama stated that:

> "Over the last three years, I've directed my administration to open up millions of acres for gas and oil exploration across 23 different states. We're opening up more than 75 percent of our potential oil resources offshore. We've quadrupled the number of operating rigs to a record high. We've added enough new oil and gas pipeline to encircle the Earth and then some. So we are drilling all over the place – right now […] And as long as I'm President, we're going to keep on encouraging oil development and infrastructure" (Obama speech, source Shallow Nation, 2012).

Obama has chosen, as a political strategy, to favour oil and gas while targeting coal. This will not prevent climate change, but does reveal the power of fossil fuels in the economy and the lie of decoupling (i.e., having more output with less fossil fuel energy and its pollution). Yet even this strategy is not certain to win. The EPA regulation "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," has been challenged by 29 States led mostly by Republicans and many with economies that rely on coal mining or coal-fired power stations. A Supreme Court ruling in February 2016 put plans on hold (Stohr and Dlouhy, 2016), and some are concerned that this will jeopardise the Paris timeline and allow a possible incoming Republican administration to stop any action before it starts (Davenport, 2016). If the USA fails to ratify, or drops behind, then China and India may follow suit and the Paris Agreement would be still born, regardless of how many others ratify.

In many respects, the USA's double standards and intentional contradictory positions and statements are no different from most other countries. For example, Norway is one of the richest nations in the world on the basis of oil extraction, but that largely does not count because others buy and combust it relieving Norway of its responsibility for the emissions. Domestically they can claim to be clean and Green with hydroelectricity and electric cars. They can also pursue growth in fossil fuel extraction. As Fridtjof Unander, Executive Director at the Research Council of Norway, has emphasised, the role gas plays in all future energy mix scenarios, especially in its role for crowding out coal, means Norway should expand extraction into the "predominantly gas-prone" Arctic (Keil, 2015).

Other nations also pursue contradictory policies. Germany has expanded brown coal extraction and exports cars to others promoting their increased emissions, while (like many others) buying products from China that have embodied emissions (i.e., off-shoring production leading to carbon leakage). Canada left Kyoto in order to frack on a massive scale. The UK is planning more offshore oil and gas exploration and has been pushing fracking, while freezing taxes on petrol for five years. China and India have invested heavily in coal fired power plants, locking themselves into decades of future combustion. Australia is the largest coal exporter in the world, supplying China. The list of government commitment to fossil fuel extraction and investment goes on.

Of the top 20 countries with the highest emissions of CO_2 per capita 15 are oil and gas based economies. They are also some of the wealthiest countries in the world. No wonder the Paris Agreement makes no mention at all of such inconvenient words as oil, gas, coal, petroleum, shale and fracking (Spash, 2016). There is a fundamental contradiction between the fossil fuel economy and addressing climate change. Yet the parties to the Paris Agreement do not seem overly concerned.

Risk management NOT stopping climate change

UNFCCC's Halldór Thorgeirsson, Director for Strategy at the UN Climate Change Secretariat, speaking in Tromsø, Norway, at the Arctic Frontiers Conference on Climate & Energy, stated:

> "This treaty [the UNFCCC], signed in Rio in 1992, is a planetary risk management treaty. Its objective is not to prevent climate change, which is clearly not feasible. It is designed to limit climate change to a level which avoids 'dangerous interference with the climate system'" (Thorgeirsson, 2015).

This is actually a change in interpretation from the precautionary approach prevalent in 1992 to the risk cost-benefit approach of today, a shift from mitigation to adaptation. The benefits of growth, jobs and fossil fuels are to be weighed against the potential of climate catastrophe. What is rarely mentioned is that GHGs have already exceeded the level expected to produce climate forcing of 2ºC, and the UNFCCC plans are only meant to offer a 50:50 chance of avoiding some of the worst effects of climate change (for details see Spash, 2016).

Article 2 of the Paris Agreement states the aim of enhancing implementation of the UNFCCC by:

> "Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change."

The sudden appearance of a 1.5°C target being mentioned should be an embarrassment for the Intergovernmental Panel on Climate Change (IPCC). That is, this authoritative scientific body ran no low emissions scenarios, had ignored anything lower than the politically set and arbitrary 2°C target and dismissed the need to pay attention to any literature relating to lower targets. As a result, the Paris declaration (Clause 21):

> "*Invites* the Intergovernmental Panel on Climate Change to provide a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways."

That such scenarios were absent from a supposedly scientific body's massive report has gone uncommented upon. Yet, the implications go far because the scenario analysis of the IPCC informs the Paris Agreement and is questionable for other presumptions it has incorporated. As Kevin Anderson (2015: 899) of the UK's Tyndall Centre has explained, the scenarios of the IPCC report are highly skewed despite their vast number:

> "344 assume the successful and large-scale uptake of negative-emission technologies [...] in all 56 scenarios without negative emissions, global emissions peak around 2010, which is contrary to available emissions data. In plain language, the complete set of 400 IPCC scenarios for a 50% or better chance of meeting the 2°C target work on the basis of either an ability to change the past, or the successful and large-scale uptake of negative-emission technologies. A significant proportion of the scenarios are dependent on both."

Technological optimism is at the core of the IPCC projections and the assumptions that inform the Paris Agreement. On publication of the IPCC 5th Assessment report the official press release quoted the Chair, R.K. Pachauri, as stating that:

> "To keep a good chance of staying below 2ºC, and at manageable costs, our emissions should drop by 40 to 70 percent globally between 2010 and 2050, falling to zero or below by 2100."

The latter is the new rhetoric of negative emissions that relies on imagined future technologies (e.g. biotechnology, geoengineering, carbon capture and storage). The press release also reports the findings of Working group III as showing that:

> "…mitigation cost estimates vary, but that global economic growth would not be strongly affected. In business-as-usual scenarios, consumption – a proxy for economic growth – grows by 1.6 to 3 percent per year over the 21st century. Ambitious mitigation would reduce this by about 0.06 percentage points."

This major transformation of the energy basis of the economy in fossil fuels is floated in the press as having no real impact on economic growth without anyone raising a qualm. In fact Lord Stern and colleagues have been arguing that economic growth will be boosted by the energy transformation to a "new climate economy" (GCEC, 2014). Elsewhere, I have discussed some of the many fallacies of this Green Growth argument and noted the connection to a power elite (Spash, 2014). Yet this is now the dominant international position and hope of the Paris Agreement.

The whole of Article 2 is qualified by the phrase: "…in the context of sustainable development and efforts to eradicate poverty". As I have noted elsewhere (Spash, 2016), the Paris Agreement cannot be read outside the context of the, October 2015, UN Resolution A/RES/70/1 "Transforming our world: The 2030 Agenda for Sustainable Development", which promotes economic growth, technology, industrialisation and energy use. Goal 8 is to sustain per capita economic growth at a rate of "at least 7 per cent gross domestic product per annum in the least developed countries". The environmental devastation this would entail is meant to be addressed by the "endeavour to decouple economic growth from environmental degradation", which is meaningless unless undertaken in absolute terms and that is simply impossible for the industrial economy being promoted in Goal 9. The Paris Agreement follows suit and claims that: "Accelerating, encouraging and enabling innovation is critical for an effective, long-term global response to climate change and promoting economic growth and sustainable development" (Article 10).

The ultimate concern is the threat to economic growth and this is a perspective that has been heavily lobbied for by advocates, such as Stern, of the new climate economy under the banner "better growth, better climate". As they state: "In the long term, if climate change is not tackled, growth itself will be at risk" (GCEC, 2014a, p.9). The climate can and will be changed, but growth must not be threatened.

Concluding remarks

The negotiations around human induced climate change reveal the tensions and contradictions of the resulting policy. There are those who argue for more and better growth spurred on by new technologies to be developed via innovative corporations (GCEC, 2014). This is to be funded, as usual, by massive public investment that will 'leverage' private finance, or in plain terms subsidise corporate profit-making while pretending to remove market imperfections. Advocates are heavily invested in preserving the existing social and economic order as evident by the elite networks of the 1% within which they operate (Spash, 2014). The hope is for new miracle technologies to allow moving pollutants from the air to the soil and water, and reliance on treating the Earth as a mechanical toy for boys to (geo)engineer. The economics profession with its macroeconomic obsessions over jobs and growth is living in a fantasy world without any biophysical reality and merely plays along with this techno-optimist tune, and unfortunately the heterodoxy has so far done little to alter this.

The targets of Paris are not some simple internalisation of an externality that is messing-up the perfectly functioning market system. If taken seriously they are a call for a major transformation of the global economy away from its foundation on fossil fuels and energy intensive systems. As the UNFCCC's Director for Strategy has stated:

> "The objective is to put in motion a fundamental transformation in the way we use and produce energy, how we plan our cities, how we manage land and how we prepare for a changing climate and cooperate to minimise its disruptive effect. Transformation takes strategy. You need to know your destination if you are serious about reaching it" (Thorgeirsson, 2015).

Yet, while the need for transformation is now widely recognised, this is generally interpreted as being totally consistent with maintaining the same social ecological and economic structure as today. That is a structure of social inequity, ecological exploitation and an economy promoting hedonistic materialism supplied through a system of corporate and State capital accumulation. The politics of human induced climate change go to the heart of the modern industrialised capital accumulating economy and the rhetoric of growth as supplying development and progress. In the end the Paris Agreement changes nothing. The destination is the same old growth economy and that is in total contradiction with addressing human induced climate change.

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Zucman on tax evasion and the U.S. trade deficit

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Abstract
Economist Gabriel Zucman's paper "The Missing Wealth of Nations" proposes that a substantial part of the large U.S. net debt of the last 15 years is actually accounted for by U.S. tax evaders who have opened accounts in foreign tax havens, and then have reinvested their money in the United States. To make his finding consistent with balance of payments data, he speculates that U.S. export data are underestimated (and thus the U.S. trade deficit is not as large as thought). My paper explores this assumption, and provides evidence that the U.S. trade deficit is not substantially less than reported by the U.S. government. I then discuss theoretical reasons why Zucman's estimates might not mean the U.S. trade deficit is underestimated.

Introduction

Economist Gabriel Zucman's paper "The Missing Wealth of Nations" proposes that a substantial part of the large U.S. net debt of the last 15 years is actually accounted for by U.S. tax evaders who have opened accounts in foreign tax havens, and then have reinvested their money in the United States. Such investments would look like foreign investments in the United States, but would actually be U.S. domestic investments. Zucman concludes that as a result, the U.S. capital account surplus must be lower than reported.

The capital and current accounts must always balance. Thus, if Zucman is correct in his estimates of tax evasion, these misidentified investments would also make the U.S. current account deficit smaller than is currently reported, because the current account must match the capital account[2] in magnitude.

However, for the U.S. current account deficit to be smaller, the U.S. trade deficit (the largest component of the U.S. current account deficit) almost certainly must be smaller as well. Zucman speculates that the U.S. trade deficit is actually smaller than reported. The U.S. trade deficit would have to be substantially wrong, though, in order to be consistent with Zucman's analysis. My paper points out that such an outcome is highly unlikely.

Nonetheless, while Zucman is likely mistaken in asserting that the U.S. trade deficit is much smaller than reported, he raises the interesting issue of how the U.S. current account deficit (and its trade deficit) might be affected by tax evasion and other ways of hiding capital flows, which may be large problems internationally. My paper will discuss potential issues of both fact and interpretation that might arise from hidden capital flows in terms of how they might fit with U.S. trade deficit data.

[1] Economist with the U.S. International Trade Commission. The views and conclusions expressed in this article are solely those of the author, in his personal capacity. They are not necessarily the views of the United States, the U.S. International Trade Commission , or any individual Commissioner. The author thanks Andre Barbe and Wendy Willis for their contributions. All errors are the author's.

[2] The International Monetary Fund (IMF) and U.S. Bureau of Economic Analysis (BEA) use the term "financial account" to describe most of what is called the "capital account" (the traditional term in economics) in this paper.

To be clear, the primary point of Zucman's paper is not that the U.S. trade deficit is smaller than thought. Nonetheless, given the attention his paper is receiving, the fact that his paper does connect tax evasion to an assumption of underestimated U.S. exports, and the worldwide concern over tax evasion, his paper may leave the impression that U.S. tax evasion implies a smaller U.S. trade deficit. Thus, the issue deserves careful examination.

My paper is organized as follows. First, I provide background on Zucman's paper and on how his assumptions about the true state of the U.S. current account deficit depend on the U.S. trade deficit being smaller than reported. Second, I use U.S. and foreign government data to explore what kind of change in the value of U.S. exports would be needed for Zucman to be correct about the U.S. trade deficit, and whether such a difference is believable. Third, I look at Zucman's statements about U.S. exports, and suggest that either his scenarios for the United States are wrong or that there are additional, countervailing issues that would allow Zucman's estimated level of U.S. tax evasion to be consistent with the level of the U.S. trade deficit as reported by the U.S. government. In other words, even if Zucman is correct about the approximate scale of U.S. tax evasion, the U.S. trade deficit data can still be correct.

Zucman's "Missing Wealth of Nations" and the U.S. trade deficit

Background

Gabriel Zucman is a professor at the London School of Economics who studies the accumulation and distribution of global wealth. He has written papers with economist Thomas Piketty, famous for his recent work on inequality. Zucman's 2013 paper "The Missing Wealth of Nations" was followed by a book on tax evasion in 2015.[3] The paper received two favorable discussions in the *New York Times*, including one from Paul Krugman.[4] Piketty has publicly endorsed the paper's findings.[5] It has also received accolades from influential economic blogs such as *Global Policy Journal* and widely read columnists such as Yves Smith of *Naked Capitalism*.[6] The paper is clearly receiving significant attention.

Zucman's paper claims that the "negative net foreign asset position of the rich world" (by which Zucman means the United States and the European Union, or EU) "is an illusion caused by tax havens."[7] That is, a large portion of "foreign" investment in the United States and the EU is actually U.S. and EU domestic funds hidden in foreign (offshore) accounts.

Zucman's conclusion stems from his analysis of global capital flows. He notes anomalies in different countries' financial flow data that occur (he concludes) because of tax havens.[8] That

[3] Zucman, *The Hidden Wealth of Nations*, 2015. This book does not contain any claims about the U.S. trade deficit.
[4] See Krugman, "Offshore and Underground," April 11, 2014, and Leslie, "The True Cost of Hidden Money," June 15, 2014.
[5] Stewart, "Wealth Doesn't Trickle Down," July 21, 2012. Piketty is quoted as endorsing a finding similar to that of Zucman's paper and attributing the finding to colleagues. To this author's knowledge, Krugman and Piketty have not specifically addressed the data issues of the U.S. trade deficit as raised by Zucman.
[6] Oman, "Mr. Draghi, Mr. Arnault, and Europe's Gordian Knot," September 13, 2012, and Smith, "Tax Havens Make US and Europe Look Poorer," March 6, 2014.
[7] Zucman, "The Missing Wealth of Nations," 2013.
[8] This paper deals with the issue of tax evasion (i.e., hiding one's income to avoid paying income taxes), as opposed to legal tax avoidance (i.e., legally sheltering one's income in lower-tax jurisdictions). While Zucman's paper does not mention tax avoidance, his argument centers on bank secrecy not allowing

is, there are more cross-border liabilities than assets globally, because when a tax evader from one country hides his/her wealth in another country, his/her assets from his/her native country are not recorded (as they are hidden). But those liabilities *are* recorded by the country in which he or she invests.[9] In theory, the investment of a U.S. national through a custodian in another country should be recorded as a U.S. investment, with the country of the custodian being irrelevant. In practice, the U.S. tax evader's investment in the country of the custodian will be missed, and the custodian's investment back into the United States will be picked up as an investment of the country of the custodian.[10]

Zucman then conducts a detailed and complex estimate of the total amount of these unrecorded assets. Once he has a total, he evaluates several possible scenarios for the United States. He concludes that if U.S. residents own 20 percent of all the unrecorded wealth he has estimated, then the net international investment position (net IIP)[11] of the United States is "significantly better than in the official data: -12% of GDP on average over 2001–2008 as opposed to -18% in the data," or a change of about 33 percent.[12]

Zucman also describes some of the consequences of his findings. First, Zucman notes that his findings would mitigate an interesting empirical violation of traditional economic theory. Theory states that more advanced economies (like that of the United States) should run current account surpluses with less advanced economies (such as that of China) while U.S. investment money flows into the developing world. In reality, the opposite has happened; the United States has run a huge current account deficit (primarily a trade deficit) with developing economies (like China), and so on net, some developing economies have invested more in the United States than vice versa. If Zucman's findings are correct, however, some of the observed net investment flows into the United States would reflect U.S. funds disguised as foreign funds. Zucman concludes that, with the adjustments he suggests, the U.S. net IIP would look more like what traditional economic theory forecasts than what the observed data show[13] (although still not reflecting the sign of net flows that economic theory would predict).[14]

Second, as Zucman also notes, if his findings are correct, then some of the U.S. public's concern over U.S. indebtedness to foreigners is misplaced. In his own words, the policy-making implications would be "far-reaching": the United States would be far less indebted to foreigners than the data show; and the indebtedness would be to other Americans, albeit Americans who were hiding their funds in foreign countries.[15]

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statisticians to observe the correct origin of a holding in "private banking" activity. Presumably, statisticians can observe the activities of legal tax avoiders.

[9] Ibid.

[10] Ibid, although I have used a U.S. investor in the example. (Zucman's example focuses on a French investor.)

[11] The net IIP is the value of accumulated stocks of U.S.-owned assets abroad net of foreign-owned assets in the
United States. See USDOC, BEA, "U.S. Net International Investment Position," updated August 14, 2015.

[12] Zucman, "The Missing Wealth of Nations," 2013.

[13] Ibid.

[14] In his paper, Zucman uses the example of rhetoric that he describes as saying "China owns the world." He presents his paper as refuting this rhetoric (of which he cites no examples) because he identifies tax evasion from the developed world as having hidden developed world investment. However, he never identifies why or if China's known investments in the rest of the world should be reduced. See also "Zucman's estimated tax evasion requires a very large degree of unmeasured U.S. exports to balance" below.

[15] Ibid.

Thus, one can see that Zucman's findings are potentially important, because they would mean that both the U.S. capital account surplus and the corresponding current account deficit are much smaller than thought. The capital account surplus would have been overstated by counting investments that are actually U.S.-controlled investments as foreign investments. As a matter of accounting, though, this also means that there would need to have been an offsetting error in the current account deficit (discussed more below). Zucman implies that this error could come in part from the United States underestimating its exports and thus overestimating its trade and current account deficits.

The idea that the United States is running a smaller trade deficit than reported would also affect debates over whether persistent U.S. trade deficits are a problem, and what causes them.[16] As my paper will show below, there are several reasons to believe that the U.S. government trade and export data are correct, meaning that Zucman's assumptions about the U.S. trade deficit are incorrect.[17] However, there could still be some other countervailing effect that explains the magnitude of the tax evasion levels he estimates. In addition, my paper does not conduct any analysis of nor draw any conclusions on Zucman's similar contentions about the EU.

To understand Zucman's assumption that the U.S. trade deficit should be reduced to compensate for U.S. tax evasion, my paper will now briefly discuss the general relationship between the capital and the current accounts.

Balance of payments terms

U.S. trade data have important implications for Zucman's theory as it applies to the United States. To understand why, a quick review of some U.S. balance of payment terms is important.

The *capital account* of the United States (or any country) is its change in net ownership of assets vis-à-vis the rest of the world. For example, when a foreign citizen invests $1,000 in the United States, that investment would be recorded as adding $1,000 to the capital account surplus of the United States. (As noted earlier, the BEA and IMF use the term "financial account" to refer to what my paper, and many economics textbooks, call the capital account.)
The *current account*, on the other hand, is the change in net income of the United States vis-à-vis the rest of the world. At the risk of oversimplification, the U.S. current account is the United States' earnings less its spending, while the capital account is how the United States pays for its excess spending, i.e., by selling assets or borrowing.

More specifically, the *current account balance* of the United States (or any country) is measured as its trade balance (exports minus imports) with the rest of the world plus the income that its investments in other countries receive, net of income that foreigners make by investing in the United States.

As an accounting identity, then, the capital account must be negative 1 times the current account; if a nation runs a current account deficit (for example, by running a trade deficit with the rest of the world), then it must be running a capital account surplus (that is, paying for its

[16] For a further discussion of these debates, see Benedetto, "Who Financed Recent U.S. Trade Deficits?" May 2014.
[17] This paper is not a comprehensive survey of the literature on measuring the U.S. trade deficit, but provides some evidence that supports the U.S. government's measurements.

trade deficit by selling assets on net) of equal magnitude.[18] Importantly, this accounting means that any change in the capital account must be reflected by a change of exactly the same magnitude in the current account.

For the period studied by Zucman, 2000–2010, the U.S. current account was in deficit (meaning the U.S. capital account was in surplus by an equal amount). Moreover, the bulk of the U.S. current account deficit was the U.S. trade deficit. Since 2010, the U.S. current account has remained in deficit, and that deficit has remained mostly due to the U.S. merchandise trade deficit.[19]

Zucman's argument has ramifications for the capital account. If Zucman is correct, then U.S. tax evaders investing back in the United States should really have their investments counted as U.S. domestic investments. For example, if a successful U.S. dentist makes money from his U.S. practice, hides the money in an offshore account (i.e., in another country), and then reinvests the money in the United States, the investment looks like an investment in the United States by someone from another country, but is really a U.S.-origin investment. In other words, U.S. tax evaders would incorrectly count as foreign investors in the capital account data, making the U.S. capital account surplus look larger than it really is.

However, because the capital account is equal in magnitude to the current account, if the U.S. capital account surplus is smaller than reported, then so too the U.S. current account deficit must be smaller (in magnitude) than reported. Thus, alleging that U.S. tax evaders are making the U.S. capital account surplus substantially smaller means that one also needs to explain how the U.S. current account deficit is equally smaller (in magnitude) as well. This analysis is summarized in table 1 below.

Table 1 Effects of investment flows on the U.S. capital and current accounts

Scenario	Effect on U.S. capital account	Implied effect on U.S. current account
1. Foreign citizen invests $1 in United States	U.S. capital account surplus gets larger by $1	U.S. current account deficit must get larger by $1
2. U.S. citizen invests $1 in a foreign country	U.S. capital account surplus gets smaller by $1	U.S. current account deficit must get smaller by $1
3. U.S. citizen invests $1 in the United States	None	None
4. Foreign citizen invests $1 in any foreign country, either his/her own or another	None	None

Source: author

Using table 1 for analysis, Zucman's point is that tax evasion by U.S. investors investing in the United States from tax havens looks like row 1 because the investment in the United States has been incorrectly measured as a foreign investment. This mismeasurement misses that the foreign investment is actually offset by an equal U.S. investment into the tax haven

[18] In practice, there is usually a statistical discrepancy.
[19] However, since 2010, the fact that U.S. investors overseas have realized a larger net income than have foreign investors in the United States has mitigated the U.S. trade deficit more than it did over 2000–2010. Additionally, the U.S. services trade surplus has grown somewhat, although still nowhere near enough to offset the U.S. merchandise deficit. Data from BEA, U.S. International Transactions, table 1.1, lines 30–35, December 17, 2015, and author's analysis.

nation. Thus, tax evasion as described by Zucman is actually row 3. Under Zucman's hypothesis, when we move from row 1 to row 3, the apparent foreign investment in the United States goes away, meaning that the real effect on the U.S. capital account should be 0, so we need to take $1 away from both the capital account surplus and the current account deficit.[20]

Zucman notes this accounting relationship in a discussion of world trade data, stating that the U.S. current account and trade deficits may be smaller than reported. As part of his justification, he cites a 1997[21] U.S. Census paper (hereafter referred to as Census 1997) that states that U.S. exports might be underestimated by as much as 10 percent. This citation deserves more attention.

Evidence for the accuracy of the U.S. trade deficit

Measurement accuracy has increased since 1997

Zucman's paper leaves a one-sided impression about Census 1997. Census 1997 states that measured U.S. merchandise exports might be too low, because very small exports might not be counted if they fall under a reporting limit of $2,500, and because Census' estimates for low-valued exports might be underestimates. It then states that U.S. exports might be underestimated by "3 to 7 percent of the published export value."[22] Census adds that the mismeasurement might be as high as 10 percent. However, this statement, made in 1997, is unlikely to have held for long, if it even were true in 1997, due to changes in Census's measurement methodology.[23]

One of the solutions that Census 1997 proposes is greater use of the Automated Export System (AES), which eliminates many of the errors incurred through paper filings. When Census 1997 was written, Census compiled export data using both exporters' AES reports and exporters' paper filings.[24] Since then, Census has published several descriptions of

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[20] Another possibility is that a holding hidden in a tax haven earns income, and that income is not correctly recorded. In this instance, the hidden income is purely a current account issue. Such a possibility will be discussed later.

[21] Zucman describes the paper as a 1998 paper, but the link in his bibliography is to a January 1997 paper of the same name. Zucman also claims that there is "substantial evidence" that the developing world underestimates its imports, citing one 2004 paper on the China-Hong Kong trade statistics. Other researchers have found that the China-Hong Kong trade data account for some of the discrepancy between China's reported trade with the world and other countries' reported trade with China, because China does not always correctly count products transshipped through Hong Kong as exports to other nations. (For example, see Ferrantino and Wang, "Accounting for Discrepancies in Bilateral Trade," and Scott, "Value-added Analysis of Trade with China.") However, this problem is relatively simply resolved by using China's trading partners' data, and is an issue with China's exports, not its imports. Additionally, in 2008, Ferrantino, Liu, and Wang found strong evidence that Chinese exports are actually being underestimated for tax avoidance reasons, contrary to Zucman's assertion. (They also found weaker evidence that U.S. imports may be being underinvoiced.) See Ferrantino, Liu, and Wang, "Avoidance Behaviors of Exporters and Importers," September 2008.

[22] Census, "Understatement of Export Merchandise Trade Data," January 1997. The Census document refers to issues with exports of merchandise (goods), but not services exports.

[23] Moreover, as noted, according to the Census document, one major cause of any mismeasurement is small exports that fall below a reporting limit (set in 1989) of $2,500 dollars. Most U.S. exports are actually from large exporters, as shown in USITC, *Small and Medium-Sized Enterprises: Overview*, January 2010. Of course, it is possible that large enterprises also have small exports, but this seems less likely. Under a reasonable assumption that most large enterprises that export have large exports, then any mismeasurement must come from the much smaller pool of small exports by smaller enterprises. It seems unlikely any such error would be large, especially as time passes and the $2,500 limit has become smaller in real terms.

[24] Census, "Effect of Mandatory Electronic Filing," March 2015.

several updates to its methodology. By 2003, the AES covered about 85.9 percent of U.S. exports.[25] By late 2008, when only 1–2 percent of all exports were still filed by paper, Census regulations made it mandatory to file export data electronically, further improving export data quality.[26]

Similarly, on the issue of estimating remaining low-value exports, there were even more improvements to the estimation methodology for low-value trade (both imports and exports) in 2010.[27] Thus, it is highly likely that even if there were significant export underestimation in 1997 or 1998, the problem was likely mitigated soon after and eliminated by 2010.

U.S. export data match up with foreign import data

The idea that U.S. exports are substantially underestimated, whether by 3, 7, or 10 percent, can also be tested by examining whether other governments are reporting substantially different import values from the United States than the export values the United States reports to those countries. One might reasonably surmise that most countries keep a closer eye on products being imported (on which they may be charging tariffs) than products being exported. Certainly, even if U.S. exports were consistently underestimated by the U.S. government, one would not expect U.S. trading partners to consistently underestimate U.S. exports (on which they may be charging tariffs).

Table 2 compares U.S. export values (as reported by the United States) to the value of imports from the United States as reported by the U.S. exporters' top export destinations. A negative number indicates that the U.S. export values reported by the U.S. government were lower than the value of a trading partner's reported imports from the United States, consistent with Zucman's assumption that U.S. exports may be underestimated. A positive number indicates that U.S. export values were higher than the value of a trading partner's reported imports from the United States, which would be inconsistent with Zucman's assumption that U.S. exports are being underestimated.[28] There are numerous additional reasons why U.S. export and foreign import data may not match exactly, including the timing of sales and differences in the destination reporting. The point of the table is to see if there is any consistent pattern in which U.S. trading partners show higher U.S. imports than the United States reports exports.

As can be seen from the table, for the United States' largest trading partners, the discrepancy is usually positive. This indicates that, if anything, the U.S. government reports higher values for U.S. exports than the governments of U.S. trading partners do. This result implies that, if one prefers the foreign-country data, perhaps the U.S. trade deficit is larger (not smaller) than the U.S. government reports. Importantly, at no point over 2000–2013 is the sum of the discrepancies anything like the 10 percent underestimate that Zucman mentions.

[25] See Cantwell, "Several Approaches to Estimating Low-Valued Exports," 2007.
[26] Census, "Effect of Mandatory Electronic Filing," March 2015.
[27] Census, "Import and Export Low Value Estimation," March, 2015.
[28] Zucman also posits that developing countries may underestimate their imports, citing a 2004 paper on China. Fisman, R., and S.-J. Wei, "Tax Rates and Tax Evasion," 2004. However, if this were true, it still may not explain the results in table 2. As can be seen in table 2, the Chinese government reports larger imports from the United States than the United States reports exports to China, even counting the Hong Kong import data with those of China.

Table 2 Discrepancies between U.S.-reported exports and trading partners' reported imports from the United States for the 15 largest U.S. trading partners, 2000–2013

Trading partner	U.S. reported exports minus foreign reported U.S. imports, billions of U.S. dollars														
	Year														
	2000	**2001**	**2002**	**2003**	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Average**
Canada	21.8	22.5	21.8	24.3	29.0	34.3	38.5	42.7	46.8	40.3	51.8	57.3	58.6	61.0	39.3
Mexico	-15.8	-12.5	-9.1	-8.0	-0.1	1.7	3.4	-3.6	-0.1	16.5	18.7	23.9	30.8	38.8	6.0
China	-6.1	-7.0	-5.1	-5.5	-10.2	-7.5	-5.5	-6.9	-11.8	-7.9	-9.4	-14.0	-17.2	-24.2	-9.9
Japan	-6.9	-5.7	-6.4	-6.9	-9.0	-9.5	-9.6	-9.8	-12.5	-7.8	-7.0	-8.7	-6.3	-4.6	-7.9
Germany	-5.6	-3.5	-3.2	-5.6	-7.4	-5.4	-1.1	1.9	4.0	4.3	5.0	-0.5	-0.3	-1.2	-1.3
United Kingdom	-2.4	-2.7	-6.7	-5.7	-6.0	-2.9	-4.2	-6.7	-6.9	-4.1	-5.6	-3.7	-6.3	-7.1	-5.1
Brazil	2.5	3.0	2.1	1.6	2.5	2.7	4.2	5.5	6.7	6.1	8.4	9.1	11.5	8.1	5.3
Netherlands	0.7	-0.4	-1.1	-0.1	-1.1	-0.9	-1.0	-3.0	1.1	3.8	3.1	6.8	4.4	5.2	1.3
Hong Kong	0.2	0.5	1.1	1.3	3.1	2.7	3.5	4.2	3.8	4.2	6.0	8.4	6.9	5.4	3.7
Korea South	-1.1	0.1	-0.1	-0.7	-2.6	-3.0	-1.4	-2.8	-3.7	-0.4	-1.6	-1.1	-1.1	0.2	-1.4
Belgium	0.7	1.0	0.3	1.3	0.5	1.6	2.1	2.4	3.0	1.2	2.9	3.2	1.4	0.4	1.6
France	-4.3	-4.3	-3.3	-4.0	-2.8	-3.2	-1.2	-0.7	-1.4	0.0	-0.2	-3.6	-2.9	-3.4	-2.5
Singapore	-2.3	-1.4	-0.3	-1.3	-1.1	-2.8	-6.1	-6.7	-9.6	-6.3	-5.9	-7.7	-8.1	-7.9	-4.8
Switzerland	3.9	4.9	2.7	3.7	4.0	4.0	5.6	7.7	11.4	8.5	11.3	14.2	15.2	14.6	8.0
Australia	-1.0	-0.1	0.5	-0.3	-1.1	-0.7	-1.0	-0.6	-0.4	2.0	0.9	1.4	2.4	2.3	0.3
Total	-15.7	-5.7	-6.8	-5.9	-2.2	10.9	26.1	23.6	30.5	60.3	78.4	85.1	89.1	87.6	32.5
Total as percent of all U.S. exports to world	-2.0	-0.8	-1.0	-0.8	-0.3	1.2	2.5	2.1	2.4	5.7	6.1	5.7	5.8	5.5	2.3

Note: Global Trade Atlas (GTA) uses total exports and general imports as its measures of exports and imports. GTA reports exports on a FAS (free alongside ship) basis, and for most of these countries, imports on a c.i.f. (cost, insurance, and freight basis), except for Canada, which reports on a FOB (freight on board) basis.

Source: Global Trade Atlas database, accessed August 6, 2015, and author's calculations.

Zucman's estimated tax evasion requires a very large degree of unmeasured U.S. exports to balance

The above issues are not the only reasons why it is unlikely that the U.S. trade deficit data are different than reported. In addition, Zucman's estimated tax evasion effect would require a large degree of unmeasured U.S. merchandise exports to balance the current and capital accounts.

Recall that Zucman finds that his estimates of U.S. tax evasion improve the net international investment position (net IIP) of the United States from -18 percent of U.S. GDP over 2000–2008 to -12 percent of U.S. GDP, an improvement of about 33 percent. The net IIP is a stock, while the current and capital accounts are flows. However, in the long run, the sum of current account deficits (annual flows) should equal the net IIP (a total stock). Thus, an improvement of 33 percent in a stock (the net IIP) would mean that one should also observe a cumulative improvement, over the long run, of about 33 percent in the flow (the current account and its mirror, the capital account).[29]

Thus, if Zucman is correct, the U.S. current account deficit, over the long run, must also shrink by about 33 percent. Given Zucman's use of Census 1997, how much would the U.S. current account deficit actually change if U.S. exports were underestimated substantially, either by the 1997 Census's estimated likely range of 3 to 7 percent, or by Zucman's chosen estimate of 10 percent?

Table 3 summarizes the results of a simple calculation on the U.S. international transaction data. It considers four scenarios with different degrees of U.S. export underestimation. In scenario 1 (considered most likely by this author), the U.S. trade data are basically accurate. Scenarios 2 and 3 consider the range of possibilities considered likely in January 1997 by the Census, i.e., that U.S. goods exports are underestimated by 3 to 7 percent. Scenario 4 is the one considered by Zucman, based on the additional comment in Census 1997, that the likely ceiling for the effect could be as high as 10 percent.

[29] This is a theoretical point. In practice, the U.S. net IIP shows a much smaller deterioration over time than cumulated U.S. net current account balances. See Gros, "Why the U.S. Current Account Deficit," 2006, discussed later.

Table 3 Effect on the U.S. current account deficit if U.S. merchandise exports were underestimated, by hypothetical underestimates, 1999-2014

Year	U.S. current account deficit as a percent of U.S. GDP				Percent change scenario 1 to scenario 4
	Scenario 1 Actual reported	Scenario 2 *	Scenario 3 If goods exports were underestimated 7 percent	Scenario 4 If goods exports were underestimated 10 percent	
			Percent		
1999	3.1	2.8	2.6	2.3	23.6
2000	4.0	3.8	3.5	3.2	19.1
2001	3.7	3.5	3.2	3.0	18.5
2002	4.2	4.0	3.7	3.5	15.2
2003	4.5	4.3	4.1	3.9	14.0
2004	5.2	5.0	4.7	4.5	13.0
2005	5.7	5.5	5.2	5.0	12.2
2006	5.8	5.6	5.3	5.1	12.9
2007	5.0	4.7	4.4	4.2	16.2
2008	4.7	4.4	4.1	3.8	18.9
2009	2.7	2.4	2.1	1.9	27.9
2010	3.0	2.7	2.3	2.1	29.2
2011	3.0	2.7	2.3	2.0	32.6
2012	2.8	2.5	2.1	1.8	34.7
2013	2.2	2.0	1.6	1.3	42.3
2014	2.2	2.0	1.6	1.3	41.9
Average 1999-2008	4.6	4.4	4.1	3.9	15.2
Average 2009-2014	2.6	2.4	2.0	1.7	37.0

Source: Data from the Bureau of Economic Analysis (BEA), December 17, 2015, and author's calculations.

As can be seen in the table, all the hypothetical scenarios (2, 3, and 4) do reduce the U.S. current account deficit somewhat, but still leave it very high, especially in the mid-2000s. Even if U.S. goods exports are underestimated by 10 percent, the U.S. current account deficit remains over 3 percent of GDP during 2000–2008.

The far-right column in table 3 compares scenario 4 to scenario 1 to see how often the most extreme estimate of U.S. export underestimation would result in the 33 percent reduction needed (cumulatively) to make the U.S. current account deficit small enough to be consistent with Zucman's estimates. Scenario 4 only ever delivers such a large reduction from scenario 1 after 2008, when U.S. data would likely have been most accurate (and thus scenario 4 would be least likely).

Thus, the export underestimations that the BEA thought possible in 1997 likely do not balance out the changes to the U.S. net IIP that Zucman finds. Moreover, it is likely that any U.S. export mismeasurement was largely rectified in the 2000s, making scenarios 2–4 increasingly unlikely after 1997, and especially after 2008.[30]

[30] Zucman's thesis also raises another interesting possibility. As I have shown in a previous paper ("Who Financed Recent U.S. Trade Deficits?" May 2014), basic U.S. government data show that since 2002, much of the U.S. current account deficit has been financed by net foreign government purchases of U.S. assets. This finding is based on publicly available data; to the extent any foreign governments have hidden their purchases of U.S. assets through third-party purchases, the percentage could be even larger. (It could not be smaller.) Given this large role foreign governments have played in the U.S. current account deficit, if the U.S. current account deficit really were smaller (as Zucman alleges), then it follows that an even larger percentage of it is accounted for by known foreign government activity. (Foreign government activity would not be changed by Zucman's analysis.) In other words, the large

Why tax evasion does not mean that the U.S. trade deficit must be smaller

So far, my paper has shown that as an empirical matter, it is unlikely that U.S. trade data underestimate the U.S. merchandise trade deficit. However, this conclusion does not necessarily refute Zucman's findings on the extent of U.S. tax evasion. There are at least four potential theoretical issues by which large amounts of U.S. tax evasion could occur without needing to change the reported U.S. trade deficit. My paper is not claiming any or all of these issues apply, but one or all of them potentially could, and so these concerns should be taken into account when considering whether to believe that the U.S. trade deficit must be smaller than reported due to estimates of hidden asset flows.[31]

Tax evasion is not the only reason to hide asset ownership

By focusing only on private investment flows, Zucman may have somewhat overestimated the share of hidden investment flows accounted for by U.S. tax evaders. From early on, Zucman's paper indicates that he is concerned only with entities hiding funds for tax evasion purposes. However, another major reason for hiding investment flows might be that foreign governments are trying to hide exactly what types of currency and investment moves they are making.

Whenever a country enjoys a large trade surplus, other countries may worry that it is purchasing the assets of other countries with its own currency, in order to keep its own currency weaker than it otherwise would be (and boost its net exports). In such an atmosphere, it makes sense that the national government of any country might potentially wish to hide some or all of its own foreign investments or asset accumulations. Thus, there is, besides tax evasion, an important reason for why major financers of U.S. current account deficits may wish to hide their activity.[32]

Zucman asserts that securities held in Switzerland (and presumably other tax havens) by foreigners belong to households, as opposed to corporations.[33] At another point in his paper, Zucman notes that he is assuming that securities held by governments are well measured globally. For the above reason, this may not be a reasonable assumption.

In a key quote, Zucman states, "If U.S. residents own 20 percent of all unrecorded wealth—say, 15% of the offshore wealth in Swiss banks and 25% of the other missing assets—then the net position [net IIP] of the U.S. is significantly better than in the official data."

Basically, Zucman is assuming that hidden foreign government activity is 0 percent of global unrecorded wealth, and unrecorded private U.S. wealth is 20 percent of global unrecorded wealth. If one believes, however, that some global unrecorded wealth reflects foreign government activity, then perhaps Zucman's U.S. tax-evasion estimates are unrealistically

U.S. current account deficit that would remain would become even more an issue of net government flows.

[31] I have not attempted to estimate the extent to which any of these issues apply, but doing so would probably be extremely difficult or impossible due to the intentional secrecy of these flows.

[32] While my paper is not speculating as to why it may have done so, there is some evidence that the government of China has used custodial accounts in other countries, in effect hiding its purchases of U.S. Treasuries. For example, economist Brad Setser indicated his belief that Chinese holdings of U.S. Treasuries were sometimes held in United Kingdom accounts, and Bloomberg News reported that Nomura Holdings believes that China held Treasuries in Belgian accounts. See Setser, "I Am Pretty Sure China Didn't Sell Treasuries," June 19, 2009, and Bloomberg News, "China Sells U.S. Treasuries to Support Yuan," August 27, 2015.

[33] Zucman, "The Missing Wealth of Nations," 2013.

large, since part of what Zucman has estimated as U.S. tax evasion activity may be hidden foreign government activity instead. In other words, perhaps some substantial percentage of global unrecorded wealth actually belongs to governments, meaning that the U.S. private share of global unrecorded wealth is less than 20 percent. In turn, that would mean that Zucman's estimates of how much lower the adjusted U.S. net IIP would be than the measured one are too large in magnitude, and less adjustment would be needed to the measured U.S. trade deficit.

What if the U.S. current account deficit is already underestimated because foreigners are earning more than is realized from their U.S. assets?

In 2006, economist Daniel Gros endeavored to explain why official U.S. data indicate that U.S. investors earn more overseas than foreign investors earn in the United States.[34] In Gros's view, the reason for this state of affairs is that according to U.S. official data, foreign investors earn an extremely low rate of return from their U.S. direct investment.[35] Foreign investors' return was sometimes so low that Gros asked why they would even make risky U.S. investments when U.S. government bonds earned a higher return. Gros describes the reported state of affairs as unrealistic, maintaining that foreign investors' earnings are not being completely captured. (More specifically, he pointed to the measurement of retained earnings from foreign direct investment as being unverifiable and prone to misreporting, perhaps for tax advantages.) He concludes that the U.S. current account deficit is likely underestimated, perhaps by as much as 1 percent of U.S. GDP.[36]

In other words, Gros is giving a reason why the U.S. current account deficit may be larger than officially recorded (implying that the U.S. capital account surplus must be larger as well). For his part, Zucman is giving a reason why the U.S. capital account surplus may be smaller than recorded (implying that the U.S. current account deficit must be smaller as well). Thus, even if Zucman is correct about the level of U.S. tax evasion, if Gros is also correct, then the two effects may offset each other, at least to some extent.[37] If they offset each other to a similar degree, then the official U.S. trade and current account deficits do not need to change much, even if Zucman is correct about the level of U.S. tax evasion.

U.S. ownership of foreign assets may have been recorded already

It is also worth considering where the break between assets and liabilities occurs. For example, assume that a U.S. tax evader invests money in Switzerland. Assume further that in this instance, this transaction is observed by the BEA and recorded in the U.S. capital account. Now assume the tax evader's account in Switzerland is used to invest in China, but

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[34] This difference in earnings is sometimes called the U.S. FDI (foreign direct investment) returns gap. See Bridgman, Benjamin "Do intangible assets," 2014.
[35] Gros, Daniel. "Why the U.S. Current Account Deficit," 2006.
[36] Gros's analysis would explain why cumulative U.S. current accounts are greater than U.S. net debt. In his own paper, Zucman notes the claims of economist Ricardo Hausmann that the U.S. current account deficit might be overestimated if one considers the dollar as an "asset" with a hidden rate of return from safety. However, he does not cite Gros's response. Hausmann and Sturzenegger, "Why the U.S. Current Account Deficit Is Sustainable," 2006.
[37] As noted, Gros states that the underestimate could be as much as 1 percent of U.S. GDP for the period he covers. For some sense of scale, Zucman estimates that identifying U.S. tax evasion properly could reduce the total U.S. net international investment position (IIP) by 6 percentage points of U.S. GDP on average over the period he examines. However, this estimate is six percent of a stock (the net IIP). The change in that stock each year is significantly less than 6 percent of U.S.GDP, and thus conceivably Gros' identified effect could largely offset Zucman's identified effect.

in a hidden fashion to avoid U.S. authorities observing the transaction. China's government may correctly record the investment as a foreign investment, but from Switzerland, while the Swiss government will not record anything, because it is not actually a Swiss investment.[38]

In this scenario, the break in the links between global assets and liabilities can be seen. The U.S. investor's investment overseas has been correctly recorded by the BEA as a U.S. investment overseas, although the true final destination of that investment (China instead of Switzerland) has not been correctly recorded.

In other words, we can observe a Chinese liability without a corresponding asset from some other nation. Applying Zucman's methodology, one might assume that because the Swiss account was actually held by an American, it therefore should be recorded as a U.S. investment overseas, adding to the U.S. capital account. That is, in table 1, we are moving from line 4 to line 2.

However, doing so would be an error. The U.S. capital account has already recorded this investment as a U.S. investment overseas. There is no need to change either the total U.S. capital account or the total current account. (One should record it as an investment in China, and not Switzerland, though.) Thus, to the extent this kind of scenario takes place, even extensive U.S. tax evasion could fail to have an effect on either the U.S. capital or current accounts. Thus, there would be no need to change the U.S. trade deficit to the extent this type of investment takes place.

Allegations that the investments may also be hidden in the United States

Some advocacy groups and scholars have alleged that certain U.S. financial secrecy lawsallow investments to be hidden from foreign tax authorities.[39] Most recently, the Tax Justice Network (TJN), an international nongovernmental advocacy group, described the United States as an international tax haven in close to the same category as Switzerland, Hong Kong, and possibly the United Kingdom. TJN did caution that this status would in part simply be due to the larger scale of the U.S. economy.[40]

To be quite clear, my paper is not making any claim about whether the United States is a tax haven or not. However, if the United States does function as a way for wealthy foreigners to hide the origins of their investment, it is possible some of that activity would actually mean that the U.S. capital and current accounts should be larger. Using table 1, if foreigners are able to hide the origin of their wealth in U.S. shell corporations, then possibly foreign

[38] This scenario may seem unlikely; after all, what is the tax advantage to the U.S. investor if his/her investment is recorded as a foreign investment at all? I do not know how often such scenarios occur, if it all, but it seems possible that a U.S. tax evader might want to hide the true nature (and thus magnitude) of his/her investment earnings, without necessarily needing to hide the fact that s/he has an overseas investment.
[39] For example, see *Economist*, "Not a Palm Tree in Sight," February 16, 2013; Gravelle, "Tax Havens: International Tax Avoidance and Evasion," January 2015; and Wayne, "How Delaware Thrives," June 30, 2012.
[40] Bowers, "US overtakes Caymans and Singapore," November 2, 2015. See also Tax Justice Network (TJN), "Narrative on the USA," 2015, in which TJN alleges that "[f]inancial secrecy by the U.S. has caused untold harm to the ordinary citizens of foreign countries, whose elites have used the United States as a bolt-hole for looted wealth." I am not opining on TJN's allegations, but let us assume for a moment that the United States has functioned as a Switzerland-like tax haven. Whatever the effect on the citizens of foreign countries, the effect on the U.S. balance of payments could be the opposite of the effect discussed by Zucman, depending on how those transactions are recorded.

investments in the United States (line 3) look like U.S. investments in the United States (line 1). If so, it is possible that the U.S. capital and current accounts could be even larger.

For example, the TJN states that "almost 2 million corporations and limited liability companies are formed in the U.S. states each year, many by foreigners, without the states ever asking for the identity of the ultimate beneficial owners."[41] If such investments are being made in a way that keeps the BEA from detecting them as foreign investments, then it is possible that there is even more foreign investment in the United States than realized, and thus an even larger U.S. capital account surplus. Here, Zucman's logic would be working in reverse, with the United States as the tax haven, rather than the source of tax-evading funds.

Of course, to the extent that tax-evading foreign investments are already recorded as foreign investments in the United States, there would be no effect on the U.S. capital account surplus.

Conclusions

Zucman's "The Missing Wealth of Nations" raises the interesting possibility that tax evasion by U.S. citizens means that the U.S. trade deficit is smaller than reported. However, this analysis, if true, is inconsistent with the size of the U.S. current account as reported. Unfortunately, Zucman's proposal to balance the U.S. current account by revising the size of the U.S. capital account (1) does not take into account improvements in the way that the U.S. government measures exports, and (2) is not consistent with what large U.S. trading partners report.

My paper proposes four different theoretical possibilities why Zucman's estimates of U.S. tax evasion may be too large or why his proposed reduction in estimates of the U.S. trade deficit may be misplaced. First, Zucman does not consider that some foreign governments may wish to hide their U.S. asset purchases from public knowledge. Second, Gros's findings may indicate that U.S. net debt is actually underestimated; balancing his findings against Zucman's may indicate that a smaller (or no) net change in estimates of the U.S. trade deficit are needed. Third, U.S. ownership of foreign assets may have been recorded already, even if the location of the assets has been recorded incorrectly. Finally, some advocacy groups have alleged that the United States may also be a tax haven; if so, then Zucman's effect would partially work in the opposite direction as well.

My paper does not speculate or estimate how large any of these effects may be, if they exist at all. The world of tax evasion is by definition opaque. However, the world of U.S. merchandise imports and exports is much clearer, and it is highly unlikely that U.S. data agencies are incorrectly measuring the U.S. trade deficit.

None of this analysis, of course, in any way questions that international tax evasion is a problem. Zucman might be right about the scale of this issue, or may even estimate it on the low end. Moreover, this paper neither minimizes nor defends the use of offshore tax havens by U.S. tax evaders. Instead, this paper shows that one must tread very carefully before

[41] TJN, "Narrative on the USA," 2015. Similarly, Findley, Nielson, and Sharman describe some U.S. jurisdictions as allowing shell companies that could facilitate hidden fund flows. Findley, Nielson, and Sharman, *Global Shell Games,* 2012.

accepting any claim that the U.S. trade deficit in goods has been substantially smaller than reported.

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The resource curse mirage: the blessing of resources and curse of empire?

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Abstract
Auty (1993) and Sachs and Warner (1997) reignited the line of argument of *the resource curse*: the idea that natural resource wealth has negative net effects on the development of nations. However, the result has been found to be highly dependent on the types of variables used to represent natural resource wealth (Brunnschweiler, 2007) and similar questions can raised about variables used to represent being "cursed". In this paper we pursue the hunt for better variables by looking at the relationship between average income from natural resources per person and a wide array of key development indicators: Adjusted National Net Income, GDP per capita, an aggregate of services and industrialized goods, inequality measured by the Gini index, Poverty, the Human Development Index, the Prosperity Index, the Social Progress Index and the Fragile State Index. We do this on a global scale between 1970 and 2010. On the contrary, we find that natural resource wealth is positively linked to development. We suggest, alternatively, that much of the actual cases where abundant natural resources hurt nations have been cases of common theft by tyrants, often backed by imperial powers.

Key words resource curse, political economy, human rights, development, empire

1. Introduction

The history of colonial and imperial rule is significantly constituted by violent natural resource wealth transfers from peripheral developing nations to central imperial states, which today hold most of the world's wealth. This is a theme in the making of the modern world that gets invigorated with the European expansion over the Americas, and takes a macroscopic mutation in the making of the new world order at the dawn of the post War world, under the auspices of the new world political, economic and military institutions. Moderate National Security Council member and Director of Foreign Policy Planning at the US State Department, George Kennan, laid out the purposes for which international institutions he contributed to forming would function in his 1948 PPS23 Memo: "we have about 50% of the world's wealth but only 6.3% of its population... Our real task in the coming period is to devise a pattern of relationships which will permit us to maintain this position of disparity without positive detriment to our national security. To do so… our attention will have to be concentrated everywhere on our immediate national objectives. We need not deceive ourselves that we can afford today the luxury of altruism and world-benefaction" (Kennan, 1948, p. 524). "The protection of our raw materials" in the rest of the world, particularly in Latin America, would trump concern over "police repression" (Kennan, 1950). Moreover, the need to eradicate "the widespread idea that government has direct responsibility for the welfare of the people" (LaFeber, 1993, pp. 97-98) would trump the political goals of development for all.

Auty (1993) and Sachs and Warner (1997) argued, with much resonance in the academic and policy-making circles, that in fact such natural resources were a developmental curse since their analysis of economic growth in the past few decades signalled that natural resource endowments contributed to less growth. It turns out on this account, that the designs of the world order designed to benefit the existing inequality between the 'developed' and 'not developed' might have been doing the developing nations a favor. This, because since natural resources are a hindrance to development, they would best be kept under someone else's possession. Moreover, possession of underdeveloped nations' resources burdened developed nations' own development until they finally "freed [themselves] from the shackles that have been associated with resources" (Duruigbo, 2005, p. 12). Or so the resource curse thesis would imply.

However, the resource curse result has been found to be highly dependent on the types of variables used to represent natural resource wealth and being cursed. For instance, Sachs and Warner (1997) used percentage of natural resource of exports as the representative variable of natural wealth. Brunnschweiler (2008) argues that this can at most show overspecialization and dependence, and that if natural resource abundance was represented better, in her study, by the World Bank's measure of natural capital, the supposed curse effect disappears and becomes a blessing. Brunnschweiler and Bulte (2008: 617) nevertheless point out that "the hunt for the perfect resource variable is on". Here we would like to make a contribution to this hunt, as well as the hunt for the more perfect curse variables, looking at the relationship between average income from natural resources per person and a wide array of key development indicators. Our study adds a strong confirmation (Wright and Czelusta, 2004; Sinnott, Nash and de la Torre, 2010) to the idea that the net statistical causal impact of natural resource abundance is far from being a curse for development, and to the contrary it is in fact a blessing. We explore the alternative hypothesis that the appearance of a resource curse is rather theft on a global scale, backed by empire.

2. The natural resource curse theory

Various explanations have been posited to account for the resource curse phenomenon, including the idea that "men of a fat and fertile soil, are most commonly effeminate and cowards; whereas contrariwise a barren country makes men temperate by necessity, and by consequence careful, vigilant, and industrious" (Bodin, 1967), the worsening of terms of trade for natural resources versus industrialized goods (Prebisch, 1950, p. 9-11), the making of domestic industrial production more expensive by the appreciation of the national currency (Rajan, 2011; Palma, 2005; Bresser-Pereira and Gala, 2010), absorption of capital and human capacities with weak links to other sectors of the economy (Rajan, 2011; van Wijnbergen, 1984; van der Ploeg, 2011), and deterioration of institutions (Murshed, Badiuzzaman, and Pulok, 2015, p. 23). Our project here is not to find the explanation for the resource curse, but to make a contribution in finding appropriate ways of empirically verifying the resource hypothesis and argue that according to those appropriate standards, there is no curse. Here are some reference point formulations of the resource curse theory.

> "There is a curious phenomenon that social scientists call the 'resource curse' (Auty, 1993). Countries with large endowments of natural resources, such as oil and gas, often perform worse in terms of economic development and good governance than do countries with fewer resources. Paradoxically, despite the prospects of wealth and opportunity that accompany the discovery and

> extraction of oil and other natural resources, such endowments all too often impede rather than further balanced and sustainable development" (Humphreys, Sachs and Stiglitz, 2007, p. 1).

> "Although leaving oil in the ground means that interest is forgone, the ground just might be the safest place for the asset, especially if there exists the risk that governments may use revenue for their purposes rather than for the good of society, as has happened so often already. In such cases, the people may benefit some, but clearly not as much as if the money were spent in ways that were directly intended to enhance their well-being" (Humphreys, Sachs and Stiglitz, 2007, p. 14).

> "There is now strong evidence that states with abundant resource wealth perform less well than their resource-poor counterparts" (Ross, 1999, p. 297).

> "Resource-rich countries, almost without exception, are riddled with multifarious and nefarious social, economic, and political problems" (Duruigbo, 2005, p. 2).

> "Countries that have deposits of natural resources in abundant quantities have exhibited a gnawing tendency to perform worse than those not similarly endowed on virtually every social and economic indicator" (Gelb and Associates, 1988, pp. 32-45 cited in Duruigbo, 2005, p. 5).

> "Lack of resources has not hindered resource-poor countries from rising to enviable heights in the arenas of economic growth and social development. It can actually be argued that not having resources freed these countries from the shackles that have been associated with resources. Unencumbered by resource wealth, and propelled by the circumstances in which they found themselves, they have been able to make their way toward rapid growth" (Duruigbo, 2005, p. 12).

> "The concern that natural resource wealth may somehow be immiserating is a recurring theme in both policy discussions and in empirical analysis. The empirical regularity seems to be in the data but understanding its causes has been a much harder task" (Hausmann and Rigobon, 2002, p. 3).

Thus, we can conclude some common themes sustained by the theory of the resource curse: the resource curse is a hypothesis susceptible to empirical verification; the empirical observations support the existence of a positive relation between natural resource wealth and immiseration, or equivalently, a negative relation between natural resource wealth and social, political and economic development. The question now becomes how best to measure natural resource wealth and how best to measure development. We discuss some approximations and propose to do the analysis with another set of variables.

2.1. Natural resource wealth measures

Sachs and Warner (1997) constructed their analysis by using percentage of exports as the representation of natural resources. Yet this variable, as a natural wealth variable is not central, since the central measure of wealth is GDP per capita and as Brunnschweiler (2008, pp. 400-1) points out “one should expect any conclusion on a ‘curse’ of natural resource wealth or abundance to be based on the closest possible approximation of such wealth”. There is also a negative aspect in using percentages of the variable of wealth instead of absolute values of wealth in the analysis, since a central part of what is desirable in this kind of research is a diagnostic of reality that helps one decipher and identify the causal structures of the perceived problem. By analogy, consider the case of a hungry population who only gets one piece of bread a day per person and nothing else. By considering the disproportionate amount of carbohydrate intake of this population, relative to total intake, the ill-advised poverty scientist may come to the conclusion of the “carbohydrate curse” when clearly ex hypothesi there is no particular problem with the carbohydrate itself. Rather, the problem is not enough food in general. Similarly, the social scientist will do well to not disregard absolute figures, rather than concentrate on purely proportionate wealth terms. Atkinson and Hamilton (2003) use a variable closer to GDP, but still vulnerable to risks brought by purely proportional terms as they use percentage of natural resources per capita. Perhaps the problem is like it is for the hungry population just mentioned: not enough resources, natural and otherwise, getting to the people in general, while there is no particular problem with natural resources themselves.

Brunnschweiler’s proposal of using the relatively recently made available World Bank measure of natural capital is a step in the right direction. As stated before, using this measure does not yield a curse result. However, from a political economy point of view, one wants to know whether natural resources are causing poor performance with respect to development. Operationally, whether deriving income from natural resources when one has them is better for development or not. In this regard and taking into account our observations about percentage and absolute measures, looking at natural resource income is more optimally telling. Further, one should consider any kind of wealth in per capita terms, for obviously whether a nation with a given amount of resources will count as wealthy or not will depend on how many people would have to make ends meet with those resources.

Interestingly, the World Bank supplies percentage of natural resource rents in GDP[1] but does not supply an absolute measure of natural resource income. Thus, we used the World Bank GDP per capita and GDP percentage of natural resources in the world to obtain the desired measure of average absolute yearly natural resource income per person from 1970 to 2010, for all 183 nations for which such information could be derived. We used this measure to compute the 40 year average rather than aggregates in order to mitigate potential effects of small differences in years for which such information is variably registered.

2.2. Curse measures

Just as there are different alternative indicators for representing natural resource abundance, there are various alternatives for representing the curse variable. We believe that when evaluating the resource curse hypothesis it is best to take a multi-dimensional approach that can more accurately take into to account fundamental aspects of development that people care about and for which there is not a unique single indicator. Indeed, the resource curse thesis has been used in a variety of ways to suggest a negative relation not only between natural resource abundance and economic growth, but also, with a variety of development indicators such as democracy, industrialization, and others. We propose to examine the

[1] By the definition of the World Bank, this considers the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents.

individual relation that may exist between natural resource abundance and current state of national development, using a wide variety of indicators: Adjusted National Net Income[2], GDP per capita, an aggregate of services and industrialized goods, inequality measured by the Gini index, Poverty, the Human Development Index, the Prosperity Index, the Social Progress Index and the Fragile State Index.[3] Data for the first five of these indicators is from the World Bank. GDP per capita is basic in telling us whether natural resource income paradoxically has a negative effect on total GDP per capita. Measuring an aggregate of Services and Manufacturing,[4] by the World Bank's measure, is important for knowing whether natural

[2] Adjusted net national income is GNI minus consumption of fixed capital and natural resources depletion.

[3] We believe that if natural resource abundance has a negative effect on democracy, then it would be a curse. Indeed, an instance of this has been argued by Ross (2001). However, the data available used to derive the conclusion is of such bad quality at the present time, that it is best to remain scientifically agnostic about the issue until better quality measurements of cross national democracy indices become available. To illustrate our worries, consider the two most referenced democracy data sets: coming from the Polity project, used by Ross, and Freedom House. The Polity project, according to its website, is funded by the CIA through the Political Instability Task Force, and Freedom House is funded by various other instruments of US foreign policy (USAID, NED and the US State Department), which according to Iran-contra documents has been used as a propaganda instrument by the "late CIA director William Casey and a veteran of the CIA's clandestine overseas media operations, Walter Raymond, Jr.," (Parry and Kornbluh, 1988, p. 4) to support Reagan's Contras by denouncing the Sandinistas who rebelled against the US supported Somoza dictatorship (Parry and Kornbluh, 1988, p. 14). Respectively, these sources rank the United States as 100% democratic and a perfect score 'Full Democracy', including considerations of rights and rule of law, even when political and economic elites take the country to a war of aggression, with massive murder, based on deceiving the population as well as Congress (Bugliosi 2008), current studies show policy systematically represents the interests of economic elites over those of the majority (Gilens and Page, 2013, pp. 564-577), and bankers get rewarded for wrecking the economy and millions of lives through massive illegal actions, instead of going to jail (Greenwald, 2011; Ferguson, 2012; Chittum, 2014). In the time of slavery, the US ranks 9 out of 10 and during Jim Crow 10 out of 10. According to Polity, Colombia's democratic index does not go down when virtually the whole of the top and midlevel politicians of a mass-based political party, the Patriotic Union, were assassinated when entering the 1990s (Interamerican Comission on Human Rights of the Organization of American States, 1993, p. 1), while according to Freedom House it goes down only slightly. The democratic level of Ecuador ranks below Colombia according to both, even though reporters, trade unionists and political leaders, who communicate and compete for power are regularly assassinated in Colombia but not in Ecuador (see the murder of reporters figures by the Committee to Protect Journalists, the International Trade Union Confederation reports for union murders, and Green, 2015 for political murder in the region). Ecuador, unlike Colombia, has not been experiencing 60 or more years of bloody political conflict and civil war, displacing six million citizens from their families, lands and rights (above displacement in Iraq, and now only below Syria) and right wing death squads did not take over large portions of the state, including the military, the executive and legislative branches (Wilkinson, 2011; López, Ávila and Corporación Nuevo Arco Iris, 2010). An index that makes these elementary mistakes indicates its unreliability. While we await a better measure of democracy to incorporate into the factors that determine the degree to which a country has politically desirable development or is cursed, we believe the factors we consider in this work, albeit imperfectly, to measure the degree of "cursedness" or "blessedness" get us ahead in evaluating the resource curse thesis. We hope these issues do not curse the Prosperity and Social Progress indexes as well, given that they also take into account often mismeasured political components. This hope is not too unreasonable because they are only a part of the composition of these indexes.

[4] We derive a Manufacturing and Services per capita aggregate from the World Bank Manufacturing Value Added (% of GDP), Service Production Value Added (% of GDP) and GDP per capita. Manufacturing referring to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by International Standard Industrial Classification (ISIC), revision 3. For VAB countries, gross value added at factor cost is used as the denominator. Together with Services, which correspond to ISIC divisions 50-99, they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, healthcare, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation

resource income is a curse for the participation of more knowledge intensive sectors. Looking at the relation between natural resource wealth and what the World Bank Gini index reveals, takes a central measure of whether natural resource income is a curse for socioeconomic equality and the democratization of economic relations. Exploring the relationship between natural resource wealth and poverty, from the World Bank database, takes a central measure of whether natural resource abundance is a curse for the ideal of having at least a minimal survival level income for all that can lift people out of dire necessity. Observing the relation with the human development index, from the UN database, tells us about whether natural resource wealth is a curse for universal access to minimal income, life expectancy and educational opportunities.

The Prosperity Index is an annual ranking, created by the Legatum Institute that takes into account 89 sub-indexes in eight areas: economy, entrepreneurship and opportunity, governance, education, health, safety and security, personal freedom and social capital. This Index covers 142 countries in the world, accounting for 96 per cent of the world's population and 99 per cent of global GDP (Legatum Prosperity Index, 2015).

The Social Progress Index aims to measure societies' capacity to satisfy basic human needs that allow citizens and communities to improve and maintain their quality of life, and create optimal conditions for people to reach their potential. The model considers three diverse dimensions: basic human needs (nutrition and basic health care, water and sanitation, housing and personal security), foundations of wellbeing (access to basic knowledge, access to information and communications, health & wellness and ecosystem sustainability), and opportunities (personal rights, personal freedom and election, tolerance and inclusion, and access to higher education). The index includes 52 countries' indicators (Social Progress Imperative, 2015).

The Fragile State Index focuses on the indicators of risk and is based on thousands of articles and reports that are processed by the Conflict Assessment Software Tool from electronically available sources. It reflects political risks through indicating the pressures that states have and recognizing when those pressures are pushing a state to the border of a failure (Fund for Peace, 2015).

For the development indicators we took an average for the last three years for which there is data. The reason for just taking into account these recent years is because this is the end result measure of development against which we judge whether natural resource wealth results in a curse or not.

3. Two sets of results that natural wealth is a developmental blessing

In this section, using the above variable definitions, we first perform a preliminary test on all the variables comparing the ten most developed countries with the bottom developed countries with respect to their amount of natural resource income per capita. Next, we perform linear and logarithmic econometric tests on the relation between these variables for

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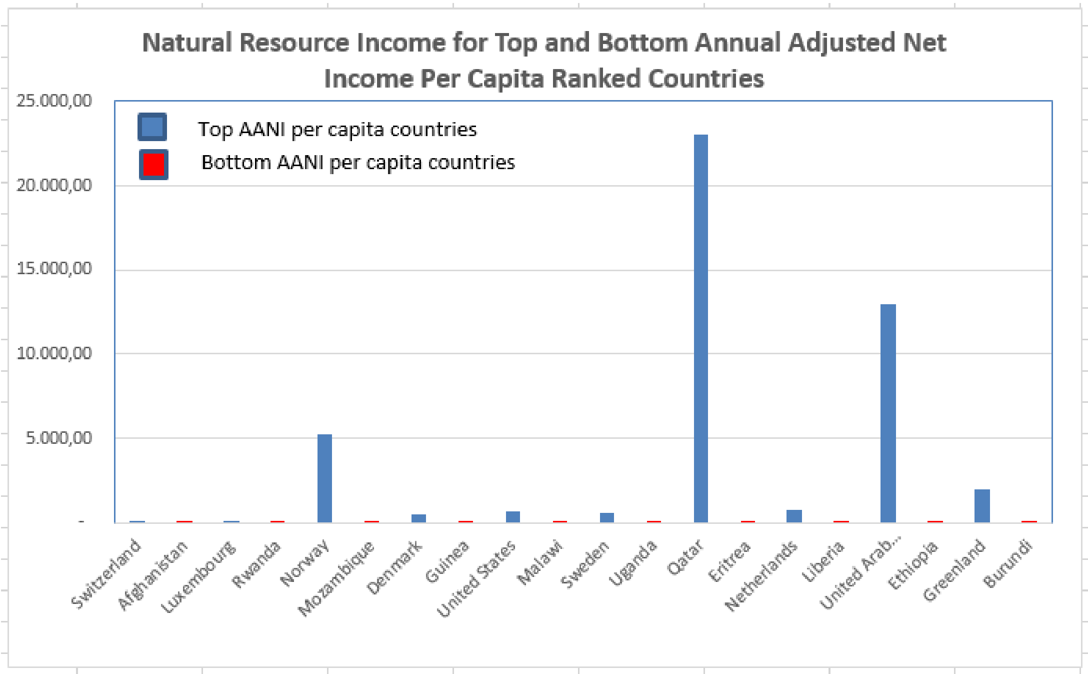
of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator (World Bank, 2015).

all countries for which there is data. We find no support for the resource curse thesis, but we do find support for the idea that natural resources are a blessing for development.

3.1. Natural resource wealth comparison for top and bottom developed countries

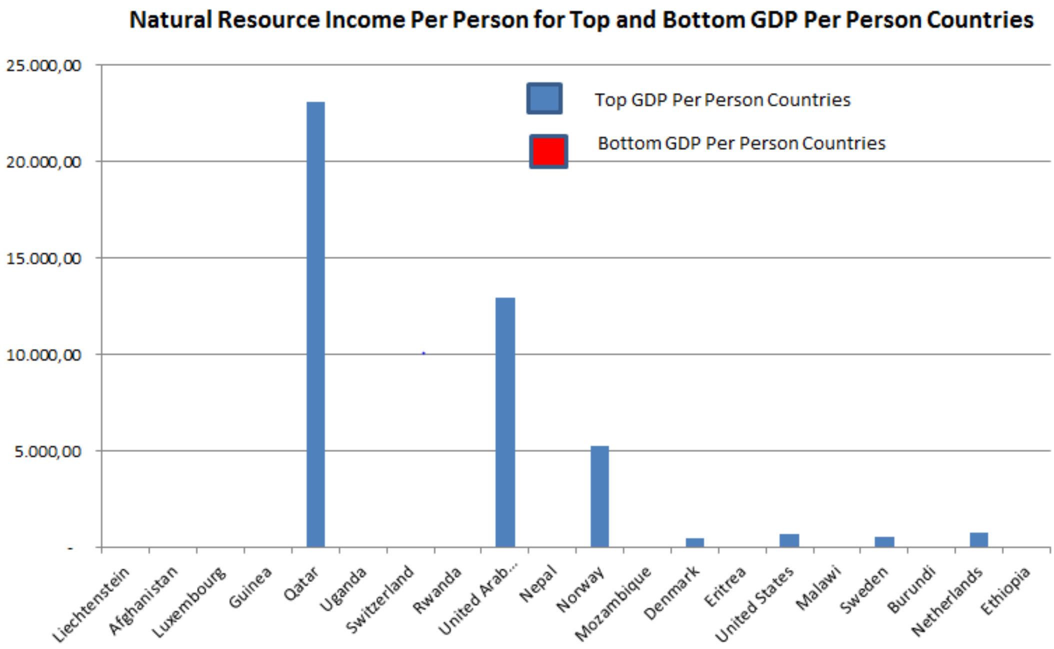
Having constructed the variables against which the resource curse hypothesis can be tested, one can affirm that we should expect that if the resource curse thesis is true, then the most developed countries should not have received a disproportionately higher natural resource income per person than the least developed. However, the data contradicts these test implications of the resource curse theory, since on the contrary, they indicate a curse of lack of natural resources. Let us look at these results one by one.

Graph 1



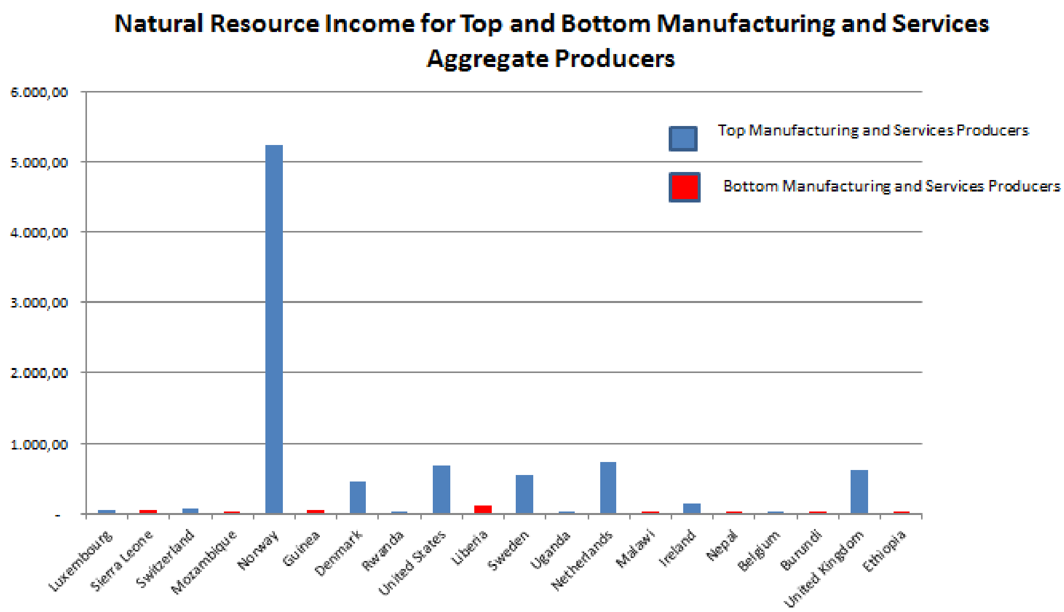
It can be observed in the graph that the top ten developed countries as measured by Annual Adjusted Net Income per person received much more income per person than the least developed. On average, the most developed countries received 4,569.11 USD per person from natural resources a year, while the least developed countries received $35.93. Developed countries received a full 126 times more income than the least developed nations from natural resources.

Graph 2



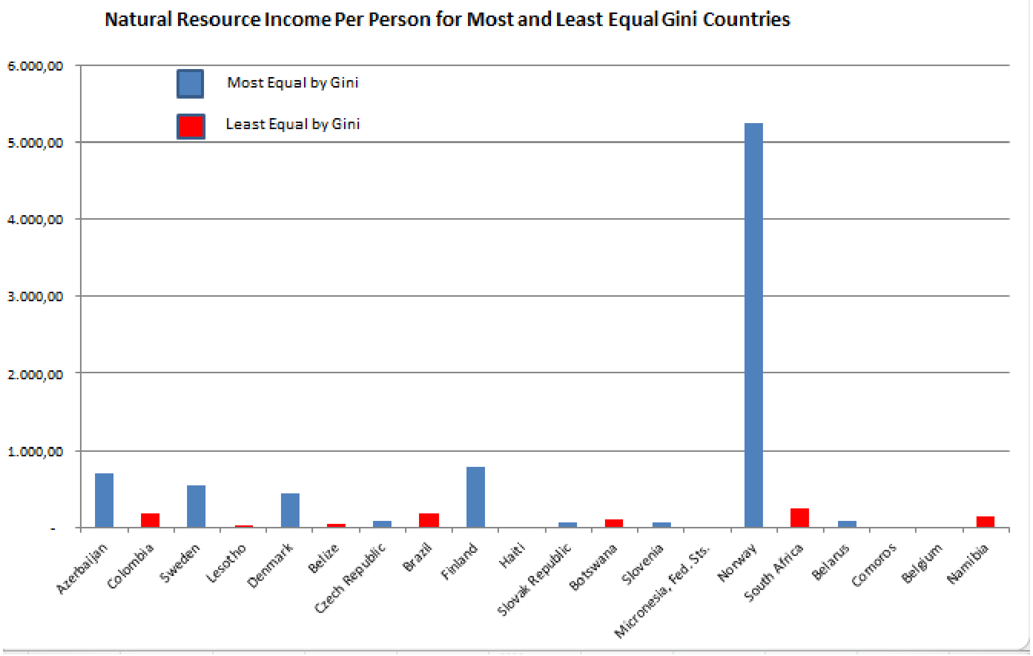
It can be observed in the graph that the top ten developed countries as measured by GDP per person received much more income per person than the least developed. On average, the most developed countries received 4,378.33 USD per person from natural resources a year, while the least developed countries received $26.84. Developed countries received 16,212% more income than the least developed nations from natural resources.

Graph 3



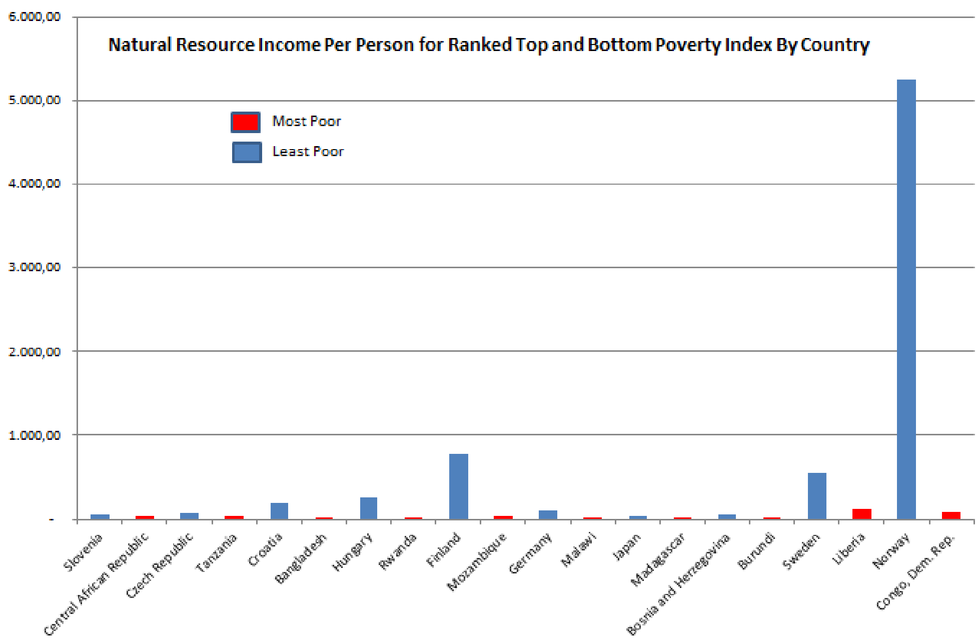
It can be observed that the top manufacturing and services producing countries also received much more natural resource income per person than the least developed. The most developed countries received an average of $851.49 per person per year from natural resources, while the people of the least developed countries received $39.51, equivalent to only 4.6% what the top developed countries received from natural resources.

Graph 4



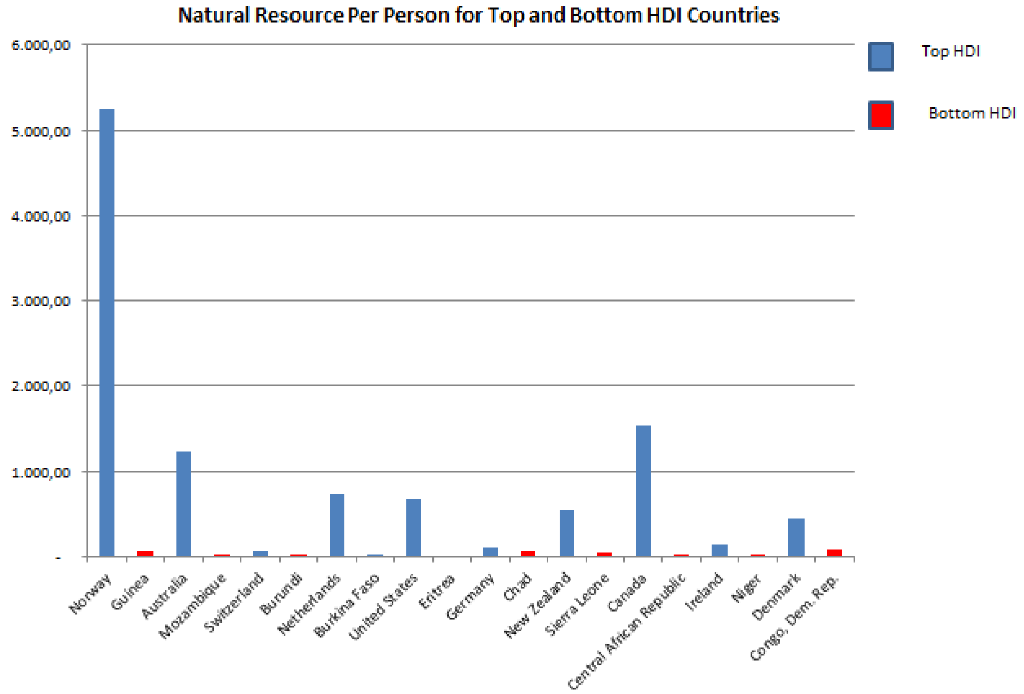
Here it can also be observed that the most developed countries as measured by the Gini Index have received notably higher natural resource income per person. On average, the most equal countries received a natural resource income of $804.04, while the most unequal countries received $96.66, which is only 12% what the people of the most equal countries received.

Graph 5



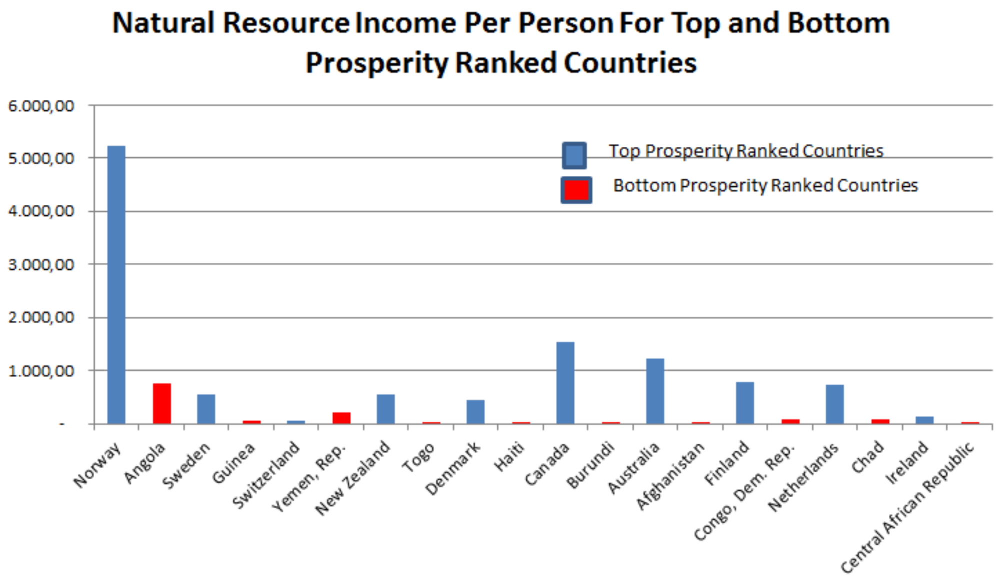
This graph also allows us to see the inequality of income from natural resources going to countries where poverty is least present and where poverty is most present. Least poor countries received $733.03 on average per year per person from natural resources, while the poorest countries received only $38.72. The richest countries received 18.9 times what the poorest countries received.

Graph 6



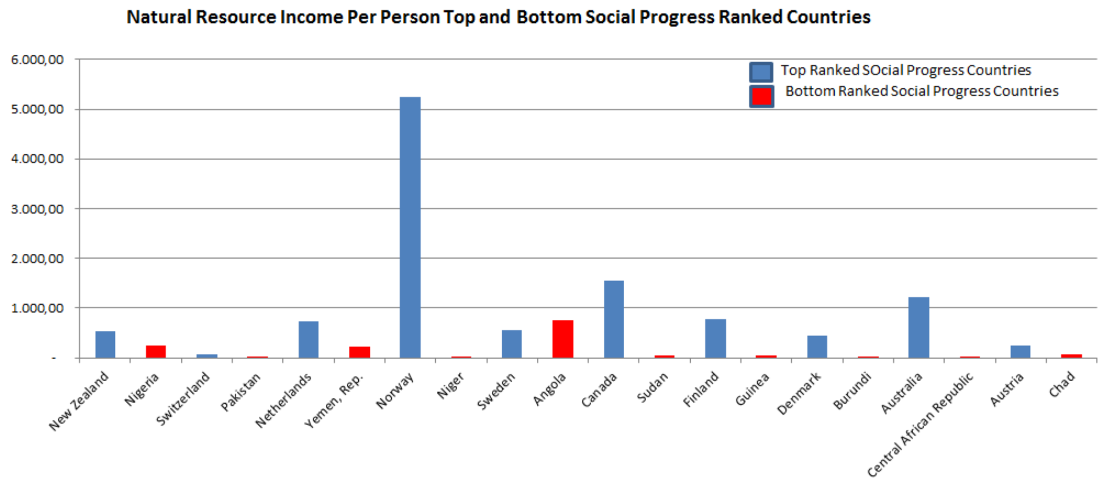
This graphed comparison also shows that the countries with the top human development index had significantly more natural resource income than the bottom human development countries. The top HDI countries received an average of $1,070.97 per person per year from natural resources, while the bottom HDI countries received $39.57, which is only 3.6% what the people of the developed world received from natural resources.

Graph 7



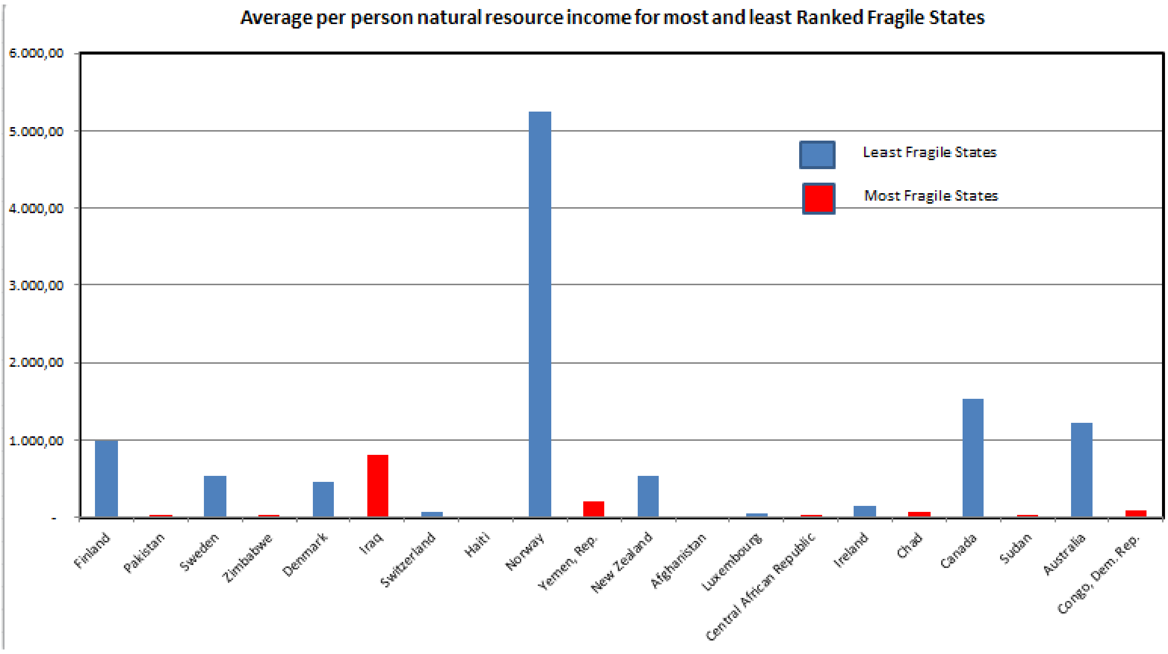
Again, we see in the graph that the most prosperously ranked countries have received much more income per person from natural resources than the least prosperously ranked countries. The most prosperously ranked countries received $1,125.43 on average per year per person, while the least prosperously ranked countries received $128.82. The most prosperous countries received 773% more income from natural resources per person than the least prosperously ranked countries.

Graph 8



In this graph we can observe that the countries with the highest indexes of social progress have notably higher income from natural resource per person. The highest ranked countries received $1,137.06 per person from natural resources per year, while the countries with the least ranked social progress received $147.15, which is only 12.9% what the most developed countries received.

Graph 9



Here again we can observe that the least fragile indexed states received significantly more income per person from natural resources, than the most fragile states. On average, the least fragile states received $1,076.77 per person per year, which is 707.85% more than the $133.29 of income per person per year in the most fragile states.

On none of the tested development variables is there confirmation of the resource thesis. The difference is stark, but in the opposite direction. To the contrary, developmentally blessed nations used by far much more natural resources.

3.2. Econometric results

Methodology

The zero values were eliminated in the observations of the dependent and independent variables. The values of the variables were transformed to logarithms to create the logarithmic models. They were tested in 17 models with the SPSS 22.0 software: 9 linear models and 8 logarithmic models.

Y=α+βX is the lineal equation.

Ln (X) = Logarithmic values of the variables

$$Y = e^{\alpha+\beta X} = LnY = \alpha + \beta LnX$$

is the linearized logarithmic equation

Models analysis

The table below shows the results of the tests performed.

Table 1

Matrix econometric results

Model Number	Model	Coeffici…	Coefficient value	se	t	sig	R	R2	Corrected R2	F	sig F	DW	N	Expected signs
1	ANNI=α+βTNR	α	5.186,86	669,12	7,75	0,00	33,4%	11,2%	10,6%	21,00	0,00	1,62	169	+
		β	1,09	0,24	4,58	0,00								+
2	LnANNI=α+βLnTNR	α	6,41	0,27	23,86	0,00	36,6%	13,4%	12,9%	25,83	0,00	1,71	169	+
		β	0,28	0,06	5,08	0,00								+
3	FSI=α+βTNR	α	70,88	1,80	39,28	0,00	15,1%	2,3%	1,7%	3,86	0,05	1,80	167	+
		β	-1,26E-03	0,00	(1,96)	0,05								-
4	LnFSI=α+βLnTNR	α	4,41	0,08	55,66	0,00	24,0%	5,8%	5,2%	10,11	0,00	1,77	167	+
		β	(0,05)	0,02	(3,18)	0,00								-
5	HDI=α+βTNR	α	67,03	1,20	55,71	0,00	22,1%	4,9%	4,3%	8,91	0,00	0,07	176	+
		β	1,31E-03	0,00	2,99	0,00								+
6	LnHDI=α+βLnTNR	α	4,01	0,05	88,01	0,00	30,8%	9,5%	9,0%	18,29	0,00	0,19	176	+
		β	0,04	0,01	4,28	0,00								+
7	GINI=α-βTNR	α	40,89	0,86	47,73	0,00	12,3%	1,5%	0,8%	2,21	0,14	0,04	146	+
		β	-1,95E-03	0,00	(1,49)	0,14								-
8	LnGINI=α+βLnTNR	α	3,76	0,06	65,94	0,00	14,3%	2,0%	1,4%	3,01	0,08	0,05	146	+
		β	(0,02)	0,01	(1,74)	0,08								-
9	GDP=α+βTNR	α	6.675,46	886,80	7,53	0,00	43,6%	19,0%	18,6%	4186,8%	0,00	1,65	180	+
		β	2,11	0,33	6,47	0,00								+
10	LnGDP=α+βLnTNR	α	6,57	0,26	25,03	0,00	38,9%	15,1%	14,7%	31,75	0,00	1,60	180	+
		β	0,31	0,05	5,63	0,00								+
11	MaS=α+βTNR	α	5.347,89	727,17	7,35	0,00	23,4%	5,5%	4,9%	9,91	0,00	1,53	173	+
		β	0,83	0,26	3,15	0,00								+
12	LnMaS=α+βLnTNR	α	6,43	0,29	21,92	0,00	28,5%	8,1%	7,6%	15,08	0,00	1,63	173	+
		β	0,23	0,06	3,88	0,00								+
13	PI=α+βTNR	α	(0,24)	0,15	-168,8%	0,09	19,3%	3,7%	3,0%	5,21	0,02	1,82	137	+
		β	1,75E-04	0,00	2,28	0,02								+
14	Poverty=α+βTNR	α	36,01	2,70	13,33	0,00	19,1%	3,7%	3,0%	5,34	0,02	1,80	142	+
		β	-4,37E-03	0,00	(2,31)	0,02								-
15	nPoverty=α+βLnTN	α	4,25	0,44	9,70	0,00	33,1%	11,0%	10,3%	17,39	0,00	1,84	143	+
		β	(0,39)	0,09	(4,17)	0,00								-
16	SPI=α+βTNR	α	62,90	1,27	49,52	0,00	14,7%	2,2%	1,4%	2,86	0,09	1,87	131	+
		β	1,11E-03	0,00	169,0%	0,09								+
17	LnSPI=α+βLnTNR	α	3,91	0,06	65,83	0,00	31,9%	10,2%	9,5%	14,65	0,00	2,05	131	+
		β	0,05	0,01	3,83	0,00								+
					6,47	**0,02**	**43,6%**	**19,0%**	**18,6%**	**41,87**	**0,02**	**2,05**	**180**	

The first model $ANNI = 5.186{,}86 + 1{,}09TNR$ shows positives coefficients, indicating a direct relationship between the total income of natural resources and the annual adjusted per capita net income. This shows that the tendency is opposite of what the resource curse thesis implies. The coefficients are significant because the values of student t test and the Fisher test are above the significance threshold. However, the corrected R^2 of 10.6%, means that the sample does not fit to a linear model, though this does not imply the negation of the relation between the tested variables.

In the second model $LnANNI = 6{,}41 + 0{,}28LnTNR$, the linearized logarithmic function, has a higher significance level. Its t and F values are high, and just as the previous finding, shows a direct relationship between the independent and dependent variable, which means that higher total natural resource income per capita, tends to result in higher net per capita income. Its corrected R^2 of 12.9%, although higher than that in the previous model, is not enough to say that the data corresponds to a logarithmic function.

The third model $FSI = 70{,}88 - 1{,}26\mathrm{E} - 03TNR$, whose coefficient β range is so small that it has to be expressed in scientific notation to distinguish it from zero, shows that states become more fragile the less natural resource income people have. However, the low value obtained in its t test of the coefficient β (-1.96) implies that it must be disregarded since its level of significance does not rise above the critical threshold (2.10 in absolute terms with a confidence level of 95%).

The logarithmic form of the fourth model $LnFSI = 4{,}41 - 0{,}05\mathrm{Ln}TNR$, confirms the relation shown in the previous model that if a country has little natural resources, it becomes more fragile, which confirms the hypothesis of this research. Its test t and F are acceptable. Plus, R^2 corrected of 5.2%, does not indicate a good fit.

The fifth model $HDI = 67{,}03 + 1{,}31\mathrm{E} - 03TNR$, indicates a direct relationship between the Human Development Index and total natural resource rents per capita. Its R indicates a positive relationship between these variables. Its t and F are significant. However, it's corrected R^2 of 4.3%, does not indicate a good linear fit.

The logarithmic form $LnHDI = 4{,}01 + 0{,}04\mathrm{Ln}TNR$, of the sixth model, confirms the expected results, that is, the higher natural resource rents, the higher its human development. Its corrected R^2 of 9.0%, although is not optimal, indicates that it is its most fitting form. Its test t and F are significant.

The models 7, 8, 13 y 16, should be discarded, since their coefficients do not pass the t student tests (2.10 in absolute terms with a confidence level of 95%).

The model 9 $GDP = 6.675{,}46 + 2{,}11TNR$, is the one that shows the best results, since its t test for the independent variable and its F obtain the highest values. Equally, a R of 43,6% indicates a strong positive correlation between total natural resource rents and GDP per capita, which verifies the thesis of this research. It also has the maximum corrected R^2 (18.6%).

Its logarithmic form $LnGDP = 6{,}57 + 0{,}31\mathrm{Ln}TNR$, confirms the expectation that higher natural resource rents per capita leads to higher GDP per capita. Its t and F tests are significant. It has an R of 38.9%, which implies a high positive correlation and a corrected R^2 of 14.7%, which indicates less of a fit than with the linear model.

The eleventh model MaS $= 5.347{,}89 + 0{,}81TNR$, is complex for interpretation, since even given that its test t for the explicative variable and its test F reach high values, and it has an R of 23.4% which indicates a high positive correlation between total natural resource rents per capita and the dependent variable of more value added nature, which confirms the thesis of this investigation, its R^2 (4.9%), indicates that it should not be taken as an explicative model.

Its logarithmic form in the twelfth model, even though it confirms the expected results of higher manufacturing and services per person, given higher natural resource income, and its t test and F are significant, its corrected R^2 of 7.6%, implies a low fit.

The model $Poverty = 36{,}01 - 4{,}37\mathrm{E} - 03TNR$, which indicates a reverse relationship between poverty and total natural resource income per capita, which indicates that the higher a nation's natural resource income, the lower its levels of poverty. Its R (19.1%) indicates a low correlation between these variables. Its t test and F are barely significant, and its R^2 of 3%, does not indicate a good linear fit.

Its logarithmic form $LnPoverty = 4{,}25 - 0{,}39\mathrm{Ln}TNR$, confirms the opposite of the resource curse, that is, that higher resource rents received by the people of a nation, the lower the poverty rate. Its R (33.1%) indicates a correlation between the variables. Its corrected R^2 of 10.0%, indicates a good fit. Its t and F tests show significant results.

The model 17 $LnSPI = 3{,}91 + 0{,}05\ \mathrm{Ln}TNR$ has significant results in its t test and F, that is, the higher natural resource income per capita of a nation, the higher its social progress. Its R (31.9%) indicates a correlation between the variables. Its corrected R^2 of 9.5%, indicates that it has a good fit.

It is worth noting that the high level of difference between the α y β coefficients in the model, as well as the low values of the corrected R^2, indicate that we should not be tempted to overestimate the importance of TNR as the only explicative variable in a the complex process of development. However, given that the objectives of the present research, it can be stated that the data does not support the resource curse hypothesis, and to the contrary, natural resources are an important factor in development.

4. Natural resources, empire and the new situation

The global data on natural resources and development shown here seriously question the credibility of the resource curse hypothesis. There is nothing inevitable, natural or generally causally detected on a global scale that identifies natural resources as a general curse for development. In fact, the data compiled and analysed here rather suggests that natural resource abundance is a developmental advantage. Countries with larger natural resource income are robustly more likely to have a higher development status than countries with little natural resource income. Nevertheless, there are surely countries with large natural resource wealth whose people live in misery and where resources seem to have been turned from assets to liabilities. And equally, there are countries with very little natural resources, whose people live in abundance.

Let's look at some poignant examples of the first type. From 1970 to 2000 the Nigerian government received 300 billion US dollars from oil sales, but people living in extreme poverty increased from 36% to almost 70%, and inequality skyrocketed as a few enriched themselves (Sala-i-Martin and Subramanian, 2003; Wenar, 2008, pp. 5-6). Another clear case is Equatorial Guinea, where strongman Theodoro Obiang has ruled by force since 1979, torturing political dissidents, promoting extrajudicial killings and has concentrated power without credible elections. In the 1990s large oil deposits were found in the Bay of Guinea and the country quickly became Africa's third largest exporter of oil. While the GDP per capita increased by 2007 even above that of the United States, two thirds of the population were malnourished and a majority live under $1 US dollar a day (Wenar, 2008, p. 6). Clearly, the small repressive elite are using the national oil revenue to enrich itself while repressing the people.

Chile is another example. Augusto Pinochet came to power in a bloody military US backed *coup d'etat* against the democratically elected government of Salvador Allende and ruled from 1973 to 1990, crushing political dissent with the murder and torture of thousands, while prioritizing military expenditures, obtained from the country's huge copper wealth (Kornbluh, 2004). Meanwhile, it took almost two decades of imposed military rule to regain Allende years per capita GDP, according to figures from the World Bank.

The case of Ecuador is one in which the CIA installed a repressive military dictatorship in 1963, a matter which the CIA's own in-house journal does not deny but rather affirms (Agee, 1975; Undisclosed, 1975). Under this umbrella, Texaco was given one third of the national territory to exploit oil in 1964. Texaco was allowed to employ sexual violence on indigenous people in the Amazon while it dumped billions of barrels of oil and waste, in substandard practices, which has caused widespread death, cancer and other diseases among the population. Some 30,000 affected people brought the court case against Texaco, now Chevron, but they are still waiting for justice (Zeitchik, 2014). Meanwhile, elites got rich and heavily indebted the country (Comisión de Auditoría Integral del Crédito Público, 2008).

Iran is another example. From 1953 to 1979, Iran was ruled by the Shah Pahlevi. The Shah came to power in a bloody US and UK backed military coup against the democratically elected government of Mohammed Mossadegh. Mossadegh's key electoral proposal was to use Iran's natural wealth for the domestic needs of development. Instead, the Sha doled out lucrative oil contracts to Anglo-Iranian Oil (40%) which was renamed British Petroleum in 1954; Royal Dutch Shell (14%); and US multinationals (40%) like Exxon, Mobil, Gulf, SoCal, and Texaco, after the coup to support corporations from the coup plotting nations. The Sha sustained himself by violent force and human rights violations, while filling the pockets of a small elite (Johnson, 2004; Bejesky, 2011; Dorman and Farhang, 1988; Epstein, 1975).

Saudi Arabia, a close US ally, is at the top of repressive governments around the world, sustained by immense oil wealth, which in turn is used to generate the violence upon which the regime is kept afloat. Lest someone mistake it, Saudi Arabia's name expresses the view that the country, which incidentally holds the second largest oil reserves in the world (US IEA, 2015), is the possession of the royal family (Kamrava, 2011, p. 67). Saudi Arabia has the world's fourth highest military expenditures (Perlo-Freeman and Solmirano, 2014) and is the second largest importer of arms (Wezeman and Wezeman, 2015). By any account, the Saudi regime is at the top of the heap in terms of repression, human rights violations, freedoms restrictions and suppression of women, an order enthusiastically colored by frequent public beheadings of "infidels" (Amnesty International, 2015).

Of the second type, though it is unnecessary that all wealthy countries that have little natural resource income be accounted for since they are not statistically significant, it is interesting to note the possibility that natural resources may have had a more important role in their development than would appear. Consider Switzerland: "the rise of Swiss living standards to take a top position internationally was clearly a phenomenon of the short 20th century" (Studer, 2015). In the short 20th century, particularly during the world wars, Switzerland acquired a privileged position to which gold is not alien, in this case also involving theft. Because of property claims on Swiss banks by victims of the Nazi state, the Swiss government formed the Independent Commission of Experts to investigate. About this issue of natural resources, particularly gold, which concern us, the commission concluded:

> "Precisely where the gold deliveries from the German Reichsbank are concerned, it is apparent that the stolen bullion came into the country with the knowledge of individuals at the highest level, even though it came in via a secret route…As a neutral country which had been spared the ravages of war, it certainly had a competitive advantage, even if it did not experience any significant growth during the war itself…The investment of tax money in the European reconstruction process was uncommonly profitable in that it allowed the economy to exploit its privileged position. From the end of the 1940s, as the markets of Europe began to expand again, Swiss companies were able to benefit from considerable growth opportunities aided, to some extent, by government export credits" (Independent Commission of Experts, 2002, pp. 520-1).

The developing world is the usual target of policy suggestions based on the resource curse thesis. In that context, one has to remember three further crucial things. One, most developing countries experience a colonial past, characterized by resource wealth extraction that transferred natural wealth from colonies to Europe and North America. Two, in their cradle of development, Europe and North America were highly natural resource intensive, frequently extracted from their colonies. And three, there exists the expectation that as nations get more developed, they are less natural resource intensive, as a percentage of total production. If that is so, ceteris paribus, one can expect developing nations to need to be more natural resource intensive today than their developed counterparts, even though it should be highlighted that developed nations today possess much more natural resources than their developing counterparts in absolute per capita terms.

Leif Wenar (2008) argues that in cases where there is a putative resource curse we are more likely to find the real source of the problem by looking at how correctable human practices in the global economy, particularly theft, drive unwanted development outcomes. Wenar argues that we don't need some new and novel abstract rules of fair trade that would prevent such a curse from occurring. Rather, the central problem lies in the fact that repressive regimes and international governments and corporations systematically violate the property rights of the people who own those resources. Such property rights are at the heart of trade, where instead now there is theft.

It is at the heart of international law that the people of each country own their natural resources, compatible with state and private control of resources through valid laws (Wenar, 2008). People's ownership of natural resources is enshrined in the first articles of both the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, which read:

1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.
2. All peoples may, for their own ends, freely dispose of their natural wealth and resources...

So the resources of a country belong to the people of that country. Conceptually, this is why it would be impermissible, for instance, for Cuba to drill horizontally and extract oil from Texas. The analogous thing happens when a violent dictatorship takes and sustains power by force, preventing a people's government from power, and sells off the natural resources of the country to dominate it. It is stealing from the country and the international buyers are trafficking in stolen goods. Here is Wenar's case for the analogy, but where property rights violations are "legalized" in international exchange.

> "A group that overpowers the guards and takes control of a warehouse may be able to give some of the merchandise to others, accepting money in exchange. But the fence who pays them becomes merely the possessor, not the owner, of the loot. Contrast this with a group that overpowers an elected government and takes control of a country. Such a group, too, can give away some of the country's natural resources, accepting money in exchange. In this case, however, the purchaser acquires not merely possession, but all the rights and liberties of ownership, which are supposed to be—and actually are—protected and enforced by all other states' courts and police forces" (Wenar, 2008, p. 13).

That such a substitution of right by might frequently takes place in key cases where there appears to be a resource curse provides an alternative explanation to such cases. Frequently, the resource endowed country's ills are provoked by the agents of international commerce that recognize stolen natural resources as those of dictators, violating a law for which there is not another that is more basic in property laws: the Convention on Contracts for the International Sales of Goods, for instance, which follows the intuitive claim that to make a valid sale the vendor must either own the good or have the authorization of the owner. Frequently, dictators are put there by force precisely by those international agents, as some of the above examples show. By no account can Obiang be said to be authorized with consent by the owners of the resources to sell them off nor can Pinochet be said to have been authorized by the owners to sell Chile's copper nor can the Sha be said to have been authorized by the owners to sell off Iran's resources.

On the view put forward here, first, evidence shows that there has to be a sharp reduction on the putative scope of the negative causality of the resource curse. And second, it is worth asking whether what evidential residue remains to support the theory, cannot instead be largely explained, not by novel theoretical postulates of a paradoxical quality, but by the much more familiar mechanism of theft by the powerful. Scientifically, we would not suggest to put the remaining "old wine into a new bottle" and call the already known phenomenon of theft something that was supposed to be new, namely, "the resource curse". Politically, it would also be unadvisable in our view, since if societies need science based policy to develop it is best to use straightforward language that does not mask or distort attribution of sources of obstacles to development. If natural resources are causally positively related to development, it seems advisable to not "kick away the ladder" (analogous to Chang's, 2002, view) by making broad theoretical statements that they are curse, instead of understanding the ways in which natural resources can be used for development, and the agents that threaten such use.

In the eighteenth century Montesquieu (1748, p. 250) explained and justified slavery thus: “The peoples of Europe, having exterminated those of America, had to make slaves of those of Africa in order to use them to clear so much land.” Montesquieu’s focus was to solve a problem of natural resources: so much land that needed clearing. The outcome was a curse for Native Americans and Africans. However, in Montesquieu’s case it is clear that the problem is not with natural resources, but rather with those who exterminated peoples and made slaves of others. This study lends empirical support to the need to re-focus problems attributed to natural resources and pay attention to the problems of domination and empire which make the most decisive contribution to the developmental curse experienced by peoples of poor nations.

Though it is beyond the scope of this paper to develop it, the even deeper backdrop of this analysis which we think is necessary to mention and expand on in further research, is that natural resource extraction in the modern way of human life portends ecological disaster and the sixth mass extinction on the planet, by way of the abrupt climate change, which includes severe threats to the human species (Ceballos, Ehrlich, Barnosky, García, Pringle and Palmer, 2015). Two main causes of this are central parts of the way we acquire our energy from natural resources: animal meat and fossil fuel (Mann, 2009; Mann, 2014; World Resources Center, 2012; Pimental and Pimental, 2003; Goodland and Anhang, 2009; IPCC, 2007). Consequently, one of the urgently necessary actions the world needs to take is to substitute these two energy sources. However, it should be noted that the central developed nations, which have been the primary cause of the CO_2 emissions and which have reaped the most benefits, cannot morally demand peripheral nations to abstain from using their natural resources, so vital for their development, without compensation. The myth of the curse of natural resources cannot be pointed at as a cause for poor nations to not develop. Rather, if poor nations are to not exercise their right to develop using their natural resources, rich nations will have to step up and compensate them in a framework of differentiated corresponsibility for a survival worth living. By looking at the relevant roles of different actors in the international system as well as the importance of natural resources for development, our hope is that this analysis contributes to the identification of the new international division of production and responsibilities required by the imperatives of development for all, in the context of dangerous climate change.

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Economics as practical wisdom

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Abstract
The discipline of economics has been represented as deductive and theoretical, deductive and empirical, and inductive and empirical. All of these approaches have been subject to withering criticism in other social sciences: their weaknesses are theoretical, evidential and methodological. Part of the problem rests in the interpretative or prescriptive character of much that is written in economics, but the core rests in the attempt to generalise about economic processes beyond the context where they occur. The situation where an economic insight is applied cannot be bracketed off, or set aside, from its context and the influence of other factors; the process of generalisation does not of itself provide useful prescriptions for policy. The principles of phronesis are based in experiential knowledge and practice. Economics has to adapt to complexity and ethical considerations, relying on judgment in particular contexts rather than generalisation. It is a phronetic activity.

The discipline of economics is often misrepresented by its practitioners. Many of them see it as a theoretical, deductive science: Milton Friedman for example argued that economics offered hypotheses that could be tested, as physics does (Friedman, 1953). But there are many kinds of knowledge, and the approaches that characterise economics in the real world have far less to do with theoretical science than they do with practical judgment. Aristotle distinguished three different approaches to knowledge. There was scientific knowledge, based in theoretical reasoning, which he called *episteme*. There was *techne*, technical know-how, which identified the applications of knowledge and the process of acting on them. And then there was *phronesis*, or practical wisdom – a combination of experiential knowledge and judgment, based on understandings of the ways that things turn out in practice (Aristotle, *Ethics,* Book 6, ch. 5).

Economics is an exercise in phronesis. It is all about judgment – reading the situation, identifying patterns, applying conflicting principles, anticipating problems, spying opportunities. There are no certainties; there are tendencies, warnings, prescriptions and the recognition of trends or patterns, all subject to many reservations. I work in the field of policy analysis, a field where there have been persistent and intractable problems in applying any of the conventional methodologies of social science to policy development. In the process of trying to find a way of reconciling theory with practice, I came to realise that the accounts I was giving of policy analysis – accounts based in a different kind of methodology – applied with equal force to the methodology of economics. This paper is the result.

On economics as a science

Much of social science has come to rely on a set of analytical approaches intended to identify specific influences within a range of confounding factors. The object of analysis is to separate the strands, to distinguish different influences, to attribute influence to particular variables. This has to be done in the face of multiple, competing influences.

As a discipline, economics goes about this in different ways. The traditional approach of classical economics is theoretical and deductive. Economic reasoning typically depends on theorisation about patterns of behaviour, subject to the assumption that 'other things are equal'. A range of models have been developed as a potential guide to analysis. Once the initial outline of a model has been determined, it is then possible successively to test the assumptions to see what the implications are of each further variable. This is the approach of much of what is done in microeconomic theory, including models of the actions of rational consumers or the behaviour of producers. Friedman argued that the test of theory was instrumental:

> "Viewed as a body of substantive hypotheses, theory is to be judged by its predictive power for the class of phenomena which it is intended to 'explain'.... To be important... a hypothesis must be descriptively false in its assumptions... the relevant question to ask about the 'assumptions' of a theory is not whether they are descriptively 'realistic', for they never are, but whether they are sufficiently good approximations for the purpose in hand" (Friedman, 1953, pp. 8, 14).

A second approach is empirical and deductive. Hausman refers to it as 'positivist' or 'Popperian' (Hausman, 1989); there are differences between those categories, but they share roots in empiricism rather than a primary dependence on theoretical reasoning. Explanations for behaviour are progressively refined through a process of conjecture and empirical refutation. This is the route that has been followed in the new 'behavioural economics', a fusion of psychology and economics. Psychology uses empirical situations, often controlled through experimental formats, to define and test the influence of specific constructs on behaviour. So, for example, the behaviour of a consumer faced with choices of what to purchase can be empirically constructed and examined (e.g. Sippel, 1997; Ariely, 2008). The shift to behavioural economics is viewed by many as a release from the limitations of traditional theorisation – and possibly exoneration from the charge that economic theory is too remote from empirical evidence to be scientific. (Syll is sceptical that there has been genuine movement. Many of the experimental conditions are still remote from real situations: Syll, 2016, pp. 148-152.)

The third approach is empirical and inductive. Econometrics typically proceeds by modelling the behaviour of an economy. This can be done through a deductive method, but more typically modelling is done by identifying patterns and trends inductively – using the data to construct descriptive equations. The process is designed to consider both the contribution of specific variables and their interactions.

Those who want economics to be more like the natural sciences sometimes argue that the weakness of economics rests in its over-reliance on theoretical deduction, and an insufficient emphasis on the empirical elements (Joffe, 2011). Criticisms of the methodology of economics have tended to focus on the limitations of economic models (e.g. Marques, 2015), the extent to which theoretical models can be used to explain empirical phenomena (Syll, 2016) , or the need to strengthen the subject's empirical basis (Blaug, 1992). In other fields of social science, however - including sociology, political science and social policy - the basic principles behind all of these approaches have been challenged (Flyvbjerg, 2001; Laitin, 2003; Schram, 2003; Spicker, 2011). It is open to question whether social science can ever legitimately be based on idealised, causal or generative explanations. The influence of individual variables cannot confidently be isolated from the context in which the variables operate. Even if the limitations are overcome, it is not clear that it is possible to develop prescriptions for policy on this basis.

Episteme: economics as scientific knowledge

Most discussions of economic methodology focus on economics as scientific knowledge. *Episteme* was concerned, for Aristotle, with universals – general principles that could be discerned and understood. For some this might be taken to refer to certain knowledge, but certainty is not something that is fully compatible with empirical science, natural or social. It mainly relates, rather, to theoretical knowledge. While there are many competing views of science – for example, objectivist, positivist, instrumentalist, falsificationist, Kuhnian and realist (Chalmers, 1999) – most contemporary accounts of scientific reasoning share a basic appreciation that there needs to be some relationship between theoretical understandings and empirical evidence. Theory shapes the identification of evidence, and evidence shapes the development of theory.

Generalisation about empirical evidence is mainly based on the idea that what is true in one set of circumstances will also be true in similar circumstances elsewhere. That sounds, on the face of the matter, like the principle of 'induction', the assumption that things that happen together will happen together again. The presumption behind generalised empirical propositions of this type is not just that things happen together; it is that the observations stand in some kind of structural relationship to each other. That may be true because of the character of the relationship: if Y = C + I, I goes up and Y is constant, then C must go down (or there is something wrong with the equation). More typically, it is because there is a generative or causal relationship. Possibly this means that one factor causes another: excess supply leads to reduction in planned investment, a reduction in planned investment leads to lower aggregate activity. Possibly it means that the two factors are associated because of a common underlying cause, or set of causes: youth unemployment generally goes up at the same time as adult unemployment, because both reflect the demand for labour overall. Induction rests, then, on the same principles as deductive science. Induction and deduction share a sense that causal or generative processes make outcomes predictable, and that if we know the cause, the effect will follow unless there is a good reason to the contrary.

Conventional economic analysis invites economists to begin by setting the context aside, to proceed on the basis that certain principles can be applied as if "others things are equal". Economists may learn, for example, that

- people respond to incentives and disincentives
- beyond an optimum point, a firm's average total costs will increase with scale
- the demand for money increases when interest rates fall
- inflation increases when the money supply increases.

Although the format of these statements is similar, there are important distinctions between them. The first statement, on incentives and disincentives, is naked theory. It can be read as a tautology (incentives and disincentives are what people respond to), as a hypothesis, or as an observation. However, taken as it stands, the claim, that people respond to incentives when other things are equal, is incomplete, which means that it cannot be directly applied. An incentive is (by definition) not just an inducement: it is an inducement that affects motivation and behaviour by offering a prospective gain. It makes no sense to say that people will respond to an inducement if there is no consideration of the attendant costs. Unemployment benefits are not an 'incentive' to become unemployed, any more than a longer prison sentence at the state's expense is an 'incentive' to crime or a death grant is an 'incentive' to become dead. That's not a fundamental criticism of economic principles. A generalisation about economic choice which disregards whether choices are eligible is not good theory.

The second statement is part of a standard model of production. It points to some useful observations: that firms have to choose how much to produce, that there may be limits to capacity and diminishing returns to scale, and that productive efficiency is not equivalent to maximisation of productive effort. However, it has been trenchantly criticised. Joffe argues that it is false for much of the time; it applies only to a minority of firms in practice.

> "In industry, costs are usually stable or fall with scale, rather than rising. Empirical research, based on taking a sample of firms and asking the appropriate person within each of them about their perceived cost structure, indicates that it applies to rather a small proportion, variously estimated at between 5 and 11 percent ... firms do not recognise it as a description of what they do" (Joffe, 2011, p. 8).

The third statement, that the demand for money increases when interest rates fall, is a straightforward extension of the standard theory that demand responds to price, but it is not a theoretical statement: it is an attempt to describe what happens in the economy. The generalisation is certainly defensible in the abstract, but there are many circumstances where it would be wrong; and while there may be people who will agree with the statement in the round, it is not really sensible to accept it as it stands. There is the problem of definition: what is 'the' interest rate, what is the demand for money? Then, possibly more obvious, there is a problem with the assumption that other aspects of the economy can be bracketed off, so that (for example) the value of money, the state of production or the level of savings and investment are all irrelevant to the dynamic. And it is also important to consider the relationship between interest rates and policy – falling interest rates may be a consequence of falling demand.

The fourth statement, that inflation increases when the money supply increases, has all of these defects and more. It is incomplete: if inflation is 'too much money chasing too few goods', it is not enough to consider the money supply, because it also matters what is happening with production. The terminology is questionable. It is not possible to interpret the proposition in isolation from other factors; policy cannot be ignored. Beyond this, however, the statement has one further characteristic that sets it apart. The writers who adhere to this statement most strongly see the money supply as fundamental to the explanation of inflation (and are likely, as a result, to reject the reservations I have just made). This is not just about analysis; it is the underpinning of a system of values, a matter of ideology and of belief.

There are clearly problems in representing these statements as scientific generalisations. The problems include lack of clarity, the over-statement of certain positions and the intrusion of ideological beliefs. More fundamentally, however, there are weaknesses in the very idea that such generalisations can be made validly and consistently with the empirical evidence. The first weakness is *theoretical,* reflecting the difficulty of attributing rationales to observations about association. Philosophers have been suspicious of arguments based on causation for a long time; Hume argued that as relationships of cause and effect could only be identified empirically, it could never be possible to prove anything more than a prior association (Hume, Book 1, III, chs 14-15). Sociology has tended to avoid this kind of generalisation since its phenomenological turn, some fifty years ago. The difficulty here is partly that links can be broken, but more fundamentally the associations that people believe must hold – such as, in the past, the classical assumption that frugality was the route to economic stability, Ricardo's 'iron law' that wages must always tend to subsistence levels, or the assertion that unemployment and inflation are inversely related – are conditional and contingent. Whether it happens because the theory is misconceived, or because the relationships are dependent on context, the associations that people identify may prove to be the wrong ones.

Another set of problems is *evidential:* it is difficult to know what constitutes evidence for a generalised proposition, let alone to provide evidence that is conclusive. This reflects the difficulty of describing variables and their associations appropriately. Many of the key variables in economics – growth, demand, unemployment or investment – are constructs based in aggregates, which disguise a heaving mass of contrary trends. ("There is no such thing", Hayek once wrote to Friedman, "as *the* quantity of money": cited Green, 1987, p. 148.) Associations, in a complex, often chaotic environment, come and go. Wherever there are multiple variables, there is always a possibility of spurious association; the tests we use are based on probability, and wherever there are large numbers of variables, there is the possibility that some may be correlated meaninglessly. False positives and false negatives are built into the statistical processes (see Ioannidis, 2005).

A third set of problems is *methodological.* What happens in principle when a variable is identified is that its effect is gauged against the influence of other variables. This can be done, for example, by distinguishing a control group – examining the circumstances when one group is subject to the variable and another is not. Many statistical procedures exist to replicate this effect. The central principle is that the influence of an independent variable can be bracketed off from other dependent variables, so that its effect can be considered in isolation. This situation is trenchantly criticised by Pawson and Tilley in their book, *Realistic Evaluation.* Pawson and Tilley are criminologists; their task was to identify the impact of certain interventions on crime. They had been using control trials to determine which methods were effective, but were tending to find that as the measures were rolled out more generally, their effectiveness seemed to diminish. The problem, they conclude, lies in the method itself. The purpose of analysis was to determine what the influence was of a particular effect when it was considered independently of its social context, and that was the opposite of what they really wanted to know. "Our argument", they write, "is that precisely what needs to be understood is what it is about given communities that will facilitate the effectiveness of a program! And that is precisely what is written out" (Pawson, Tilley, 1997, p. 52). The four statements considered in this section share the same flaw: all four are over-generalized. They lose their meaning when viewed in isolation.

Here is an example of an argument where the instrumental application of theory has been taken for granted. Rent controls are often held up as an example of the way that supply depends on prices; rent controls are supposed to limit the supply of rented housing by restricting the price (e.g. Minford, Peel and Ashton, 1987; Albon and Stafford, 1987; Krugman, 2000). This is not what happens. Rent control is most practised in Northern European countries with extensive rented sectors; controls are less stringent in countries with smaller rented sectors, including the US and UK. The supply of rented housing has generally tended to be greater where rent controls are in force (Arnott, 1995). Anyone who wants to hold to the standard model needs then to qualify their argument to take account of the inconsistencies. The sources I have cited do the opposite, and simply fail to address the inconvenient contrary evidence.

Part of the explanation rests in the incompleteness of the theory. The income from rented housing does not consist solely of income from the rent paid by tenants. It also depends on the capital value of the rented housing, partly because historically capital accumulation has been a major part of returns to capital investment, and partly because it is the relationship of the rent to the capital value which determines the rate of return. Landlords do, in most economies, have other places to put their capital. So rent is not decisive, or even what matters most. The other part of the explanation, however, relates to the context where the principles are applied. The capital value of residential property in Britain has been overwhelmingly determined by its value to owner-occupiers. That has been true since the 1920s. Rental housing declined in the UK because the demand was diverted to alternatives. By the 1920s, owner-occupation was both more secure and cheaper for those on higher incomes. The construction of two million council houses between the wars removed much of the market for working-class housing; urban renewal from 1930 onwards demolished older private rented housing (see e.g. Homans, 1987); low returns led to limited investment and reduced maintenance. By the 1950s, the private rented sector was in steep decline, with a dilapidated stock and limited market. The landlords' best option at that stage was to realise the capital value. The effect of removing controls in 1957 was consequently not to revitalise the sector, as the government imagined it would, but to hasten landlords' exit from it (see Lansley, 1979; Cmnd 1246, 1960). Controls had to be reintroduced seven years later to stem the abuses which followed. A later abolition of most rent controls in 1988 had no immediate effect on supply (DCLG, 2016). Subsequent increases in the rental stock, especially since 2007, largely reflect changes in the rates of return, though there are other complexities in the market relating to the benefits system, the transfer of public housing stock between sectors and the treatment of rent and capital gains for the purposes of taxation.

Now, it could be argued that this is still an example of deductive reasoning, and the main problem it shows is that economists are not very good at revising expectations which are incompatible with the evidence. I think the flaw runs deeper than that. Modern economies rely on a complex, interrelated tissue of relationships; they are poorly described in terms of isolated trends divorced from other influences. The example illustrates the general point that the situation where a theory is applied cannot be bracketed off, or set aside, from its context. The methodology is not capable of handling the demands that are being made of it.

***Techne*: Economics as applied science**

Techne is the application of skill or craft. Knowledge or episteme can be used to explain phenomena; *techne* is about how things are done. The practical application of knowledge is based, in the Aristotelian model, on universality (or generalisability) of experience; on its teachability; on its precision, or specificity; and a concern with explanation (Nussbaum, 2001, pp. 161-2). Colander appeals to the metaphor of engineering: he sees the task of an engineer in terms of problem-solving, applying general theoretical insights to practical issues. Economics needs a similar focus on the real world (Colander, 2013, p. 58). The profession of economics, Sachs suggests, is 'clinical': it is there to cope with practical problems (Sachs, 2005). Both those comparisons represent economics as generalisable, analytically specific and able to guide action in practice. Nussbaum writes:

> “A person who says... that practical reasoning should become a *techne* is likely, then, to be demanding a systemization and unification of practice that will yield accounts and some sort of orderly grasp; he will want principles that can be taught and explanations of how desired results are produced. He will want to eliminate some of the chanciness from human social life” (Nussbaum, 2001, pp. 162-3).

Some economists want more than that: they are trying to use economic theory to build a blueprint for policy. The ‘Washington Consensus’ refers to an economic orthodoxy – ten central economic propositions about policy that were shared by most serious economists working with developing economies. The consensus was based on:

- fiscal discipline
- reordering public spending priorities
- tax reform
- liberalising interest rates
- competitive exchange rates
- liberalising trade
- liberalising foreign direct investment
- privatisation
- deregulation, and
- the establishment of property rights (Williamson, 2000).

None of these policies, singly or together, gives any guarantee of economic development. We can be reasonably sure of that, despite the apparent agreement to the contrary, because we know that structural adjustment introduced on these principles failed to deliver. Of 29 countries which underwent structural adjustment in sub-Saharan Africa, six were judged by the World Bank evaluators to experience an ‘improvement’ in policies – not in outcomes – nine a small improvement, and eleven were worse than when they started (World Bank, 1994, p. 3). It may be argued, of course, that none of these countries succeeded in implementing the policies that the orthodoxy recommended – that has been the defence of ideologues through the ages – but what use is a policy that no-one is capable of implementing? After structural adjustment fell from favour, the international organisations started to develop a different approach to policy – policies based on dialogue, deliberation, partnership and self-direction. Those policies have been remarkable in their effects, in terms of growth, improvements in welfare and legitimacy (Radelet, 2010).

This is not so much a failure of economic methodology as a reflection of its application to a task it was never designed to do. The methodologies I have been considering principally work by theorising, analysis and modelling, so that we can explain or at least model the influence of different elements and show the direction and magnitude of different influences and effects. Friedman writes:

> “Any policy conclusion necessarily rests on a prediction about the consequences of doing one thing rather than another, a prediction that must

> be based – implicitly or explicitly – on positive economics" (Friedman, 1953, p. 5).

Policy might depend on prediction, but it does not need to: it might depend on values, on incremental change, on accepted patterns of behaviour, even on 'muddling through' (Lindblom, 1973). Many people seem to think that once we know the way into a problem, we will better be able to find the way out of it. This is an obvious fallacy: if we fall down a mine shaft, what we understand about the principles of gravity is going to do very little to get us out. We may know, or think we know, that profligate public spending can lead to inflation; it does not follow that retrenchment will reduce it. We may think that increasing the price of labour reduces employment (that is very disputable, because participation in the labour market tends to rise with median income), but it does not follow that reducing wages increases employment. We may think we know that growth can be depressed by restrictions on private sector development; it does not follow that deregulation will produce growth. If this limits the application of economic insights, that is because those insights are much more concerned with explanation after the event than they are with prediction or policy. A plausible analysis might help to avoid some further traps, but it is not a blueprint for action.

Although Friedman referred to economic theories as 'hypotheses', he sees them as tools, rather than hypotheses that are likely to be rejected when they do not apply (Friedman, 1953, pp. 14-5), and he did not draw any clear distinction between the 'hypotheses' of economic theory and prescriptions for policy (e.g. Friedman, 1962). Keynes wrote:

> "Economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world... Good economists are scarce because the gift for using 'vigilant observation' to choose good models, although it does not require a highly specialized intellectual technique, appears to be a very rare one" (Keynes, 1938).

This reflects the impossibility of dealing with the confounding factors and complexities. Sometimes economic models can be applied directly to empirical data. Sometimes they cannot. Unfortunately, economics as a discipline is not very good at telling us which is which.

Economics and phronesis

Phronesis is often translated as 'practical wisdom'. Aristotle explained:

> "It is not science, because conduct is variable, and it is not art, because doing and making are different in kind. Practical wisdom is a rational faculty exercised for the attainment of truth in things that are humanly good and bad" (Aristotle, *Ethics,* Book 6 ch 5, p. 177).

Aristotle favoured a process of reasoning, sometimes identified with the idea of a 'practical syllogism', where actions can be justified in practice through general propositions and a process of deliberation to explain how decisions are taken in specific situations and review. The philosophical literature on 'practical reasoning' goes beyond this, straddling issues in the philosophy of mind, ethics and rational choice theory (Raz, 1978; Millgram, 2001). Phronesis is only part of this constellation; understanding the whole process of rational deliberation calls for consideration of all the elements of knowledge and their relationship to each other.

Practical wisdom calls for the translation of principles to particular circumstances, but putting it that way has it the wrong way about; phronesis begins by considering the particular circumstances, and goes from there to identify what kind of response is appropriate to those circumstances.

Noel identifies three discrete, and sometimes competing, accounts of phronesis: rationalist, moral and situational (Noel, 1999). The first of these categories may be surprising to those who think – despite Aristotle's explicit reference to a 'rational faculty' – that phronesis is always normative, or a departure from rational thinking. The rationalist view of phronesis looks for precepts – generalised guidance about the principles that apply, based on practical experience - and a deliberative process of application, so that an account can be given of the reasons for a decision in a particular situation. Phronesis is sometimes rendered in translation as 'prudence' (a term Nagel identifies with 'practical foresight': Nagel, 1978, p.159): prudential decisions extend consideration to the future, calling for anticipation, safeguarding and a degree of flexibility. This all seems to square with Keynes' view of economics. Keynes favoured the use of generalised models, but he was sceptical as to how generally they could be applied. He wrote that that "…the material to which (economics) is applied is, in too many respects, not homogeneous through time" (Keynes, 1938) – a phrase which suggests that empirical results in economics are contingent and not replicable.

The moral understanding of phronesis emphasises its normative character. The reference to what is 'good' or 'bad' can be read both as a normative statement and as a description of what happens. That parallels a long-standing debate in economics about positive and normative methodology (Weston, 1994). Economics, Keynes wrote, is essentially a moral science; the point has been taken up by Tony Atkinson (Atkinson, 2008). By some lights, phronesis is primarily moral; it is about what should be done (Rooney and McKenna, 2006). Aristotle did not intend the idea to be exclusively normative, however – he also emphasised the empirical and experiential aspects.

> "Intelligence apprehends the truth of definitions which cannot be proved by argument, while phronesis involves knowledge of the ultimate particular thing, which cannot be attained by science but only by 'perception'" (Aristotle, Book 6 ch. 8, p 182).

The situational view of phronesis focuses on the particular nature of decisions. The kinds of question which phronesis attempts to answer, Flyvbjerg suggests, are "Where are we going?", "Is this desirable?" and "What should be done?" (Flyvbjerg, 2001, p. 60). Situational views base phronesis in terms of the context where the issues take place. The key question is not, "What should I do?", but "What should I do in this situation?" (Noel, 1999, p. 274). That comes fairly close to Colander's understanding of applied economics (Colander, 2013) – probably closer than his own analogy with engineering.

Phronesis has three key characteristics. First, it is always empirically based – it cannot be arrived at by a priori thinking, because that is knowledge of a different kind. Second, whereas episteme is universal, phronesis is particular – it is dependent on circumstances and context. Third, it is always equivocal, and it tends to be approximate; there are exceptions to nearly every generalisation.

Examples of statements that are phronetic, rather than epistemic or technical, might be

- that demand tends to fall when prices increase
- that competition tends to promote diversity or
- that over time, people tend to demand more of a commodity than they did.

All of those statements have been presented at times as if they were the product of deductive scientific reasoning. They are not. None of the statements is universally true – there are many exceptions, even when other things are equal. None of them can validly be considered independently from the circumstances where it occurs. But they are all useful phronetic generalisations. They are derived from practical experience. They work much of the time. They are *more or less* true. And that – rather than any claim to deductive science - pretty much sums up the way that economics works in practice.

Friedman's instrumentalist argument depended on establishing 'hypotheses' that make for 'good approximations'. Many theoretical statements in economics are not approximations, and are not derived from practical experience. They are not 'hypotheses' at all, in the sense of being generalisations which are then to be subject to empirical test. Consider some commonplace propositions from the theoretical literature:

- rational individuals maximise their utility (Winch, 1971)
- self-interest means that co-operation must break down (Hardin, 1968)
- 'Consumers have unlimited wants. They would always prefer to consume more rather than less' (Anderton, 1997, p. 83).

These propositions fly in the face of practical experience. There is no evidence to show that people maximise anything; some cooperative arrangements have lasted for centuries; people's tastes change when their incomes change, and they don't just go for more, they go for something different. The statements are not 'more or less' true; they are not true at all. They are not even minimally plausible.

Why, then, do people accept them? There may well be some economists who don't care whether economics is true or not, so long as it is internally consistent (e.g. von Mises, cited in Blaug, 1992, p. 80) but I venture to suggest that this is not the general view. These propositions continue to exercise their sway because each of them stands for something different from what it might appear to say. The first proposition disguises a prescription. People may not be rational, and they may not maximise their utility, but if they wanted to achieve aims more effectively, an analysis based on maximisation would give them some guidance. The second one carries a warning. People are not exclusively self-interested, but if they are to cooperate, the analysis tells us that some provision needs to be made to restrain self-interest and free riding (Olson, 1971).

The third proposition, the principle of non-satiation, is the most interesting, because it is predictive, not simply prescriptive – and there is a family resemblance to one of the examples I gave of a phronetic generalisation, that consumption tends to increase over time. People do not have unlimited wants – the very idea that they do is absurd. Many commodities come at a cost, and having too much of something can be a curse – such as too much hospital care (a big problem for older people). Some economists try to exclude the possibility of over-consumption by referring to 'local nonsatiation', which is a marginal concept – non-satiation within the immediate confines of a situation – but that does not work either; even within the restricted scope of a laboratory experiment, people do not consume without limit

(MacCrimmon and Toda, 1969). The value of analyses based on nonsatiation is partly that it can be used to think about behaviour in the immediate context where demand is not satisfied, and partly that it can be applied to other conditions in the longer term (though that is more debatable, because changes in long-term preferences suggest a shift in the function rather than an extension of it). It is probably true, as a matter of observation, that people often do tend to demand more of a commodity than they did, subject to substitutes and relative costs; over time, the demand for health care for older people has progressively increased, even if the care is no longer done in long-stay hospitals. Viewed in context, nonsatiation becomes an interpretative principle, rather than a universal truth.

I have given six examples of generalised propositions in this section. Taking them together, it is difficult to argue that they are hypothetical, that they are derived from theory rather than assumption, that the line of reasoning they follow is deductive, or that they can usefully be tested against 'the facts'. That is not what they are there for. The approaches they embody – observation, prescription, warning and interpretation – are characteristic of phronesis rather than theoretical science or technical knowledge.

Economic reasoning depends heavily on generalisations that are necessarily contingent and provisional. Supply may tend to increase when prices go up – but there are so many other factors in a supply function that it is not possible to assume that higher prices alone will have that effect. The division of labour increases the potential consumption - but the impact of specialisation may reduce the capacity to consume. Inflation happens when too much money chases too few goods – but inflation can also affect the supply of goods. There is hardly a proposition in the field that can be applied in practice without reservation. That does not make such statements wrong, or useless, but it does change their status. Economic theory is not, and cannot pretend to be, a description of how people will act. It might be seen as an attempt to construct a narrative, or to describe patterns, which may or may not give some insight into the interpretation of complex social situations (cf Blaug, 1992). Whether the pattern offers such an insight depends on the situation it is applied to. That is the application of *phronesis*, not of *episteme* or *techne*. Economics is a phronetic activity.

There are good reasons to be sceptical about many of the methods used in theoretical economics, but it does not follow that economists need to abandon them. The purpose of this paper, rather, is to encourage economists, regardless of their political perspective or theoretical orientation, to recognise what they are actually doing, and to invite a reconsideration of how economics ought to present itself. Economics is not based on deduction. It does not proceed by empirical examination of hypotheses. Nor does it proceed by inductive generalisation of empirical findings. Economic analysis is phronetic by reason, by temperament and by practice. It has to cope with complexity, context, with ethical imperatives. It is notoriously true that economists don't agree in their analyses or predictions. Nor should they. There is nothing wrong, and much right, with a statement that says "…this is a possible outcome, and this is what experience suggests, but there are contradictory pressures, and it might not work out like that when we try it the next time." That is not talking like a theoretical economist, but maybe it should be.

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Everyday futures: the foundation of financial market stability in the performative social present[1]

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Abstract
This article argues that financial market stability ultimately rests on the performative realization of specific futures extrapolated and priced in by financial markets. It is a theoretical argument organized in two sections. The first section recounts the conventional explanation of how the prices of stocks, bonds and derivatives move in accordance with forecasts of the future, and how this financial future relates to everyday life. In the second section, Judith Butler's concept of *performativity* is used to show how these projected futures become norms that regulate and produce everyday agency. The concluding section discusses how everyday life and politics secure financial market stability through disciplined reiteration of the norms and discourses inherent in financial forecasting and pricing. The main theoretical contribution of the article is an explanation of how the financial future influences everyday life and agency in the present, which adds to our understanding of the influence of global financial markets on everyday life.

Keywords financial stability, performativity, everyday life, futurity

1. Introduction

The mundane economic development of everyday life has proven able to make big and credible private financial actors such as Lehman Brothers crash and burn. The esoteric world of finance in 2008 shook in its foundation by the inability of cleaners and cab drivers to service their mortgages, and all instruments secured against the future cash-flow from these subprime borrowers shook as the cash-flows from them proved to be thinner than anticipated and/or gambled for. While there has been much research and debate over exactly how irrational market actors were in doling out and securitizing subprime loans and mortgages, interest is also growing for the essential link between everyday life and financial markets. Seabrooke's 2007 article on how global financial legitimacy is founded in everyday social realms of the US was important here. In 2010 Seabrooke took the analysis further arguing that financial institutional change becomes possible and gets its contingent form largely from the "everyday politics of expectations". Without popular acceptance for financial reform in everyday life, the politics of everyday life will make financial reform hard or impossible regardless of how rich or strong the reformers (and their lobbyists) are (ibid.). There is also a series of writings dealing with how financial interaction weaves deeper into everyday life in modern society, changing both interaction as such, as well as social discourse and norms (Gill 1997, Langley 2008 and others). Ronen Palan (2014) uses John R. Commons concept "futurity" to elucidate how an increasing orientation of the economy towards the future increases the instability of financial markets, when an increasing amount of financial values rest on intangibles such as "goodwill", and on "current payments" (of interest, for instance) to sustain the fiction of future earnings (Palan, 2014, p12). Palan's critical conclusion is that we have entered "a world of nominal value" (2014, p16). Correct as this is, the relations between

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the social present and a financial future is not only a matter of substance on financial markets as such, but also a disciplining and exploitative mechanism which operates on how people live their everyday lives.

In this paper I aim to show that all financial valuation ultimately rests on a foundation of future everyday life, as projected and discursively formed in the interplay between financial market actors and social subjects. It is the continuous affirmation or rejection of these projections, by economic activities in everyday life, that ultimately determines price movements on, and hence the stability of, financial markets. Of vital importance then, becomes the nature, direction, content and form of the everyday activities to which financial instruments relate.

The text is structured in three sections. The first provides an explanation of how the prices of eauity, bonds, and derivatives move in accordance with projections of economic everyday life into the future. Second, Judith Butler's *performativity* concept is used to show how these projected futures create and uphold norms that regulate and produce everyday agency. The third section explores the social effect of these norms, and how they breed contingent forms of performative materialization in the social present of financial extrapolations, so as to secure and uphold values formed in financial projections of the future.

2. The future and its pricing

It is almost trivial to state that financial values are based on more or less rational speculation about future activities of firms, countries, borrowers and the like. But for the clarity of argument I will start with an account of some of the obvious instances of how the future provides the basis for financial valuation.

2.1. Financial instruments

The instrument that most obviously is priced according to a projected future is shares. My old economics 101 textbook states: "The price of a share is determined by current expectations of the future dividends of the firm" (Parkin and King, 1992 p.414). When calculating if the price of a share is right, the most common measure is the Price-earnings ratio, calculated as the price of the share divided by the expected yearly profits per share of the firm. When market actors agree a firm has a bright future, buyers pay a high share price because they expect profits to rise, and when profits are expected to fall buyers are willing to pay less. Expectations are formed on the basis of recent history of the firm and indications in the fundamentals (such as productivity changes, market share developments, product development, etc.) serve as the basis for forming (more or less rational) expectations of future achievements and profits. Over time then, the activities of the firm – i.e. what workers and management in the firm will be able to achieve – make the price either follow or digress from the expected price curve. Hence, the everyday economic life of the firm is what ultimately determines if the extrapolations of the stock-market were correct or not, and the job of managers is to make the workers make the firm live up to these expectations. On 17 February 2016, in relation to a rebound in stock prices, Bloomberg reported that "…investors are scrutinizing data for signs of any damping in growth. A report today showed new-home construction unexpectedly cooled in January, while a separate gauge showed a surprise increase in wholesale prices last month as higher food costs more than made up for the plunge in energy. Another measure said manufacturing output rose in January by the most since July 2015, a sign the industry was starting to stabilize at the beginning of the year." (Bloomberg Business, 17 February 2016) This quote shows that the stability of the new share price level was still to be determined by reference to data indicating the future trajectory of the US real economy, and financial prices move as this information influences the extrapolations. Reporting, hence, never establishes what the correct share price actually is, but what rational expectations the market price might rest on at the moment.[2]

On the level of individual shares and companies, the efforts among listed companies to be shareholder friendly, produce quarterly reports that affirms that the firm is on track to meet expectations, employing investor relations officers, as well as regular CEO meetings with large owners are activities relaying information about the firms substantial activities and prospects to the financial market at large, and the stock market especially. Feeding this information to the markets and owners is an instrument by help of which management substantiates stock values, or in other words: by telling the story of everyday life in the firm to owners, traders and rating firms, management makes the future unfold to the market. For prices to rise or stay stable, this unfolding of the future must confirm the expectations on which speculative trades, investments and ratings were made. A high stock value must continuously be substantiated with (stories about) increasing productivity, growing market share, increasing profitability, and similar things indicating a profitable future. Those working in the corporation are the ones whose activities shall make all this come real, which means that stock market speculation, however esoteric and detached from productive reality, puts a pressure on everyone in a corporation to meet expectations.

Investing in debt, such as bonds or mortgages or other securities, is to establish a claim on the future income and resources of the borrower. The borrower can be a corporation, a state or a physical person, and an ordered idea about the future of the borrower must be established, and the borrower must be deemed creditworthy to establish trust for a borrower. The dominating process for this as regards government bonds is rating, under which (for instance) a country gets scrutinized thoroughly and phenomena like inflation, trade, productivity, popular level of education, official budget balance and many more, are evaluated with economistic tools (Sinclair 2008) to determine how these phenomena affect the probability that the borrower will or won't be able to service his/her liabilities. Based on the assets and previous behavior of the borrower, the risk of the borrower defaulting on the loan in the future is established. This risk, then, is what determines the level of the interest rate. While the existence of interest as such is best understood as compensation for the lender's opportunity cost, risk is what determines how high the interest rate should be. If the risk is high there is a potentially very high opportunity cost, if the risk is low the potential opportunity cost is low. Establishing the level of risk is the equivalent of establishing the economic status of the individual or entity being rated, and also charting out the future trajectory of the

[2] A large part of the trades on the stock-market are made on the basis of technical analysis, by robots or human "chartists" analyzing market actors' valuations (rather than by "fundamentalists" analyzing fundamentals), which means that expectations of future price movements are formed on the basis of previous price movements. A rule of thumb is that fundamental analysis tells you what to buy, and technical analysis tells you when to buy it. Here it is important to note that technical analysis was developed on the supposition that one chartist is outsmarting a larger number of fundamentalists by interpreting how price curve movements are formed by traders operating with slow analysis of fundamentals. Traders who work the stock-market for quick profits rather than long term investment typically use technical analysis. This has led many writers and researchers to talk about the stock-market as a self-referring system operating detached from reality only on its own discursive theoretical institutional basis (e.g. Esposito 2012, Soros 2014) and if we analyze only speculative trading this might be the case, but we should not forget that this "smart money" is operating *as if* turnover primarily was driven by "dumb" fundamental analysis and its related trading by portfolio managers and long term investors.

activities on which the credibility and creditworthiness of the borrower will rest during the life-span of the debt. When a loan has been arranged it becomes an asset for the lender, the value of which is determined by the borrower's future performance, and the debt relationship charts a future that must be realized if the creditor shall get his/her money back. Even though this future does not necessarily unfold as planned, and a certain proportion of borrowers always default on their debts (Graeber, 2011), those involved must act as if this future will indeed materialize, for the debt/asset to retain its value.

A derivative (such as stock options) is an instrument which gives the owner the right to do some trade in specified financial resources during a specified time in the future at a price agreed on today. They are used to handle risk in, or to bet on, referent financial instruments. Once a certain level of future risk or profitability has been determined for an investment, market actors use derivatives to handle digressions from or changes in this projected future, either to insure against losses from digressions and changes, or to profit from those, or both. Hence, derivatives are instruments construed to mitigate, or speculate on, uncertainty and risk in the unknown but extrapolated future on which financial values are formed.

Looking at the textbook explanations of ordinary financial instruments, it is clear that their construction and valuation stand on the basis of an extrapolated future. The institutional order around financial markets reflects this, and integrates credit ratings and market projections (e.g. Libor) as ordering mechanisms so as to establish a common system of coordinates for market actors to work within. This is by no means a socially or politically neutral ordering; Seabrook (2010) points at multiple everyday resistances to these ordering mechanisms and the interaction between markets, regulators and ordinary people and terms this dynamic a 'politics of expectations'. While the latest crisis of 2008-10 has indeed evoked and spurred the articulation of many issues and conflicts within this political realm, I will ignore these for now to the benefit of an ontological argument about how the prerequisites for this political dynamic is continuously (re-)established and reiterated.

3. Performative realization of the financial future

I take Judith Butler's performativity conceptualization as the starting point for my argument. In her famous introduction to *Bodies that Matter* (1993) she sketches a constructivist ontology on gender, sex, power and subjectivity, which is fruitful not only for analysis of gender, discourse and hegemonic heterosexuality, but is also an ontological theory of how society works. In the following I apply this theory to an analysis of how financial discourse materializes socially. For the sake of theoretical clarity I follow the same five epistemological steps as Butler does, when she writes:

> "At stake in such a reformulation of the materiality of bodies will be the following: (1) the recasting of the matter of bodies as the effect of a dynamic of power, such that the matter of bodies will be indissociable from the regulatory norms that govern their materialization and the signification of those material effects; (2) the understanding of performativity not as the act by which a subject brings into being what she/he names, but rather, as that reiterative power of discourse to produce the phenomena that it regulates and constrains; (3) the construal of 'sex' no longer as a bodily given on which the construct of gender is artificially imposed, but as a cultural norm which governs the materialization of bodies; (4) a rethinking of the process by which

> a bodily norm is assumed, appropriated, taken on as not, strictly speaking, undergone *by a subject,* but rather that the subject, the speaking 'I', is formed by virtue of this process of assuming a sex; and (5) a linking of this process of 'assuming' a sex with the question of *identification,* and with the discursive means by which the heterosexual imperative enables certain sexed identifications and forecloses and/or disavows other identifications" (ibid, p. 2f, emphasis in original).

I use this as framework to clarify how financial extrapolations shape the material social present. Although this present is strongly influenced by gender dynamics, I cast the framework wider, when going through the different stages of analysis. It is not my intention or purpose to de-gender Butler's framework, nor to neutralize its political consequences. But in order to make it fruitful for the specific purposes of this text, I go through each step rephrasing Butler to make the framework fit an analysis of how financial market values rest on performative dynamics of everyday life.

Concerning the first step, my rephrasing of Butler is "the recasting of the material present as the effect of power, such that the material present will be indissociable from the financial projections that govern its materialization and the signification of its material effects." Langley (2008) has shown how everyday life is increasingly tied to financial markets, so that consumption and economic agency today becomes intertwined with financial actors. In everyday life credit cards and consumer credit has become a prevalent means of payment. This means that for ordinary life to function people have to link up to the technological grid of the financial market. At the center of this technological grid operates the behemoths of Wall Street and City of London, and in its capillaries everyday life is functioning by using its facilities. In order to be allowed onto the grid, get a credit card or negotiate a consumer credit, people have to conform to the statistical features signifying creditworthiness (Morran, 2006). This old regulatory norm is prevalent all over the globe (Gill, 1997), what has happened with digitalization is that it has become more formative for who is allowed onto the grid and who is not. The signification of certain economic acts and features as more appropriate than others, and other acts and features as more indicative of risk, reaches deeper into everyday life. Today we see unwillingness among many actors to accept cash as everyday payment. Apart from cost-effectiveness, this unwillingness invokes statistical risk calculation that hides structural social mechanisms producing certain features (Morran, ibid). Booking a hotel room becomes almost impossible without a credit card number to state in the booking. Depositing cash in a bank account becomes harder. Economic interaction in the social material present in this way becomes indissociable from the financial extrapolations, partly because of the technological interdependence of financial market and ordinary economic interaction, and partly because everyday extrapolations are influenced by, and formed in accordance with, financial market projections.

There is no need to rephrase Butler's second step, which is "the understanding of performativity not as the act by which a subject brings into being what she/he names, but, rather, as the reiterative power of discourse to produce the phenomena that it regulates and constrains." Within International Political Economy this is an ongoing discussion. Callon (1998) has shown how economic theory is productive in creating new economic markets, and changing existing ones. Not least within the financial sector, new theory, and new ways to interpret risk for example, produce new instruments and new forms of interaction, such as when Black and Scholes provided the maths and models for options (MacKenzie, 2006). For ordinary everyday markets, Karl Polanyi and his followers holds a similar view on markets as always politically constructed in accordance with formal and informal institutions, and the resulting market construction brings about its own discursively specific form of economic interaction. Butler herself (2010) refers to Polanyi when discussing economic performativity. Lucarelli (2010) observes how this structure orders interaction bio-politically. In this framework it means that disciplined behavior brings about a market in concord with the imperative of the institutional framework resulting from successful political decision making and power struggles. A well-known example of this dynamic is how subsidized home ownership was constructed around Freddie Mac and Fannie Mae in the US, which fomented the housing bubble in the early 2000s. Along Seabrooke's (2010) line of reasoning, legitimacy for this political move was based in American everyday life and culture, where owning your own house and property is a vital component of the American dream. Buying a house under these auspices was not just a reiteration of the American dream, but simultaneously a reiteration of a discursive move in the financial market regulation towards a more supportive view of private, everyday debt. With the scrapping of the Glass-Steagal act in 1999, this debt was made a business banking asset, and securitization transformed these future money streams into cash in the financial present. Large portions of his cash were then siphoned back into mortgages, furthering a debt financed everyday reiteration of (the discourse of) the American dream together with a projection of increased mortgage incomes to the financial industry, in Europe as well as in the Americas.

Butler's third step reads, "the construal of 'sex' no longer as a bodily given on which the construct of gender is artificially imposed, but as a cultural norm which governs the materialization of bodies" (Butler 1993 p2f), and calls for more thorough rephrasing. If we replace 'sex' with "market value", bodily with "materially", gender with "financial projections", and bodies with "the material present", we get: "*The construal of 'market value' no longer as a material given on which the construct of financial projections is artificially imposed, but as a cultural norm which governs the materialization of the social present*". The most obvious cultural normative force influencing financial projections is again the rating process. While the rating firms like to present themselves as selling objective and scientific evaluations of economic actors such as banks or nation-states, Sinclair (2008) has shown that in the analytical rating process lies embedded the neoliberal discourse and its norms as an ontological foundation. The effect of this tacit norm guiding the rating process is that the credit score becomes a signal of discursive compliance and discipline of the one being rated. An AAA rating not only means that you are a risk free borrower, it also means that you have become risk free by adhering to and heeding the norms of dominant economic theory and financial discourse. When potential creditors consider where to invest their money they look at credit ratings to determine the risk of the debtor defaulting in the future. Borrowers that want cheap money have to comply to the normative content of economic theory and financial discourse in order to attract this money. This becomes a strong normative force, regulating how a state or a firm behaves. As regards shares, complying with the norm of (potential) owners is a similar disciplining force, and here too rating agencies supply signal scores to the market. Tett (2009), Lewis (2011), Hasselström (2003) and others have shown that in the social environment on financial markets reigns a culture where these norms are treated as facts of life not to be questioned. Especially the disciplinary buy/sell mechanism operates along these normative lines. Financial extrapolations, hence, become governing cultural norms regulating and materializing the social present in its contingent form, by making actors subjected to (and in) these extrapolations behave in accordance with them.

The subjects performing this materialization do not accept the norms primarily through willful, intentional (speech) acts. In the fourth step Butler writes: "a rethinking of the process by which a bodily norm is assumed, appropriated, taken on as not, strictly speaking, undergone *by a subject,* but rather that the subject, the speaking 'I', is formed by virtue of this process of assuming a sex" (Butler, 1993 p.2f). A recasting of this ontological statement into economic terms will read approximately: "a rethinking of the process by which a **financial** norm is assumed, appropriated, taken on as not, strictly speaking, undergone by a subject, but rather that the subject, the speaking 'I' is formed by virtue of this process of assuming **economic agency**." Applying this ontology to the relation between everyday life and financial markets, we see that everyday life is populated by actors whose agency and subjectivity is built to fit, or at least be compatible with, the normative structure of financial extrapolations. The access to, and use of, credit cards, mortgages, consumer credit, etc. depend on the individuals' credit reports (Morran, 2006), which means that being a good and trustworthy economic agent depends on how (the rating in) this report expresses your compliance to the norm. Of importance here is that this compliance forms the economic subject, both in the eye of prospective creditors and the perception of self (Langley, 2008). When this subject acts s/he materializes both the self and the discourse as a corollary to his/her economic engagement with and within the social material present. You get economic power and agency from access to assets, the values of which are based in the financial future. When you exercise this economic agency in the social present, your subjectivity come to depend on what relation you have been able and allowed to develop with this future, and with actors controlling the values therein.

In Butler's fifth step, we return to discipline and biopower. My rewriting of Butler reads: "a linking of this process of 'assuming' (not a 'a sex' but) **economic agency** with the question of *identification,* and with the discursive means by which (not the heterosexual but) the (**neo-) liberal** imperative enables certain (not sexed but) **economic** identifications and forecloses and/or disavows other identifications". What becomes important here is not just the Foucaultian definition of the subject as disciplined by norms, but more the continuous process of identification as a necessary condition for the existence of the economic subject. The (neo-) liberal imperative is productive for this process since it "forecloses and/or disavows" identifications that are not in concord with its norms and discourse. Being a normal economic subject means then to reproduce oneself through actions which reiterates the discourse, and the disciplinary power of discourse is not (only) something which one is subjected to as an ulterior force, but also something that one engages in as a continuous self-constructing identificatory process. The collective effect of individual economic agency within this power circuit produces a contingent social material present, which in its turn becomes the place in which subjects shall exist and interact. In *the Psychic Life of Power,* Butler (1997) writes that "subjection exploits the desire for existence" referring back to Freud to make clear that the need for one another makes us adjust to the norms and discourse of the other, on whom we depend for exercising our subjectivity even if this means that we become subaltern to others. In the economic terms of this text, we need to interact with banks and other financial actors in order to find a life and a place to live, and therefore must accept the power that these actors get over our habitation and habituation; we need to connect to the financial grid in order to be able to transfer funds from one cellphone to the other; we need to have bank accounts and credit cards to be able to make these person-to-person or person-to-business transfers; we need to accept undergoing continuous normative evaluation when exercising our economic agency.

These five steps of performativity operates as processes along a timeline from the financial future to the social present: the process of discourse materializing in the social present, the process of discourse producing what it regulates, the process of norms governing economic agency, the process of conditioned subjectivation, and the process of identification under a certain imperative. The political and institutional control of the social and material present, is control over the direction of these processes, and their flowing between the present and the future in concord with economic discourse and norms. To achieve financial stability then, is to exercise political control over the social present in order to secure the reiteration of a disciplined economic agency that keeps on materializing the future extrapolated and priced in by the financial markets. As Butler (2011) writes, performativity is never completely determined by discourse, and just as her production of "sex" and the specific materialization of sexual identity in sexed bodies might produce something different from the heterosexual imperative, economic interaction might materialize something different than the discursive and normative (neo-)liberal imperative.

4. Conclusion

The normative discipline demanded of everyday economic agency is not new, all financial relations to everyday life has always been informed by norms exerted from the creditor onto the borrower. The form that this discipline takes changes with institutional changes, but to make this future happen economic agency in everyday life must materialize it, regardless of the institutional form of the disciplinary power. If we accept the above rewriting of Butler's performativity, then this is achieved through social performative processes, in which financial values and norm-abidance are governed by contingent disciplinary mechanisms, within historically specific normative coordinates. The social present get coordinates for interaction demanding of a normal subject that s/he not only understands and conforms to these coordinates, but that s/he also reproduces his/her economic agency and identification so that s/he can convincingly reiterate the financial discourse in the social present. Institutional adjustment for increased financial stability might appear to affect primarily big private financial actors, but it translates into new normative demands on actors in everyday life. Seabrooke (2010) shows how this provokes a "politics of expectations", and based on the above I argue that it also translates into changes in the social present. The "financialization of everyday life" (Langley, 2008), and "disciplinary neoliberalism" (Gill, 1997) are not only political processes socially deepening and extending the market imperative, they are also – perhaps even more – producers of the norm complying economic agency that create financial stability through a continuous performative reiteration of the discursive imperative in financial interaction and institutionalization.

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Is the *CORE e-Book* a possible solution to our problems?

Mouvement des étudiants pour la réforme de l'enseignement en économie (MEPREE) France

> "Students in economics all over the world were asking, just as I had asked a few years previously: why has the subject of economics become detached from our experience of real life?" (Camila Cea, Member of the CORE project, University of Chile.)

Abstract
The CORE project is a response to students' protests against teaching in economics. It wants "to make economics accessible and relevant to today's problems". Sadly, it doesn't distinguish itself from usual (mainstream) "projects" as regards to ideology and basic theory. As a consequence, the *CORE* project *e-Book* doesn't escape textbooks' absurdities. We pinpoint five of them and we wonder if the book would still be viable if all these absurdities were eliminated.

The point of departure of the so-called "French students movement" against teaching in economics was their desire to "escape from imaginary worlds", especially in microeconomics. The "post-autistic economics movement" emerged on the same ideas all over the world. Since then, student protests in economics surge regularly (Pepséconomie, Harvard, Manchester…). They were boosted by the 2008 crisis, but also by the rise of inequality and of precarious jobs, especially for young people.

The CORE project, which began in 2013, presents itself as an answer to students' recurrent protests. It is:

> "empirically motivated and illustrated: students learn models motivated by facts from history, experiments and data", and formed by
>
> "a community of learners and teachers collaborating to make economics accessible and relevant to today's problems. It is a question motivated way to learn the tools of economics".

The "community" includes universities all around the world – Europe, Asia, America (north and south), Australia – which participate interactively to a common project, the *CORE e-Book,* Its "steering group" is composed of Samuel Bowles, one of the founders of the *Review of Radical Political Economics*, and 3 economists specialized in public or labor economics. Among its 150 "contributors", there are three "Nobel Prizes" (Heckman, Solow, Stiglitz) and prestigious economists – e.g. Olivier Blanchard, Tony Atkinson, Nicolas Stern, Adair Turner, Peter Temin, David Hendry, Barry Eichengreen, Dani Rodrik, Alan Kirman, Philippe Aghion, Philippe van Parijs – and… George Soros.

What is distinctive about CORE?

CORE project author's answer to this question is:

> "CORE is based on recent developments in economics and other social sciences, with a focus on Economic actors as both self-interested and ethical… not only on equilibria… [it highlights] the importance of economic rents… [shows] how institutions differ among economies… CORE is a collaborative project using insights on the economy from a wide range of historical, geographical, disciplinary and methodological perspectives."

These "distinctive" aspects of *CORE e-Book* are in line with student movements' claims. No mathematics – only a few curves – a lot of "stories" that take place in different countries, and periods of history, some "psychology" (behavioral experiments), concern with growth, environment and development problems, inequalities, etc., with plenty of dates, charts and figures.

Sadly, the *CORE e-Book* doesn't distinguish itself from other textbooks regarding basic theory. Just like the other textbooks, its main reference is the competitive equilibrium – the result in a "frictionless world" of supply and demand – and its "efficient way" (Pareto optimal) to allocate resources.[1] Almost all "stories" and examples depart from it, but it serves as a benchmark – the theoreticians' work consists in determining what the obstacles are that prevent "efficiency" (competitive equilibrium) from prevailing.

As a consequence, the *CORE e-Book* doesn't escape textbooks' absurdities. In what follows we pinpoint five of these – which anybody can understand, even without knowing anything about economics. Only ideology can explain that people so highly qualified can write, and disseminate, such absurdities – which cast doubts on the whole CORE project.

The basic background ideology: free individuals, free markets and "invisible hand"

The *e-Book* overtly proclaims that it adheres to "methodological individualism". That is, individuals are society's point of departure. They are "free to choose", between consumption and leisure for "Angela the farmer" and "Mary the employee", *e-Book's* typical consumer, and between leisure and school-grades for "student Alexei", *e-Book's* typical producer.

They are selfish, at least as a first approximation, but happily there is the "invisible hand". The *e-Book*, as almost all textbooks do, quotes Adam Smith:

> "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest," he wrote, *adding that* each would be "led by an invisible hand to promote an end which was no part of his intention" (Unit 1[2] page 7, our italics).

[1] We skip the last chapters relative to money, finance and macroeconomics, which are less litigious.
[2] By the word "unit", *CORE e-Book* authors mean "chapter".

and, like other textbooks, forgets to tell the readers that several hundred pages separate the first phrase from the second – the first is in chapter 2 book I, the second in chapter 2 book IV.[3] Only ideology – or ignorance? – can explain the fact that Smith's two phrases are artificially linked by the expression "adding that".

Like other textbooks, the *e-Book* expresses its admiration for the way prices, "governed by supply and demand", coordinate the choices of "millions of people":

> "The *amazing thing about prices* determined by markets is that individuals do not send the messages; *they result from the anonymous interaction of sometimes millions of people*, governed by supply and demand. And when conditions change — a cheaper way of producing bread, for example — nobody *has to change the message* ("put bread instead of potatoes on the table tonight"). A price change results from a change in firms' costs. The reduced *price of bread says it all*" (Unit 8.0, our italics).

The "invisible hand" again…

Last but not least, *e-Book*'s authors know that students have protested on a continuing basis against the models' "unrealism" – especially in microeconomics. Yet, they invoke – in Unit 3.8, ("This is a good model", p. 34) – Friedman's *Essay on positive economics* and its "as if" argument to justify the model: only its predictions are important – their assumptions can be false but we act "as if" they were right (or true). No sensible person can accept such a fanciful "epistemology". Except (some) economists that cling desperately, for ideological reasons, to their models, especially the "competitive markets" one.

And there is no "epistemology" that can justify an absurdity.

ABSURDITY N°1 Marginal productivity is different from zero

Often, in textbooks, problems start with production. Contrary to consumption (which depends on "psychology" – i.e. subjectivity), production is "concrete", "objective". It is relatively easy to attribute "preferences" to a person, but it is impossible to find an example of a firm with a production function – especially if the function is "smooth". There are in the *e-Book* a lot of examples of production (with imaginary data, obviously): "cloth" produced with "work and coal" (Unit 2), "bread" (Units 4 and 8), "beautiful cars" (Unit 7), "choccos", "Cheerios"… But *the only explicit definition of the production function* is "student Alexei"'s one:

> "…it shows how the number of hours per day that Alexei spent studying (his input of labor) translates into a percentage grade (his output)" (in Unit 3.1 about *Labor and production*).

We see only one reason for favoring such a ridiculous (and totally imaginary) example: it has only one input ("work")[4], so that the Alexei marginal product can be defined as:

[3] The first is about what *I expect* from my butcher, the second is about "an individual" who "endeavors to employ his capital … in such a manner that it produce may be of the greatest value".
[4] If we abstract from the food, the electricity, etc. needed to "work more".

> "…the effect on his grade of studying one more hour".

The general definition of marginal productivity is given besides the "Alexei" example:

> "At each point on the production function, the *marginal product* is the additional amount of output that could be produced if the input was increased by one unit, holding other inputs constant" (point 3.1).

This is the first absurdity: how can output be increased by *increasing only one input* – ceteris paribus? If a bakery wants to produce more bread with more work, it needs more flour (more yeast, more electricity or wood, etc.). More cloth needs more work *and* more "coal" (*and* more linen, or more cotton, or whatever you need). More "beautiful cars" needs more steel, more plastic, gum, etc.). More "choccos" needs more work, chocolate, sugar, energy, etc. That is, in *all* "examples" of production given in the *e-Book* – except in the fanciful Alexei case – *the marginal productivity of each (separate) input is zero* (or nonsense, if you prefer).

The marginal productivity concept is empty (or nonsense) for an obvious reason: objects are the combination of fixed proportions of inputs. If you change the quantity of an input (e.g. cotton/linen/nylon), you necessarily change the object (product). Objects produced (efficiently) are obtained by a combination of fixed proportions of work and equipment (machines, firms' premises).[5] *In summary, inputs are (strictly) complimentary.*

ABSURDITY N°2 Increasing marginal cost

Complementary inputs imply that when the production increases, inputs increase proportionally. Then, if input prices are given, marginal cost is constant. Yet, the *e-Book* assumes, like all textbooks, that it increases. In the "beautiful car" example, increasing marginal costs are justified as follows:

> "This might happen because the firm has to increase the number of shifts per day on the assembly line. Perhaps it has to pay overtime rates, and equipment breaks down more frequently when the production line is working for longer"[6].

Yet, increasing "the number of shifts per day on the assembly lines" means that assembly line was not used efficiently in the first place. When the assembly line is used efficiently, in order to increase your output, a new assembly line must be installed, and then, the marginal cost is (almost) infinite! Consequently, the average cost curve is not given by the standard textbook U curve, but by curves as those given in the Figures 1 and 2.

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[5] In a survey of hundred of US firms "for 88% of the respondents, marginal cost is constant or decreasing" (*Asking about prices*, Blinder, Canetti and Lebow, 1998, p. 101). For more details, see: Alan Blinder http://www.nber.org/chapters/c8331.pdf (especially pp. 141-145).
[6] In the case of a (imaginary) "bakery", "marginal costs begin to rise gradually because you have to employ extra staff (sic) and use equipment more intensively" (Unit 8.3).

Figure 1 New machines (or production lines) are added successively when production increases

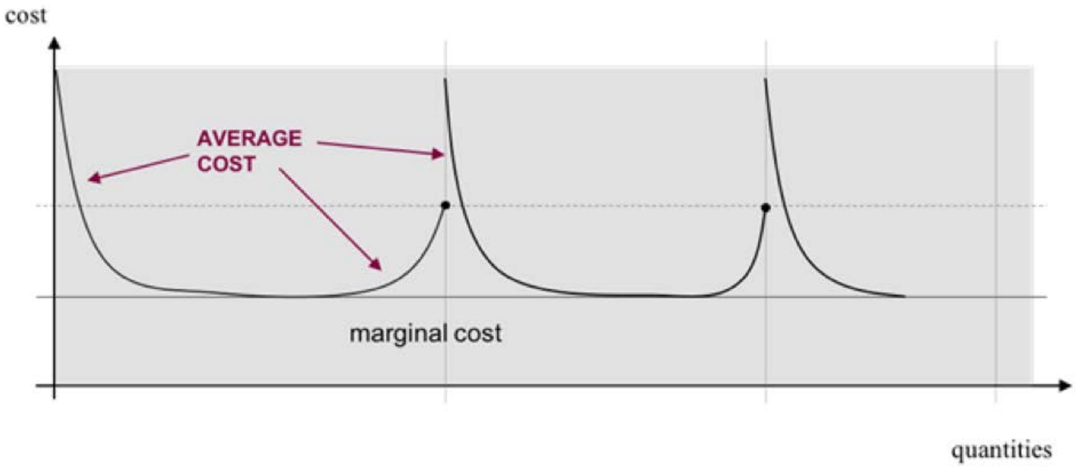
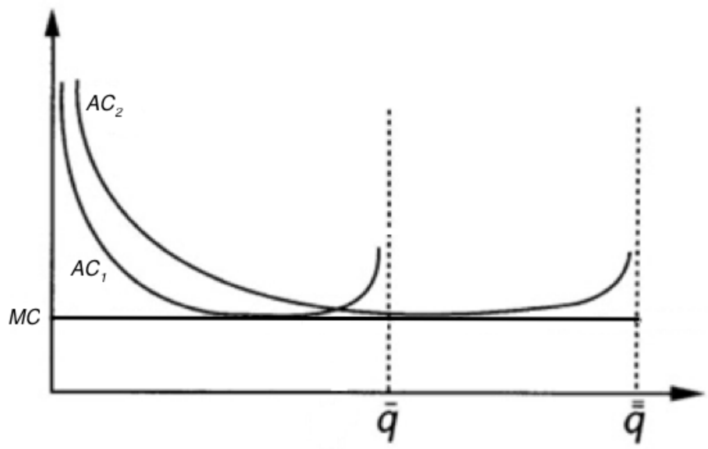


Figure 2 Marginal and average cost with one or two machines since the beginning



In both cases, *average cost is always above marginal cost*: firms that equalize (constant) marginal cost with (given) price, loose money – because of fixed costs. Then:

If marginal cost is constant, there is no supply function and, thus, no competitive (price taking) equilibrium.

That is why the *e-Book*, and all textbooks, assume an increasing marginal cost – even if it does not make sense.

ABURDITY N°3 "**For a price-taking firm, the demand curve for its own output is a horizontal line at the market price"** (Unit 8.3)

This is **false**: the demand curve of a price-taking firm *is not,* and cannot be, horizontal: a firm supply, even if it is "tiny", affects the price and then the demand of the good it produces.

The correct assumption should be that the firm *believes* that the demand curve is horizontal – an erroneous belief, but that is another story[7].

In their seminal article, *Existence of an Equilibrium for a Competitive Economy*, Kenneth Arrow and Gérard Debreu don't mention agents' beliefs but they,

> "…*instruct each production and consumption unit to behave as if* the announcement of price *p* were the equilibrium value" (point 1.4.1, our italics).

ABSURDITY N°4 All agents are price-takers (competitive equilibrium)

Unit 8, *Supply and demand: price-taking and competitive markets*, is about:

> "…how markets operate when all buyers and sellers are price-takers".

Now, any reasonable person will immediately ask: if *all agents* are price-takers, who set prices? The *e-Book* answers (implicitly) this question with a circular reasoning:

> "The interaction of supply and demand determines a market equilibrium where both buyers and sellers are price-takers" (Unit 8, p 1).

Supply and demand "determines" (equilibrium) prices but at the same time they are "determined" by prices, which are "taken" by suppliers and demanders. This is the typical circular reasoning one can find in almost all other textbooks (Varian included).

In Unit 8.9 about "The Model of Perfect Competition", the absurdity takes a slightly different form. After enunciating the traditional (and erroneous…) "large numbers" and "homogeneity" assumptions, the *e-Book* proposes a third (and last) assumption:

> "Buyers and sellers can readily know the prices at which other buyers and sellers are exchanging the good" (Unit 8, p 41).

Everyone looks at everyone else: this is, once more, total nonsense. Not to mention the "large number" of sellers and buyers… It reminds us of the example given in another textbook of an "orange market" – in Florida, of course – where every seller looks at his neighbor's price. Let's suppose that sellers form a circle…

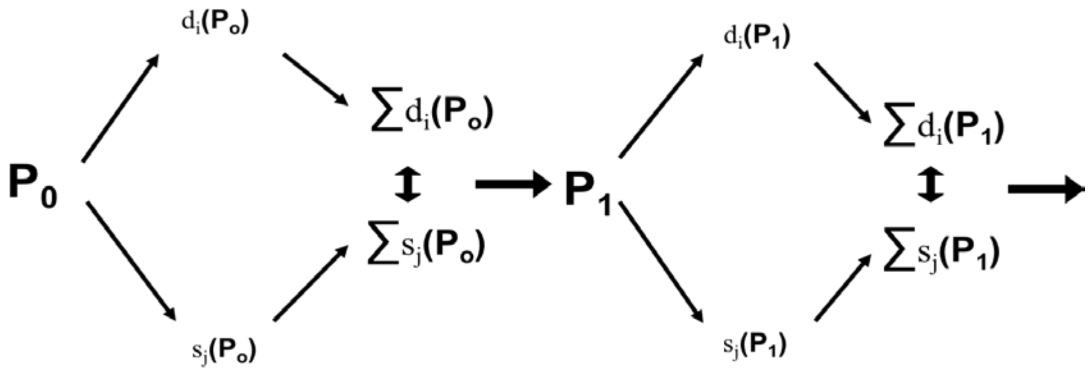
Indeed, the only logical reason for maintaining the "price-taking" assumption is to suppose that there is "somebody" or "something" that sets prices, collects and adds individuals' demands and supplies, confronts the sums, and changes prices by applying "the law of demand and supply". You can call this person (or "thing") "the market"[8], but you cannot say that it represents a "decentralized" economy.

[7] At an equilibrium, agents can have erroneous conjecture about others reactions (here, the horizontal curve), even if they predict correctly their "punctual" choice (their chosen strategy, in game theory vocabulary).

[8] Arrow and Debreu call it "the market participant" (point 3.1.0), Walras "le secrétaire de marché" and modern academic papers "the auctioneer".

Figure 3 gives a possible representation of the price formation in a “competitive economy” – in the *e-Book*, and other textbooks, fashion.

Figure 3 A “perfect competitive” (centralized) market



Conclusion: “A competitive market”, as defined in the *CORE e-Book*, is not “an approximation” of any existing market. It is not:

> “…hard to find evidence of perfect competition” (Unit 8.3).

It is impossible.

The so-called “competitive economy” model doesn’t “describe an idealised market structure” (Unit 8, p 44). It is not “unrealistic” – any model is, by definition – *it is irrelevant*. In fact, it has *nothing to do* with capitalism. It can be considered, at most, as a variant of market-socialism models, with a benevolent planner setting prices, adding supplies and demands, etc.

ABSURDITY N°5 In the long run, the profit is zero (Unit 8.7)

Textbook authors feel obliged – for ideological reasons? – to prove that, if there is “free entry”, profits must disappear, at least “in the long run”.[9] The *CORE e-Book* is not an exception. In unit 8.4 it imagines a “bread market” in “a town” where there are 50 “bakeries”, each producing 100 “loaves” at equilibrium. Each makes a profit, which is suddenly called “rent” in Unit 8.7, where “entry” of new bakeries, attracted by this “rent”, provokes a fall in the price, until it is equal to the average cost. Then, the profit (“rent”) is zero and,

> “we can deduce that at this price [equal to average cost] the quantity of bread sold will be 6,500 loaves. So the number of bakeries in the market must be 6,500/66 = 98”.

Sorry, but the ratio is not 98 but … 98.48!

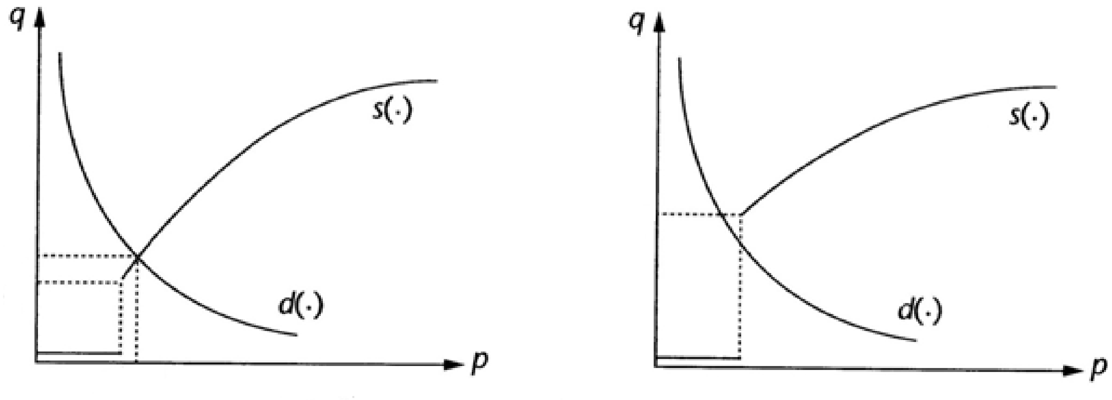
[9] In the Arrow-Debreu model, household *I* receives the θ_{ij} part of enterprise *j* profit, where θ_{ij} is a given parameter included in the *i*’s “initial endowment”. Profits can be positive, even in “the long run”, whatever it means.

Why should we insist on such a tiny difference? Well, because of these 0.48 units, the *long run equilibrium doesn't exist*. The consequence of "free entry" is (eternal) instability: when there are 98 bakeries, there is still the possibility of making a tiny "rent". So, at least one new bakery will "enter", provoking a fall of the price under the average cost: everybody's profits are then negative! Some bakeries, or maybe all of them, will "exit". The price will then rise, with a new possibility of "rent", until the number of bakeries is equal to 98 or more, provoking new exits, and so on, indefinitely.

Mas-Colell, Whinston and Green call it "the integer problem": the "long run" equilibrium exists only when the ratio between demand and price is an integer – that is, never (the probability is zero).

"Free entry" => instability (firms "enter" and "exist" indefinitely).

Figure 4



98 Bakeries. Equilibrium with profit. 99 Bakeries. No equilibrium.

A final remark

There are a lot of interesting things in the *CORE e-Book* – those which concern the real world, not the imaginary world of the theory (i.e. "farmer Angela", "producer Alexei", fanciful "bakeries", cars factories, "choccos", etc.). We wonder if the book would still be viable if all these absurdities are eliminated, the marginal approach being replaced by some kind of mark-up price theory, for example – without intending to desperately "prove" that markets are "efficient" (Pareto optimal), at least in the "ideal", or "perfect", case.

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Rethinking Piketty: critique of the critiques (a work in progress)

Suzanne Helburn [University of Colorado at Denver, USA]

In *Capital in the 21st Century* and companion works, Piketty and his colleagues have clearly embarked on an important new research program, reviving classical concerns about the course of capitalist development. I was intrigued by the title, obviously reminiscent of Marx. How was the author going to study the dynamics of capital and capitalist development for the 21st century and what of substance would he reveal?

Like many others I was extraordinarily impressed by the book. Piketty demonstrates in statistical detail the course of capital accumulation and increasing income and wealth concentration among the very rich in developed capitalist economies since the 18th century and into the 21st century, while designating the period from 1914-1980 an aberration. What does the author argue that we have to fear or look forward to about capital in the 21st century? And how is Piketty's work related to that of Marx?

Studying the book reviews I was reminded that economists assess the work of others based on their own discipline training and ideological world view. In this case neoclassical economists tended to concentrate on and critique Piketty's definition of capital which he equates with wealth, his use of neoclassical growth models, Solow's in particular, and the unwarranted assumption that the elasticity of substitution of capital for labor that his analysis depends on is greater than 1. Marxists tended to take issue with Piketty's inadequate definition of capital and his misinterpretation of Marxian analysis. Keynesians and Institutionalists were enthusiastic about his work and his conclusions about the dangerous concentration of wealth and income which has long concerned them, but critical of Piketty's policy recommendations.

Given his focus on income and wealth distribution, it is appropriate for Piketty to define capital as the market value of "the sum total of nonhuman assets that can be owned and exchanged in a market" (p. 46). These are assets *private individuals* can own and sell. Connecting with the classical tradition of Smith, Ricardo and Marx, Piketty traces capitalist development and distribution as it has evolved into the 21st century. And there is more than a little that Piketty's work shares with that of Marx. However, the fact that Piketty seems to tie his theoretical analysis to neoclassical growth theory diverts attention and adds confusion. Of course, his mainstream orientation allowed him to reach a wide audience of economists and lay readers. However, his disregard of Marx's analysis of capital, as we shall see, weakens his analysis of the nature and dynamics of capital in the 21st century.

In this paper I concentrate on a few reviews I found most helpful in assessing the importance and limitations of *Capital in the 21st Century*. These authors share my gratitude to Piketty and colleagues for their work, but also my concerns. And I relate Piketty's work to arguments from Marx on capitalist development.

Branko Milanovic presents Piketty's theoretical argument in his superb and revealing review in *the Journal of Economic Literature* as a return to the method of the classics of building "a simple machine that captures the key features of a capitalist economy".[1] In this case Piketty employs one definitional relationship, two fundamental economic laws of capitalism, and one inequality relationship:

- The capital/income ratio K/Y = β links the stock of capital K (all forms of explicit or implicit return bearing assets) to the flow of income Y.
- The process of increasing β, over time characterizes all advanced capitalist economies.
- The significance of increasing β becomes clear when combined with the *first fundamental law of capitalism,* capital's share, α = rβ where r = rate of return on capital. In contrast to other reviewers Milanovic argues "we can consider this definition a "law" of capitalism in the sense that in a private capital economy the returns on capital are income of capital owners." If, for instance, capital is state owned then capital's share in national income has no influence on personal income distribution, so the "law" defines the distribution of income in terms of shares going to capital and labor.
- The inequality r>g indicates that capital's share of national income increases over time.
- This plus an increasing β over time drives the share of capital income arbitrarily close to one. (Milanovic describes the positive feedback loop at work. As capital's share increases and owners save some of their income, they reinvest more. "The increased saving in turn makes the growth rate of capital exceed further the growth rate of national income and increases β. Thus the higher β implies an increase in capital's share that leads to a higher β, etc., etc.)
- This process produces a changing functional distribution of income between capital and labor in favor of capital, and since capital income is more concentrated than income from labor, personal income distribution becomes more and more unequal.
- The *second fundamental law* gives the long-run equilibrium condition. Taken from basic growth theory, β= K/Y = s/g, where s = percent of annual income saved and g = annual growth rate of Y. (In response to criticism levied at Piketty, Milanovic notes, "the second law plays a rather subsidiary role in Piketty's analysis and he resorts to it only when he considers where eventually β may settle in some (perhaps mythical) steady state. … If g declines close to 0, then in the long run β approaches infinity" and "however small r, the share of capital in total income will be high." p. 522)
- Piketty considers low growth inevitable once countries achieve a high level of income, reach the technological frontier and experience slow population growth.
- The "stickiness" of r is the weak point in Piketty's argument, which Piketty buttresses, arguing that increasing financial sophistication and international competition for capital will help keep r>g. Nevertheless, Piketty's long-run prediction rests on an empirical rather than a theoretical argument.

Milanovic disregards the debate by many mainstream economists over Piketty's definition of capital by basically ignoring Piketty's introduction of growth theory in chapters 5 and 6 where capital necessarily represents a factor of production. Piketty, Milanovic concludes, has given us a framework that forces us to think of recent increases in income and wealth

[1] Branko Milanovic, "The Return of 'Patrimonial Capitalism': A Review of Thomas Piketty's *Capital in the Twenty-first Century*". *Journal of Economic Literature* 2014, 52(2), 519-34.

concentration, not as a diversion from normal convergence of the distribution of income and wealth due to diffusion of knowledge and skills, "but to see rising inequality as part of a changing nature of modern capitalism" (p. 533).

Specifically, Piketty states "In the long run the β or K/Y is related in a *simple and transparent* way to the savings rate *s* and to the growth rate *g* according to the following formula β = *s/g" that* "reflects an obvious but important point: a country that saves a lot and grows slowly accumulates an enormous stock of capital (relative to its income) which can in turn have a significant effect on the social structure and the distribution of wealth" (p. 166).

Fundamentally, it is important to recognize that Piketty's accomplishment is empirical. He has amassed the data necessary to make his argument, buttressed by useful descriptive detail. He makes no theoretical claims. Given all the criticism levelled by mainstream economists on this point, it is useful to note that in the 700 pages of the book, only two-and-a-half pages in chapter 6 are devoted to "growth theory".

Edward Fullbrook, in "Capital and Capital: the Second Most Fundamental Confusion,"[2] distinguishes between capital as an *object* or some set of objects (which he calls capital-1), and some *property* of the objects, in this case their *value (*which he calls capital-2*)*. Piketty's "national wealth" or "national capital", "the total market value of everything owned by the residents and government of a given country at a given point in time, provided that it can be traded on some market" is capital-2. Similarly, income, can be considered a set of objects or a flow of value over time. Fullbrook designates the objects as income-1 and the flow of value as income-2.

He notes that *market-value* represents relations between a pair of objects, it is a relative phenomenon although this is not clear at the micro level of consumerism or business where we can speak of individual prices, and can add them up, *et cetera*. However, market-value as a relative phenomenon becomes clear when one considers market values at the meso level, as with inflation, or in considering distributions of wealth and income. Then, market value's Boolean structure comes "strategically into play." Fullbrook states:

> "Piketty's capital-2/income-2 ratio, β, is one way of comparing two quantities of market-value. But given that market-values only exist relative to other market-values, these two quantities, capital-2 and income-2, when considered together have a special metrical property that remains hidden when they are expressed as a ratio. Capital-2 + income-2 … comprise *all* the market value that exists in the economy. Therefore, metrically capital-2 + income-2 is the equivalent of certainty with respect to theoretical probability. As is the convention with probability's certain event, we can assign (capital-2 + income-2) or K + Y the value of 1. … For example, if β = 8, then K + Y = 8/9 + 1/9 = 1."
>
> "K + Y = 1 is the fundamental relation that underlies the market economy. [Fullbrook notes that the Bo*olean discovery reveals that value and distribution are the same thing.*] It is the relation that intriguingly lies behind Piketty's data but which he, blinded by Euclidian preconceptions, fails to unveil. In the

[2] Edward Fullbrook, "Capital and capital: The second Most Fundamental Confusion," *Real-World Economics Review*, #69.

> Piketty context, the most profound revelation of this unveiling is that *any increase in the market-value of either K or Y decreases by an equal amount the market-value of the other and vice versa.* That is why it is a profound error to speak as does Piketty, of accumulating or of the macro accumulation of capital-2, i.e. of K… It is not an accumulation that takes place when capital-2 increases, but rather an appropriation…"

In discussing the saving rate, **s**, and growth rate, **r**, Fullbrook points out that Piketty's "***s*** refers to a *portion* of the *market-value* of a country's output. His **g** on the other hand refers to *two levels of real output* compared on the basis of what their market-values would be if the market-value of money remained constant." If all the saving goes into investing in existing assets there will be asset inflation and **K/Y** will increase. If the saving goes into investing in new real assets, in new capital-1, there would probably be a decrease in **K/Y** and an increase in **g**. In other words, **g**, **s**, and **β**= **K/Y** are interconnected.

Fullbrook comments, "…it's nice to increase the size of the pie, but some people find it even nicer to increase the size of their slice." Fullbrook gives expression to my own hunches about the long-run increase in β, particularly in recent times of relatively slow growth. How do owners of capital (wealth) find profitable outlets for their savings and does this explain the increasing percent the financial sector takes up in the U.S. economy in the past few decades? After all, owners of capital who are rentiers seek to maximize their *monetary* return and this may have little to do with investing in productive capital. Fullbrook ends his paper on what he labels Plutonomy Economics: for instance, strategies that involve manipulating the capital-2 inflation rate relative to the income-2 inflation rate. In the aftermath of the 2008 financial crisis "unprecedented extensions of credit were almost exclusively directed toward the inflation of capital-2 rather than toward income-2 or toward increasing capital-1 or income-1." U.S. policy favored monetary policy over fiscal policy expansion of aggregate demand.

It is useful, now, to consider how Marx provides insight to this discussion of *Capital in the 21st century* through his analysis of the dynamics of capital over (and in) time, and in particular, the development of the special sphere of financial capital, a major concern for Piketty. Marx calls *capital* self-valorizing value, the creation of value by value (or capitalization). In Volume II of *Capital* Marx describes the circulation of commodities as capital through his reproduction schemes to identify the preconditions of growth in capitalism. Growth means accumulation of capital, which is partial capitalization of profit into additional capital through the control of the production process and the surplus value produced.

Marx describes the circuit of capital for an individual owner of capital – it's metamorphosis from money capital that the capitalist invests in productive capital and labor that is transformed in the process of production into commodity capital that must be further transformed through market transactions back into ***more*** money, the realization of the surplus value embodied in the commodities created by labor in production. The time element in the valorization process is crucial, "Capital can be considered only as motion, not as a thing at rest." The rate of return for the capitalist depends on his control of the production and distribution processes and in particular, the turnover time, the speed of production and circulation of capital. This involves increasing exploitation of labor through the creation of both absolute and relative surplus value.

Productive capital represents the commodities and labor time used in the productive process. Circulation capital represents capital advanced unproductively, the expenditure of necessary social costs that do not create value and surplus value, but costs that originate in the change in form of value.

Marx emphasizes that capitalist development depends on increasing competition that decreases rates of return in developed markets requiring expansion into newer more profitable sectors and regions. This is the short-run aspect of the tendency for a falling rate of return as part of capitalist competition, a process involving capitalist crises of demand (which destroy some capital and lead to both centralization and concentration of capital), but also eventuating in a world market promoted by and promoting a speed up in the circulation of capital, what Marx described as the eventual "annihilation of space by time".

In Volume III Marx gives more detail about how different sectors of the ruling class participate in the total distribution of the total mass of surplus-value produced by productive wage labor.

> "The purely technical movements that money undergoes in the circulation process of industrial capital, and… commercial capital… these movements, having acquired autonomy as the function of a special capital which practices them, and them alone, as its specific operations, transform this capital into money-dealing capital. … A definite part of the total capital now separates off and becomes autonomous in the form of money capital, its capitalist function consisting exclusively in that it performs these operations for the entire class of industrial and commercial capitalists" (ch. 19, p. 431).

Activity in this financial sector is part of costs of circulation that do not create value. Marx quotes a banker in Yorkshire describing the great and possibly dangerous expansion of bills of exchange: "It is impossible to decide what part arises out of *real bona fide* transactions, such as actual bargain and sale, or what part is fictitious and mere accommodation paper… in order to raise a fictitious capital, by creating so much currency." Marx notes that the accumulation of money capital "is effected by various people who have feathered their nests and *withdrawn from the reproductive process*. The greater the profits made in the course of the industrial cycle, the more of these people there are." As material wealth increases "the class of money capitalists grows. On the one hand there is an increase in the number and wealth of the retired capitalists, the rentiers; and secondly the credit system must be further developed, which means an increase in the number of bankers, money-lenders, financiers, etc." (p. 642-3).

Piketty intentionally defines national capital or national wealth as the total market value of everything owned by the residents and government at a given point in time provided it can be traded on some market – the sum total of nonfinancial assets and financial assets. What roles does this wealth play, *visa vis productive capital* as the 21st century progresses? I believe Piketty gets side-tracked by trying to make the connection using neoclassical growth theory. But, clearly, Piketty is interested in the concentration of income and wealth among the very rich, how the distribution of income might affect 21st century capitalism and democracy as we know it. To me the most insightful comments come from writers thoroughly familiar with Marx who have a clearer understanding of the fundamentals of capitalism. I've chosen two in particular: Hans Despain, and Benjamin Kunkel to suggest the importance of broadening economics discourse to include dissenting traditions not usually taken seriously here in the U.S.

Hans Despain[3] praises Piketty for demonstrating an enormously important point – there are no economic laws determining the distribution of income and wealth. For Despain, the big problem in Piketty is an undeveloped social theory and normative philosophy which, he comments, leads to anemic policy recommendations.

Despain points out that the book is not directly about capital in the Marxian sense. Rather it concerns the accumulation of wealth and financial assets, how this wealth becomes concentrated in fewer hands and is finally passed on through inheritance. Nonetheless, he recognizes that indirectly the book *is* about (Marxian) capital. When Piketty assumes a rate or return on capital, he is simply assuming what Marx called in Volume Two of *Capital* "value in process". Thus, the book is tacitly about the commodification of the ability to exploit and create passive income streams through financial markets."

While Piketty's strictly monetary and financial definition of capital is useful in demonstrating financial flows through history, Despain argues that it fails to "capture the deeper issues involved for "social being". Marx's notion of capital as *value* captures the moral, philosophical, psychological, political economic aspects as well. "Capital is a social relationship that establishes the *relations of production*. Piketty's definition leaves his argument in the sphere of distribution. As a consequence, Piketty's policy recommendations remain geared toward issues of *re*distribution, with no attention to productive relations."

Interestingly, Despain points out that Piketty never addresses the "principal-agent" problem of how capitalists get workers and managers to carry out capitals interests. He does assume that wealth distribution is determined by the relative power of agents and other institutional forces, but he does not say what determines the rate of return on capital. Despain notes that increases in productivity will be passed on to the managerial class if the working class does not challenge the relations of production.

In discussing the *rentier class* today Despain argues that the key is the notion of *value in process*. Today, instead of making long-term loans, production relations are so stable that people with money hoards buy and sell financial assets. "For the buying and selling of financial assets to replace interest-bearing capital, the money holder must be very secure in the ability of functioning capitalists to exploit at will. I propose they can. As such Piketty's assumption of a 4-5% return on (*abstract*) capital is justified on the Marxian notion of *value-in-process*. Moreover, this helps explain the activity of central banks as institutions of mass *redistribution* (p. 550). As such there is urgency for all social scientists and citizens to begin to better understand money as a social institution and a power relation (p. 577). Note that in this discussion Despain does not speak of *saving* out of income but of *money hoards*.

Despain reflects on the rise of supermanagers, particularly in the financial sector, paid to keep the sector highly lucrative, noting that their earnings may in fact reflect their marginal productivity, their ability to maintain high rates of surplus value for their clients. And he remarks that the expansion of a large middle-patrimonial class of 20-50% of the population serves an important function in justifying increasingly high concentrations of wealth by giving "the appearance of meritocracy as the ideological justification of inequality" because this wealth is achieved mainly through labor contribution to society.

[3] Hans G. Despain, Review of *Capital in the Twenty-First Century*, *Marx & Philosophy Review of Books,* http://marxand philosophy.org.uk/reviewofbooks/reviews/2014/1005.

Despain concludes, Piketty's "theory is highly incomplete, but nevertheless urgently important. His final plea is not policy oriented but to "all citizens" to "take a serious interest in money, its measurement, the facts surrounding it and its history" (p. 577). We need to begin to understand how the financial classes can "profit without producing" … and how previous accumulated wealth "devours the future".

Benjamin Kunkel, a novelist and public intellectual, provides a thoughtful lay person's reaction to the book, and on what he calls the twin crises we are facing today: in the economics discipline and in the economy where the maldistribution of income and wealth is so visible in all aspects of society.[4] Quoting Kunkel is useful as a way of hearing what articulate wordsmiths are saying about economists in public.

Kunkel praises Piketty as one of the few economists "eager to revive the old-fashioned spirit of political economy". He notes the migration of the field from political economy in the 19th century to the discipline of economics in the 20th dominated by the marginalist revolution and a "stricter methodological charter." "The marginalist picture of the free market as the vehicle for maximizing everyone's utility – better known around the house as satisfaction or happiness – has become the vision retailed by politicians, and the notion of economic life as a matter of individuals harmonizing their preferences, as opposed to classes wrestling for control of shop floor and government, has filtered into common sense."

Kunkel considers the biggest difference between marginalists and political economists concerns the question of value. "The substantive dispute over value also implied methodological differences. To argue value derives from labour is ultimately to consider the successive labours that make up history; conflict and change emerge as the essence of economics as they are of history. To focus instead on the instantaneous balance of one person's wish to sell with another's wish to buy is to abstract a moment of harmony from the ongoing clangour and flux." Piketty is caught in a dilemma, he wants to recover the scope of political economy without giving up the quantitative rigor of contemporary economics. However, Konkel observes, "he has hitched his orthodox training to a Marxian research program". This means that economics can't be explained in economic terms alone. And, in fact Piketty's book, much Like Keynes' *General Theory*, is intended to influence both the profession and the intelligent lay public with the goal of promoting political reform.

Kunkel summarizes Piketty's argument, concluding that the extremes of inequality existing in the 19th century are redeveloping and reflect the capitalist norm driven by the tendency for the rate of return to exceed the rate of growth. "…the liability of r to exceed g generally holds in societies obedient to this law. Capital incomes will account for an ever greater share of income while receipts to labour dwindle by comparison."

Kunkel identifies the major weakness of Piketty's analysis, the assumption that r and g are independent of each other, crediting both Marx and Keynes who argued that too much money in the hands of the rich can curtail demand for both consumer goods and capital goods and thus growth. Kunkel invokes Marx's "coercive laws of competition" in which capitalists compete for money profits which are then profitably converted into ever larger masses of

[4] Benjamin Kunkel, "Paupers and Richlings," *London Review of Books,* Vol. 36, #13, 3 July 2014, pp. 17-20. Kunkel, a graduate of Harvard and Columbia, published the novel, Indecision in 2005 to considerable acclaim, has since written the play, *Buzz*, and most recently published a collection of essays, *Utopia or Bust*. He is part of a youngish set of left-leaning intellectuals.

productive capital, "The systematic imperatives of satisfactory profits and endless accumulation may in the end be at odds."

Kunkel concludes that Piketty's "…concept of the rate of return on wealth may be too generic to ground any distinctive laws of capitalism. No theory of capitalist dynamics can do without the implacable logic of profitability and its effect on the interaction of distribution and production." Piketty promotes r>g to the central contradiction of capitalism, but Kunkel points out that it is not, in fact, a contradiction, since for Piketty this tendency could go on indefinitely, threatening democracy but not capitalism. Marx, by contrast proposes a genuine contradiction, a mechanism specific to capitalism in "the drive for profits through the exploitation of wage labor". Kunkel notes that capitalism can dispense with democracy more easily than with profits.

To conclude, clearly, Piketty has thrown down the gauntlet to the profession. We have a responsibility to study capitalism in the 21st century – to inform the public and public policy discourse. I doubt that this can be done responsibly without attention to Marxian insights.

The key problematic to Piketty's book is that implicitly Piketty should be arguing that there is no steady state toward which capitalist economies are moving, something Marx argued. The rate of return on capital, the saving rate, and the capital/output ratio are interdependent even though r does seem to be relatively stable over time. A key element in 21st century capitalism is rentier behavior of "retired capitalists" and the rich, including us in the middle patrimonial class who are not generally motivated to maximize growth, just our own wealth. Realized profits are not automatically reinvested to expand productive capacity. Instead some falls out of "capital as process" involved in expanded reproduction, and becomes money capital in the circulation process and generates fictitious capital. Increasing wealth disparities are *inherent* in capitalism. Capital in the 21st century seems to be characterized by continued globalization of capital through exploitation of new labor pools and the expansion of money capital that provides new sources of riches for the rentier class. This expansion of money capital might also explain the declining rate of growth in developed capitalist economies. Are we witnessing to some extent the euthanasia of the entrepreneur who produces real output?

Piketty's argument makes sense when neoclassical growth theory is jettisoned and some version of Marx's is substituted. This is just my hunch. But it seems reasonable when one recognizes the enormous growth of the financial sector in the U.S. economy – since 1948 the Finance, Insurance, and Real Estate (FIRE) sector has grown from 10% of GDP to more than 20%. A recent article, titled "Long Live the Reemergence of the FIRE Economy," reports that over the past decade GDP increased by 5.2 trillion dollars while the total credit market debt owed is up 24.5 trillion.[5] Meanwhile production jobs and increasingly service jobs are being offshored by U.S. companies eager to exploit labor pools earning lower wages and laboring under more unfavorable working conditions. And Americans suffering most from these changing work dynamics have a basic understanding of the problem, witness this year's presidential primaries focusing on Trump and Bernie.

What this seems to entail for the 21st century, as Piketty's data suggests, is more of the same. There is still a large untapped labor force in the world to exploit. Political movements or crises may and probably will intervene. Limits on natural resources or arable land as global warming

[5] Mybudget360.com. www.mybudget360.com/fire-economy-comes-back-finance-profits-gdp-total-credit-market-debt-at-peak/ [9.06.2016]

heats up should continue to force more migration and political conflict. It's going to be a messy 21st century; we're already experiencing it. Economics needs a sabbatical to think, explore, and retool. I like Piketty's discovery of r>g. The profession should encourage diversity in world views, welcome the development of empirically based theory, and be less tied to yesterday's growth theories demonstrating a path to a steady state in the long run, where, as one famous economist pointed out, we are all dead.

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A note on the aggregated production function and the accounting identity

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Abstract
In this note, we give a more general, and drastically simpler, proof of the "Shaikh's relation" between the accounting identity and the Cobb-Douglas function, when the shares of the factors of production are constant. We also show that it is possible, with our simpler approach, to give a first order approximation of the error made when the shares of the factors vary slightly.
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In a recent review of Jesus Felipe and McCombie's important and excellent book, *The Aggregate Production Function and the Measurement of Technical Change: Not Even wrong*[74], Bernard Guerrien and Ozgur Gun[75] remind us how decisive was Shaikh's criticism of Solow's famous paper "Technical Change and the Aggregate Production Function"[76]. Shaikh proves that Solow's, and others, "good results" – closely fitting data – can be explained by an accounting identity, completed by a "stylized fact" (the shares of the factors are almost constant in the data examined)[77].

The aim of our note is to give a more general, and drastically simpler, proof of the relation between the accounting identity and the Cobb-Douglas function, when the shares of the factors of production are constant. We also show that it is possible, with our simpler approach, to give an approximation of the error made when the shares of the factors vary slightly.

A purely algebraic proof of Shaikh's result

Shaikh's differential and integral reasoning is unquestionable as far as Solow's article is concerned. In a different setting it is somewhat strange to introduce a continuous parameter and to differentiate with respect to it, only to integrate back after a small rearrangement of terms.

It is much simpler to proceed directly, algebraically, in the following way.

Let the six real numbers V, L, J, w, r and a satisfy the two relations:

(1) $V \equiv wL+rJ$ (accounting identity)

(2) $wL = aV$ (stylized fact).

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[74] Felipe and McCombie (2013)
[75] Guerrien and Gun (2015) , http://www.paecon.net/PAEReview/issue73/GuerrienGun73.pdf
[76] Solow (1957)
[77] Shaikh (1974)

The output, in value, V is equal to the payroll wL plus the interests served rJ, where J is the value of capital. The number a gives the part of "labour" in total revenue ($a = wL/V$). It follows from (1) and (2) that the part of "capital" rJ/V is $1 – a$.

Now, the term $(wL)^{b}(rJ)^{1-b}$, with any b, can be developed in two different ways:

$$(wL)^b (rJ)^{1-b} = w^b L^b r^{1-b} J^{1-b} \quad \text{(evident)}$$

and

$$(wL)^b (rJ)^{1-b} = (aV)^b [(1-a)V]^{1-b} \quad (\text{as } wL = aV \text{ and } rJ = (1-a)V)$$

$$= a^b (1-a)^{b-1} V$$

Equating the two forms of $(wL)^b (rJ)^{1-b}$, we obtain:

$$V = a^{-b}(1-a)^{b-1} w^b r^{1-b} L^b J^{1-b}$$

$$= A\, L^b J^{1-b}.$$

Then the relation:

(3) $$V = a^{-b}(1-a)^{b-1} w^b r^{1-b} L^b J^{1-b}$$

holds true for every real number b.

Two remarks before we go on.

Remark 1. This result is more general than Shaikh's, as it is valid for *every real number b* (and not only for the factor's share a). It can be deduced noting that for *any* homogeneous function $F(\cdot)$ of degree 1, we have:

$$F(wL, rJ) = F(aV, (1-a)V) = V\cdot F(a, (1-a)),$$

and then:

$$V = [F(a, (1-a))]^{-1}\cdot F(wL, rJ).$$

In Shaikh's case: $F(x_1, x_2) = x_1^{b} x_2^{1-b}$.

Remark 2 (geometrical proof). Consider V, L, and J as coordinates in a three dimensional space. The accounting identity $V \equiv wL + rJ$ restricts the data to a two dimensional plane. If the ratio wL/V is fixed, then they are further restricted to a half straight line from the origin (taking into account that all the numbers involved are positive). But on such a line, all homogeneous functions of degree 1 are equal to within a constant multiplicative factor.

An approximation of the error when the shares of the factors vary slightly

In order to get rid of the complications due to the factors w and r, we set:
$\pi = rJ$ (interest served) $W = wL$ (payroll) $V = \pi + W$ (product) .

Suppose we have a set of data (W_i, π_i) and we want to approximate them by a Cobb-Douglas function:

$$V^*_i = C\, W_i^b \pi_i^{1-b}.$$

Setting:

$$a_i = W_i/V_i,$$

we get from (3) :

$$V_i = B(a_i) W_i^b \pi_i^{1-b}$$

where

$$B(a) = a^{-b}(1-a)^{b-1}$$

So, given the relation (1), we choose

$$C = B(b),$$

and the relative error

$$(V_i - V^*_i)/V^*_i = (B(a_i)W_i^b\pi_i^{1-b} - CW_i^b\pi_i^{1-b})/CW_i^b\pi_i^{1-b}$$

is:

$$[B(a_i) - B(b)]/B(b)$$

.

Differentiating $B(\cdot)$, we get:

$$B'(a) = \left(-\frac{b}{a} + \frac{1-b}{1-a}\right)B(a),$$

which implies the important result:

$$B'(b) = 0.$$

Consequently, given the Taylor expansion:

$$B(a_i) - B(b) = (a_i - b)B'(b) + (a_i - b)^2 B''(b)/2 + \ldots,$$

the relative error is of second order with respect to $a_i - b$.

It is easy to compute $B''(s)$ in order to find the principal part of the error. In the case of the American industry from 1909 to 1949, studied by Solow and Shaikh, the relative error never exceeds 1%.

Let us insist, as Shaikh does, that all *this is sheer mathematics* and does not involve any economic assumption.

It is a pleasure to thank Bernard Guerrien for his interest in this note and his help in editing it.

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Don’t ask economists, just listen to Sargent and ask the people

Peter Radford [USA]

Let’s have some fun.

Economics deserves to be a laughingstock. Really, it does. No one can take it seriously. I have tried. The effort isn’t worth it. This doesn’t mean that there aren’t a ton of interesting things littered throughout the odd landscape of economics, it’s just that most of them are not particularly unique to economics, and that more than a few derive their interest from their absurdity.

Economics is a barrel of laughs.

Truly it is.

Lars Syll has always has fun illustrating just how ridiculous economics has become. He lampoons the leading lights of the subject by directing their own words back at them. By stripping them of their self-glorious righteousness and peculiarly restricted narrowness he reduces me to fits of laughter every time he fishes a juicy quote from one of their murky pools. Take this from Thomas Sargent:

> “The people inside the model have much more knowledge about the system they are operating in than is available to the economist or econometrician who is using the model to try to understand their behavior. In particular, an econometrician faces the problem of estimating probability distributions and laws of motion that the agents in the model are assumed to know. Further the formal estimation and inference procedures of rational expectations econometricians assumes that the agents in the model already know many of the objects the econometrician is estimating.”

Now stop laughing.

This is serious. Or, at least, I assume Sargent is being serious.

Think about this for a minute. So distant has reality become for Sargent and his ilk that the obviously ludicrous nature of that paragraph is probably lost on him. So obsessed are economists like Sargent with their models – I was tempted to say trivial, but I won’t – and their need to make markets into perfectly operating, wondrous, all-conquering, all-knowing, universally true, simultaneously subjective and objective, solution finding collections of individuals who do not act collectively but yet produce collective results that never err (did I miss something?) they have to populate those models of markets with people who know economics better than any economists do.

Not only that, but Sargent says that the people in the models already know much of what economists are trying to find out.

So why don't economists just ask the people? I mean isn't that obvious? It would save a lot of trouble, plus economic forecasting would never be wrong. If economists are so ignorant of the economy whilst the people in their models are so knowledgeable, why are we relying on economists to study the economy? The people already know everything. Just ask. Really. Because I think that's what Sargent is saying.

Don't get it yet? Then take a second look at what Sargent said. Economists have had to assume that people know everything in order to make their vaunted markets appear to be perfect. That's their goal after all. This implies, presumably, that Sargent's model economies don't have economists in them because he admits economists are still searching for the knowledge everyone else in the models already have, and only people who know everything get to be part of an economic model.

So let's get this straight: according to Sargent the only people who don't know about the economy are economists. Right?

You know what they say about Emperors and clothes. Take something for that headache and move on.

It is laughable. It really is. We need not engage with economics, we need to ridicule it.

Then there's the matter of productive and unproductive labor. What on earth is this? It's an issue, as David Ruccio tells us, that has a long history inside the economics profession. Some of the big names of the past got all twisted when they wanted to sort out what was and what wasn't productive. Even Adam Smith and Karl Marx got it wrong. Of course back then the economy was very different: it was still heavily agricultural and industry was novel. It was easy to critique or misunderstand industry when it was relatively small scale and society was still learning how to deal with it.

And everyone had an opinion on what was productive. Usually the answer was ideologically driven – what's new in economics? What you want to argue is rotten is usually what you "discovered" was unproductive. Alternatively, what you want to be central to your theory is always productive. Naturally. Odd how that works in a science isn't it?

Anyway the entire question leaves me cold, especially since my background in management and banking condemns me to be doubly unproductive. Most economists just have no idea about what makes a business work. They are stubbornly resistant to any understanding of organization. This allows them to pursue their ideological holy grails with impunity. But it means that their economic landscapes are, to be polite, ridiculous. Instead of a robust middle layer of process and organization where production takes place, economists are stuck in a flat land of two layers: the individual and the whole system. There are no complex components, and businesses, such as they exist at all in economics, are reduced to murky black boxes of no interest. Really, most economists have no idea about business, but they talk as if they do.

Indeed because of the centrality of business in modern economies, economists then go on to opine about the merits and demerits of what goes on in those black boxes as if they know.

One group is, for instance, quite happy denouncing management as unproductive without having an inkling about what management is. They have, it seems jumped to a conclusion that fits their worldview, without disturbing themselves by wondering whether reality reflects that worldview. Management must be unproductive in this view because it doesn't make anything. As if production was all about making things, and procurement, logistics, organization, negotiation, financing, accounting, planning, design, and marketing were all cancerous afterthoughts weighing down on the production line. And, yes, I know those things are all costs, but try running a large business without them. See how far you get.

Of course there are other economists who think they have the perfect answer, which is to say they make a different set of assumptions that conform to their different worldview. This second group doesn't deride management as unproductive, it simply argues that management earns whatever its marginal product is. Which is tautological, because the only evidence they have of what management is worth is what management pays itself. So they really don't have a theory at all. But they sound like they do. Which is what matters in economics.

The fog of ideological preference can get awfully thick, nay impenetrable, sometimes.

Then again any economist arguing that you can separate politics and economics is already taking an ideological position and inviting the scorn of those of us genuinely interested in how economies actually work.

One hint for the non-economists amongst us: generally speaking economies work in ways that professional economics ignores. So don't ask the economists, just listen to Sargent and ask the people.

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RWER Poll 2016
The top ten economics books of the last 100 years

Subscribers to this journal were asked:

"What are the top ten economics books of the past 100 years?"

The poll was open for two weeks in May and over 3,000 economists voted. They could vote for up to ten of the books on the short list of 50 which had been compiled from the nominations submitted by *Real-World Economics Review* readers. People on average voted for five books. Here are the results.

			Number of votes
1.	**John Maynard Keynes**	*General Theory of Employment, Interest and Money* (1936)	1,597
2.	**Karl Polanyi**	*The Great Transformation* (1944)	1,027
3.	**Joseph A. Schumpeter**	*Capitalism, Socialism & Democracy* (1942)	927
4.	**John Kenneth Galbraith**	*The Affluent Society* (1958) [votes]	780
5.	**Hyman Minsky**	*Stabilizing an Unstable Economy* (1986)	731
6.	**Thomas Piketty**	*Capital in the Twenty-First Century* (2014)	687
7.	**Joan Robinson**	*The Accumulation of Capital* (1956)	583
8.	**Michal Kalecki**	*Selected Essays on the Dynamics of the Capitalist Economy* (1971)	582
9.	**Amartya Sen**	*Collective Choice and Social Welfare* (1970)	580
10.	**Piero Sraffa**	*Production of Commodities by Means of Commodities* (1960)	500

From RWER issue no. 36, 24 February 2006

RWER Poll 2006
The greatest twentieth-century economists

Subscribers to this journal were asked:

"Who were the greatest economists of the 20th-Century?"

"Greatest" here means not who most influenced the economics profession or ideology, but rather who most added to our understanding of economic phenomena. Vote for your top five. The economist who is your first choice will be credited with five votes, your second choice with four, your third with three, your fourth with two and your fifth with one. You may vote for fewer than five if you wish. Only subscribers to the *post-autistic economics review* are eligible to vote. The votes of subscribers who submit more than one set of votes will not be counted.

1,249 subscribers voted. The results are as follows:

1. John Maynard Keynes (3,253 votes)
2. Joseph Alois Schumpeter (1,080)
3. John Kenneth Galbraith (904)
4. Amartya Sen (708)
5. Joan Robinson (607)
6. Thorstein Veblen (591)
7. Michal Kalecki (481)
8. Friedrich Hayek (469)
9. Karl Polanyi (456)
10. Piero Sraffa (383)

11. Joseph Stiglitz (333)
12. Kenneth Arrow (320)
13. Milton Friedman (319)
13. Paul Samuelson (319)
15. Paul Sweezy (268)
16. Herman Daly (267)
17. Herbert Simon (250)
18. Ronald Coase (246)
19. Gunnar Myrdal (216)
20. Alfred Marshall (211)

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