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Abstract

The discipline of macro-economics, which was started in the late 1940s, covered in its short history only half of the total phases an actual economy may encounter. The overlooked other-half, however, contained many key determinants of economic growth that have been either taken for granted or conveniently assumed away in traditional economics. Considering this background, the purpose of this paper is to elucidate what was missing in economics all along and what changes are needed to make the profession relevant for the society again. In order to understand how we got from the centuries of economic stagnation to where we are today where economic growth is taken for granted, we need to review certain basic facts about the economy and how it operates.

Keywords

Macroeconomics, economic stagnation, economic growth, stages of economic development.

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<u>The Other Half of Macroeconomics</u>
<u>and the Three Stages of Economic Development</u>

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May 6, 2016

The discipline of macroeconomics, which was started in the late 1940s and based on the assumption that private sector is maximizing profits, covered in its short history only half of the total phases an actual economy may encounter. The overlooked other half, where private sector may be minimizing debt, contained many factors that explain why economies stagnate, why much-touted policies of quantitative easing and zero or even negative interest rates failed to produce expected results. With the lack of economic growth and wage growth becoming a major issue in most advanced 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 markets to predict either the post-2008 Great Recession or the degree of its severity is raising serious credibility issues for the economics profession. The widely varying opinions of these "experts" on how this recession should be overcome, together with the repeated failures of central banks and other policymakers to meet their inflation or growth targets, are making 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 for economic challenges of today.

Human progress is said to have started when civilization sprung up in China, Egypt and Mesopotamia over 5,000 years ago. With the Renaissance, which began in Europe in the 13th century, people accelerated their search for both a better understanding of the physical world and better government. But for centuries that progress affected only those few who had enough to eat and time to think about 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 in his well-known book *Capital in the 21st Century* indicated that economic growth in those centuries averaged only 0.1 percent per year[1]—basically a standstill. In order 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: someone's expenditure is someone else's income

As all readers are aware, someone's expenditure is someone else's income. It is this unalterable linkage between the expenditures and incomes of millions of thinking households and businesses that makes the study of economy both interesting and unique. More specifically, it means that at a national level, if someone is saving money, someone else must be borrowing and spending those funds to keep the economy running. If everybody tries to save and no one is borrowing, all of the saved funds will leak out of the economy's income stream, resulting in less and less income for everybody.

For example, if a person with an income of $1,000 decides to spend $900 and save $100, the $900 that is spent is already someone else's income, which means it is already circulating in the economy. Typically, the $100 that he saved would be deposited with a financial institution such as a bank, which would then lend it to someone else who could use the money. When that person borrows and spends the $100, the total expenditure in the economy equals $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 sidelines to step forward.

The government also has two types of policy, known as monetary and fiscal

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

policy, to help stabilize the economy by matching private-sector savings and borrowings. Of the two, the most frequently mobilized is the central bank's monetary policy, which involves raising or lowering interest rates to reinforce the matching process. Since a state of too many borrowers is usually associated with a strong economy, a higher policy interest 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 appropriate to avert a recession or deflation.

In fiscal policy, on the other hand, the government itself borrows and spends money to build infrastructure such as highways and 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 of the need for elected representatives to 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 were 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 major possibilities for such a situation to arise. The first possibility arises when private-sector businesses cannot find investment opportunities that would pay for themselves. After all, the private sector will not borrow unless it believes it can pay back the debt with interest. And there is no guarantee that such opportunity is always available.

The second possibility arises when the 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 bursting of a nationwide asset price bubble in which a large part of the private sector participated with borrowed funds. When the bubble bursts, such borrowers are left with huge liabilities but no assets to show for those debts. 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, the total expenditure of the economy drops 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, shrinking the economy even further to $810. The economy will then contract to $730 if borrowers continue to absent themselves. This is what is called a deflationary spiral.

The contractionary process will not continue forever, however. When people have become too poor to save any money, the savings-driven leakages from the income stream are eliminated. For example, if a person can no longer save any money at all from an income of $500, that person will spend the entire $500. If the person receiving that $500 in income is in the same situation, that person will also spend the entire $500. The result is that the economy stabilizes at $500 in what we call a depression.

Keynes called this state of affairs, in which everybody wants to save but is unable to do so because nobody is borrowing, the paradox of thrift. It is a paradox because if everybody tries to save, the net result is that no one is able to save.

Disappearance of borrowers finally recognized after 2008

Until 2008, the economics profession considered this kind of contractionary equilibrium (the world of $500) 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 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[2].

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 as new "must-have" household appliances ranging from washing machines to televisions were invented one after another. With businesses trying to start or expand production of these new products, there were plenty of 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 problem in the 70s because they were worried the public sector would squander the private sector's precious savings on largely inefficient pork-barrel projects.

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

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

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

First, people tend to leverage themselves up in an asset price bubble, believing they can make lots of money quickly. For example, if a house bought entirely with cash goes up in value from $1 million to $1.2 million in a year, the buyer would have increased his assets by 20 percent. But if the same person bought the house with a 10 percent down payment and 90 percent debt, she would have increased an initial investment of $100,000 in down payment to $300,000, for a gain of 200 percent. If the interest rate for borrowing $900,000 for one year was 5 percent, she would have made $200,000 minus the interest cost of $45,000 or $155,000, representing a return of 155 percent. This prospect of easily doubling or tripling one's money during bubbles leads many to leverage themselves up by borrowing more.

When the bubble bursts and asset prices collapse, however, these people are left with huge debts and no assets to show for them. In the above example, if the price of the house falls to $700,000 while the buyer is still carrying a mortgage worth $900,000, the owner would be $200,000 underwater. If she had little in the way of other assets, she would be effectively bankrupt. 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, everything will have to be settled with cash, since no supplier or creditor will want to extend credit to an entity that may seek bankruptcy protection at any time. Many depository institutions such as banks are also prohibited by government regulations from rolling over loans to insolvent borrowers in order to safeguard depositors' money. For households, negative equity means savings they thought they had for retirement or rainy days in the future have disappeared.

Since these are very dangerous conditions for both businesses and households, they will focus on restoring their financial health *regardless of the level of interest rates* until they feel safe again. With their survival at stake, businesses and households are in no position to borrow even if interest rates are brought down to zero. This means these households and businesses are effectively in *debt minimization* mode instead of the usual profit maximization mode.

No name for recession driven by private sector minimizing debt

Although it may come as a huge shock to non-economist readers, the economics profession never considered this type of recession driven by private-sector debt minimization until very recently. Economists simply ignored the whole concept 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 for the private sector to be maximizing profits, two conditions must be met. First, it has to have a clean balance sheet. Second, there must be attractive investment opportunities. By assuming that the private sector is always maximizing profits, economists assumed, mostly unconsciously, that both of the two conditions are met. And those two conditions were largely met for over 50 years—until the bubbles burst in Japan in 1990 and in the West in 2008.

When that happened, a surplus of borrowers not only disappeared suddenly, but many of those borrowers started paying down debt even with record low interest rates. Flow-of-funds data show US private sector has been saving (which includes debt repayments), on average, 5.9% of GDP since the third quarter of 2008, Spain's private sector 7.3%, Ireland's 8.6%, and Portugal's 4.6%. In view of ultra-low interest rates businesses and households should be borrowing massively, but instead they have been saving massively 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. Because that assumption is no longer valid in the post-bubble world, their forecasts for growth and inflation based on those same models and theories have completely missed the mark. Moreover, because the assumption of a profit-maximizing private sector is so fundamental to their theories, most economists failed to suspect that their models are failing because this basic assumption about private-sector behavior is no longer warranted.

The economics profession not only failed to consider the type of recession brought about by a debt-minimizing private sector, but never even had a name for it. That made it difficult for policymakers to discuss this type of recession intelligently until quite recently. This explains why governments have been so bad at handling this type of recession since 1990 in Japan and since 2008 in the West.

Indeed the author had to come up with the name *balance sheet recession* in the late 1990s to describe this ailment, a term that is finally entering the lexicon of economics discourse 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 could actually disappear 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. These issues are discussed starting on page 49.

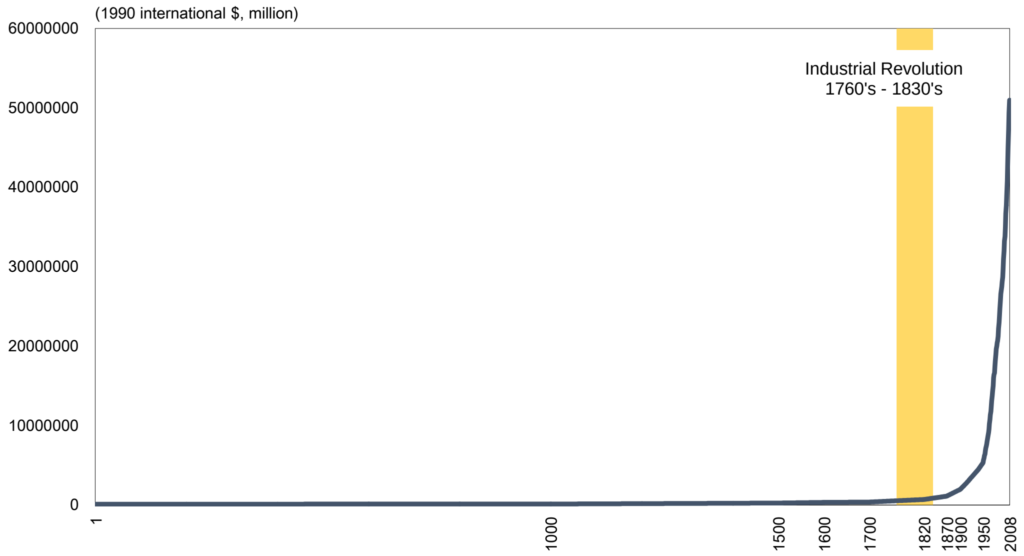
Paradox of Thrift was the norm before industrial revolution

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 indicated in Exhibit 1, economic growth had been negligible for centuries before that. There were probably many who were trying 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.

As indicated above, for the private sector to be maximizing profits, it has to have clean balance sheets 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 near-zero technological innovation before the industrial revolution, which was a technological revolution, there were very few investment projects that would pay 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 carried no debt. Given the dearth of investment opportunities in pre-industrial revolution world, 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.

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

Powerful rulers sometimes borrowed the funds private sector saved 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 borrowed the saved funds (the initial savings of $100 in the above example) and re-injected them into the income stream, generating rapid economic growth. However, unless the project paid for itself, 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, those regimes often did not last as long as some of the monuments they created. And governments are seldom good at selecting investment projects that pay for themselves.

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 killings.

Ironically, the countless wars and resulting destruction did produce investment opportunities in the form of postwar reconstruction. And wars were quite frequent in those days. But without a continuous flow of innovation, investment opportunities soon exhausted themselves and economic growth petered out.

Four Possibilities of Borrowers and Lenders

The discussion above suggests that there are altogether four possibilities regarding the presence 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.

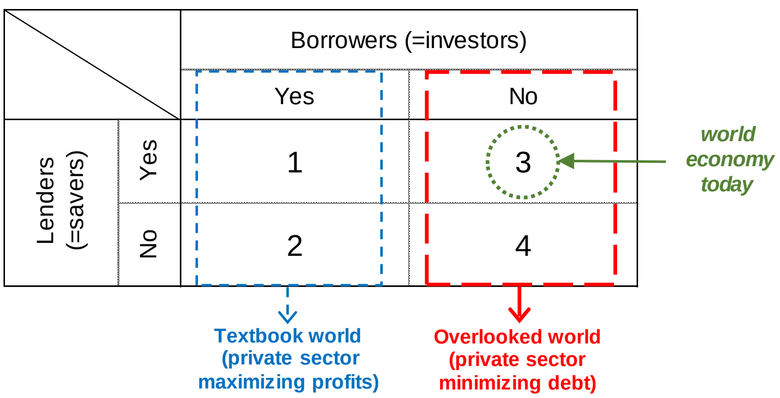
Of the four combinations, only Cases 1 and 2 are covered in traditional economics, which implicitly assumes there are always borrowers as long as real interest rates can be brought low enough. Of these two, only Case 1 requires the minimum of policy intervention—such as slight adjustments to interest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

In Case 2, where there are not enough lenders, the causes 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 caused by a lack of borrowers.)

Financial factors weighing on lenders might include banks having too many non-performing loans (NPLs), which depress their capital ratios and prevent them from lending. This is what is usually called a credit crunch.

When many banks have 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.

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**

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.

The non-developmental causes of an absence 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 lack of borrowers and the other half of macroeconomics

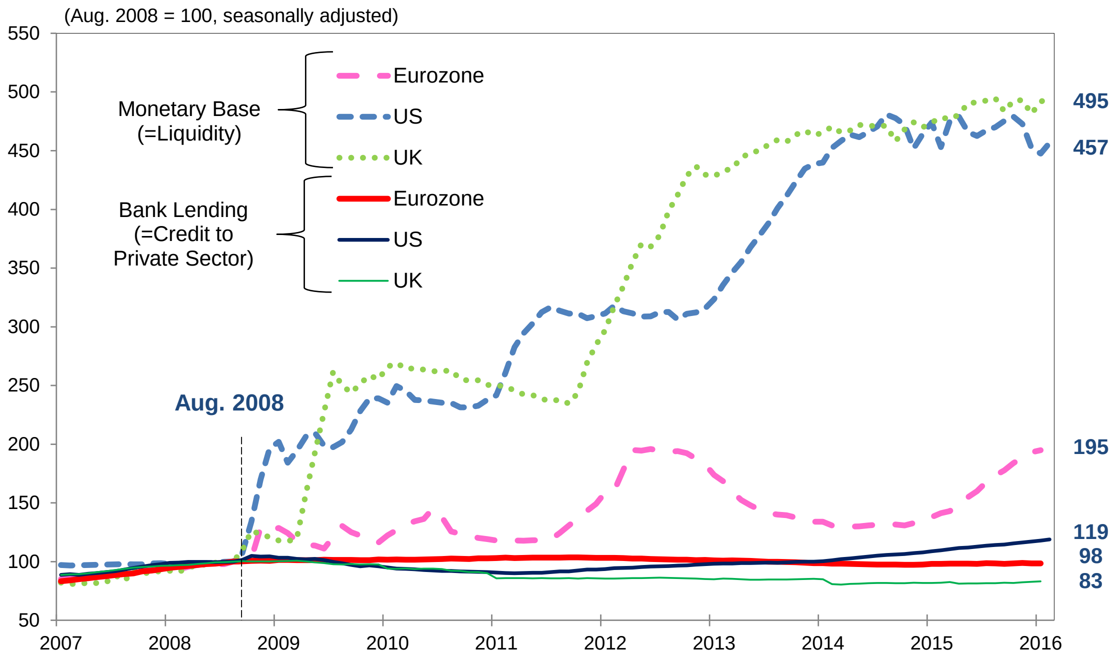
The problem starts with Cases 3 and 4, where the bottleneck is a lack of *borrowers*. This is the other half of macroeconomics that has been totally overlooked by traditional economists.

As mentioned earlier, 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 before the industrial revolution, while examples of the second case can be found following the collapse of debt-financed asset price bubbles.

If borrowers are absent because their balance sheets are underwater, they 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.

There is very little monetary policy, the favorite of traditional economists, can do in this case because borrowers who over-leveraged themselves during the bubble and are now effectively bankrupt will not borrow no matter how low interest rates go or how much liquidity the central bank injects into the banking system via quantitative easing.

Exhibit 3. Massive Supply of Liquidity and Record Low Interest Rates After 2008 Failed to Increase Credit to Private Sector

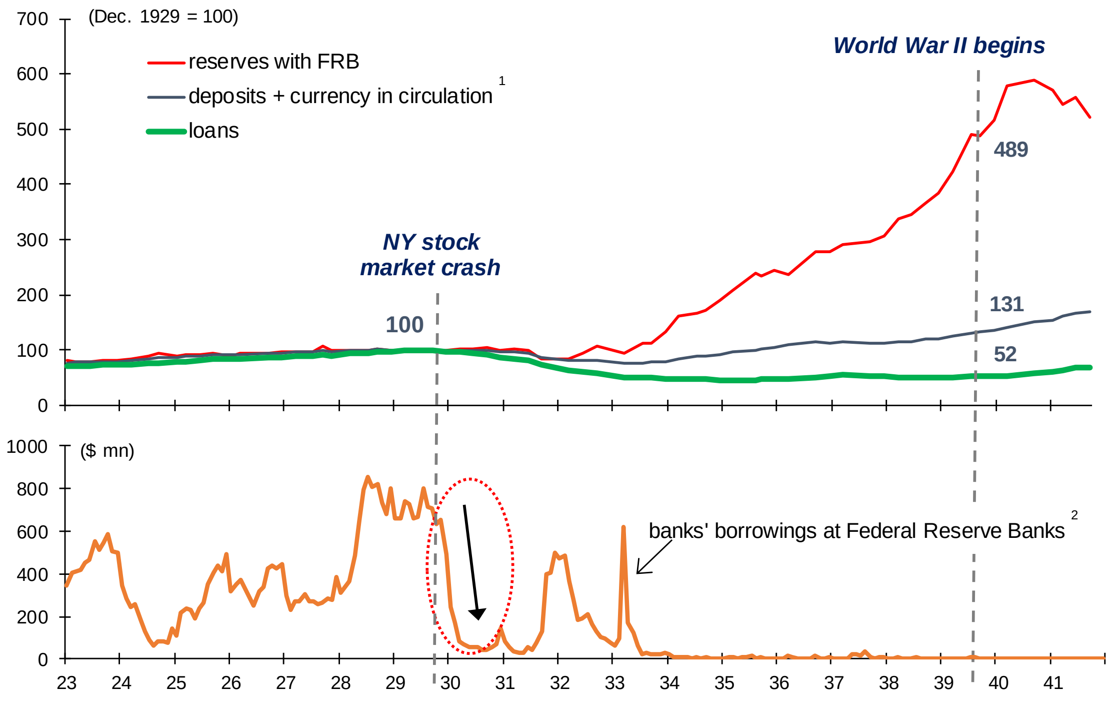


Notes: 1. US monetary base and UK's reserve balances data are seasonally unadjusted.
2. UK's bank lending data exclude intermmediate financial institutions.
3. Base money's figures of Eurozone are seasonally adjusted by Nomura Research Institute.
Source: Nomura Research Institute, based on FRB, ECB and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

Exhibit 3 shows that the close relationship observed prior to 2008 between central-bank-supplied liquidity, known as the monetary base, and the growth of private-sector credit 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. This means 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, which forced the private sector to repair its balance sheet by minimizing debt, no amount of monetary easing by the central bank was able to 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.

Exhibit 4. Similar Decoupling of Monetary Aggregates Was Observed During the 1930s

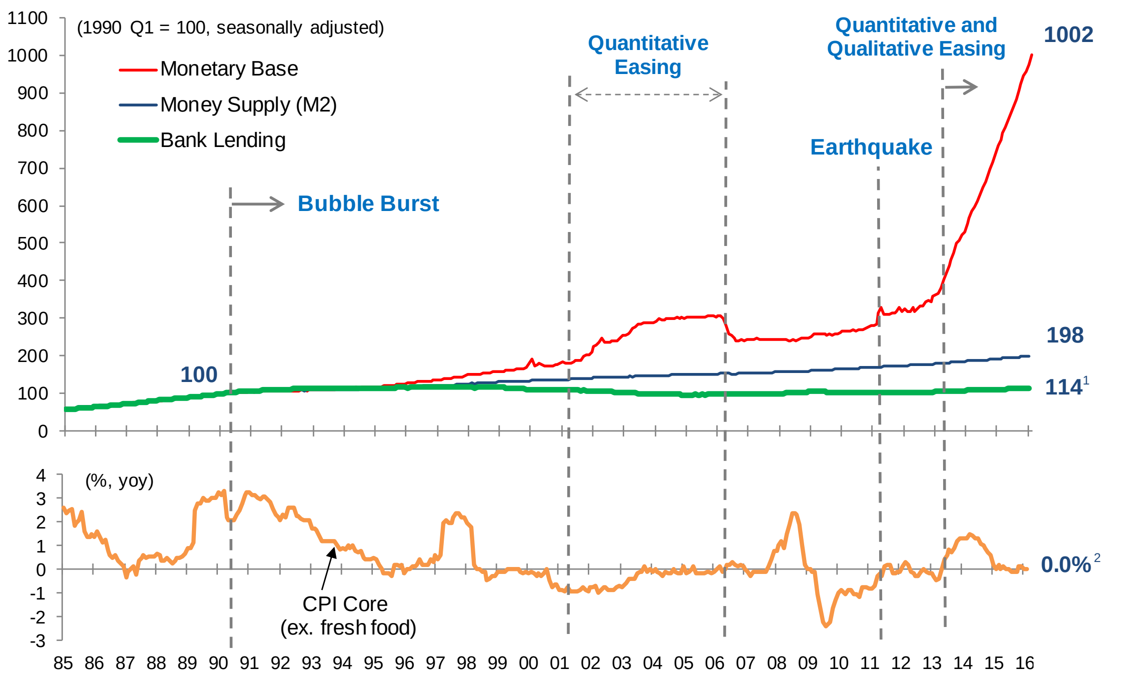


Notes: 1. deposits = demand deposits adjusted + other time deposits
2. Only this data series is based on member banks in 101 leading cities. All other data series are for all membr banks.
Source: Nomura Research Institute, based on the data from Board of Governors of the Federal Reserve System (1976),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

Instead, credit to the private sector increased only 19 percent over seven and a half years. This is important because 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 those funds: they cannot give them away because the funds are ultimately owned by depositors. The growth in lending of only 19 percent means the new money entering the real economy from the financial sector has increased only 19 percent since 2008. Similar patterns were observed in the Eurozone and the UK. This explains why inflation rates and growth rate of advanced economies have all failed to respond to zero interest rates and 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 afterwards they diverged massively 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 fastest, by as much as 54.7 percent since 1929, something that also happened in the post-2008 recessions.

Exhibit 5. Same Decoupling of Monetary Aggregates Was Observed in Japan After 1990



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

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. They might say this lack of early action by the Fed 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. From June 1929 to 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 banks so eager to return those 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 the bursting of its bubble 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).

Bubbles the biggest enemy of monetary policy

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 are all minimizing debt. And they are doing so because their balance sheets are impaired. That a number of central bank governors continue to insist that more monetary easing will enable them to meet their inflation targets suggests they still do not understand why their models are not working, a disturbing trend indeed.

A closer look at the bubble, however, suggests central banks' interest rate policy loses its effectiveness both when the bubble is expanding and after it has burst. When people believe they can quickly double or triple their money, monetary policy loses its effectiveness because higher interest rates engineered by the central bank to cool the bubble are unlikely to be sufficient to discourage investors from borrowing. In the example given earlier, if the cost of borrowing $900,000 rises from 5 percent to 10 percent, the investor would still make $110,000, for a handsome return of 110 percent. This means monetary authorities will have to impose some kind of quantitative limitations in addition to higher interest rates in order to cool the appetite for leverage during a bubble.

When the bubble has burst 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 repaired—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 the lack of borrowers prevents saved funds from re-entering the economy's income stream.

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 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. These points are discussed further on page 48.

Borrowers may remain traumatized by the long and painful experience of repairing their balance sheets even after they have eliminated their debt overhang. Under such conditions, which were observed in the US for decades after the Great Depression and in Japan more recently, incentives to borrow and invest—such as accelerated depreciation allowances—may be needed.

Economies do not stay in Case 4 for long

When a bubble bursts, the economy typically finds itself in Case 4 where there is an absence of both lenders and borrowers. Lenders disappear because many had lent money to borrowers who speculated in the bubble and who are now unable to pay back their debt. As a result, lenders are stuck with large non-performing loans that erode their capital. Many may be effectively bankrupt themselves.

When banks are unable to function because their financial health is impaired, the whole society suffers, for two reasons. First, banks are in charge of the settlement system in any society. Since payment decisions are made entirely by the depositors, each day, some banks see net outflows of funds while others experience net inflows. To deal with this problem of uneven inflows and outflows, banks with net outflows typically borrow from banks with net inflows via the interbank market. Since total outflows and inflows must add up to zero in a banking system, as long as the interbank market is functioning as it should, banks should not find themselves short of funds to make payments as dictated by their depositors.

When a bubble bursts, however, banks begin to distrust each other because they are all saddled with large and growing non-performing loans. Banks with net inflows therefore refuse to loan out excess funds on the interbank market because they worry the borrower may go under without repaying the loan. This state of affairs is called a financial crisis, and it threatens the continued existence of the settlement system.

The second function of banks is to lend out the savings they have collected to ensure that all saved funds are borrowed and spent, thereby keeping the economy going. However, when banks incur losses from non-performing loans and their capital is badly impaired, they have to abstain from lending because their capital is not considered sufficient to absorb the risks associated with lending. This condition is known as a credit crunch. But if banks are unable to lend the savings entrusted to them, the economy suffers as saved funds are unable to re-enter the economy's income stream. These two lender-side difficulties, coupled with borrowers' debt overhang, throw the economy into Case 4 of Exhibit 2.

Given these two social functions of banks, however, the government cannot treat them as just another private-sector business. When banking problems arise, therefore, the government and the central bank implement the kinds of policies described in the discussion on Case 2 on pages 10 to 12. 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 resolve lenders' problems usually within two years. When lenders are functioning again, the economy will move 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. As a result, the economy can remain in Case 3 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 the issue involves a large part of the society, 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 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, each requiring a different policy response, depending on the stage of economic development.

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 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 strong demand for funds. This 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 the market. The end 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, work force illiteracy, and the slow pace of technological innovation. But some of these constraints were soon transformed into excellent investment opportunities as the provision of railways and other utilities indicate. Indeed, the urbanization of the population alone created massive investment opportunities as rural workers moved to work in urban factories. With new household appliances, cars, cameras and airplanes invented and developed in rapid succession, a lack of investment opportunities was seldom a constraint to growth.

The savings generated by households also became a virtue instead of a vice (from the perspective of the national economy), 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 a reasonable interest rate, the protection of intellectual property rights, and the state of the economy and world trade.

The importance 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 those in emerging economies might find the availability of financing and the protection of intellectual property rights just as important.

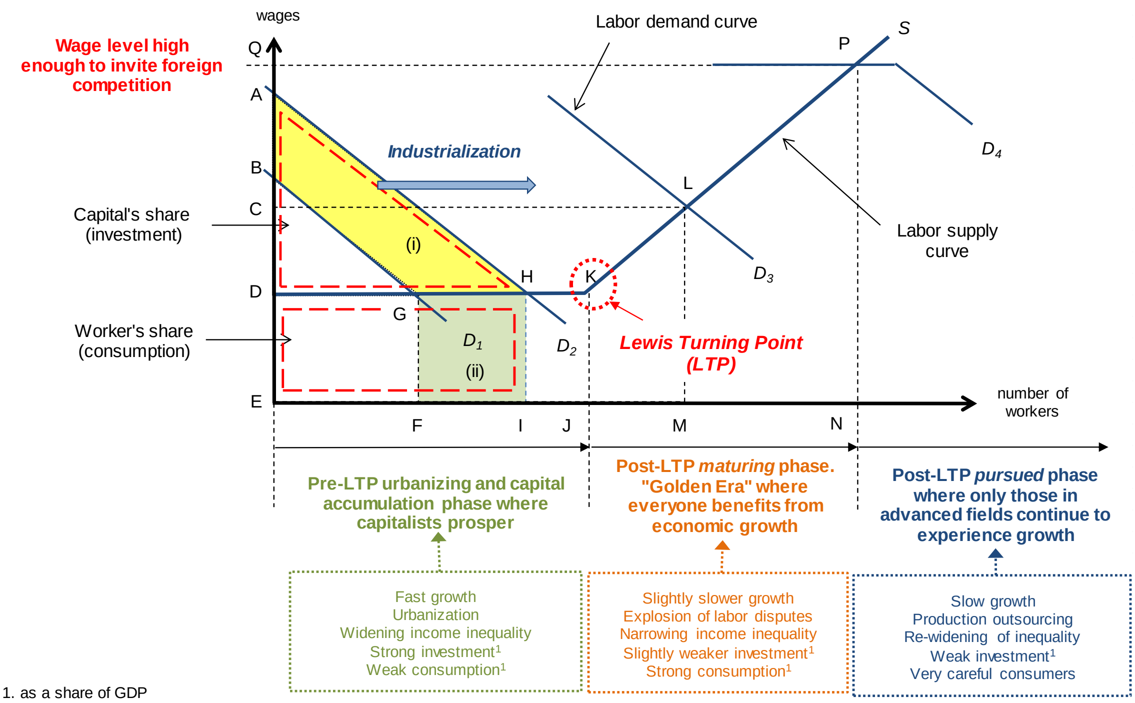
When Germany was emerging as an industrial power, for instance, the UK accused the Germans of copying its products and demanded "Made in Germany" labels to distinguish them from the British originals. Japan faced similar accusations from Western countries, as did China from both the West and Japan. Today many Chinese businesses are demanding the Beijing government to implement stronger intellectual property rules because they worry that any new product they develop will be copied by domestic competitors in no time, rendering their research and development efforts worthless. Thus the ability to copy, which is a huge positive at one stage of economic development, becomes a major negative later on.

In terms of the availability of investment opportunities, it may be useful to divide the process of industrialization into three stages: pre-Lewis Turning Point (LTP) urbanizing economies, post-LTP maturing economies, and post-LTP pursued economies. The LTP refers to the point in industrialization where urban factories have finally absorbed all the surplus labor in rural areas. (This paper is using LTP only because it is a well-known term for a historical point: the use of the term LTP in this paper does not necessarily refer to the economic growth model put forward by Author 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. Those whose families have lived on depressed farms for centuries have no such knowledge. Most of the gains from the initial stage of industrialization therefore go to the educated few, while most of the population simply provides labor for the industrialists.

From the standpoint of those few business owners, the pre-LTP urbanizing economy is an extremely lucrative one, since it is possible to 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 therefore 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.

Inequality worsens with growth 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 takeoff 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[3]. Business owners, however, were able to accumulate tremendous amount of wealth during this period.

Stage II of industrialization: the post-LTP maturing economy

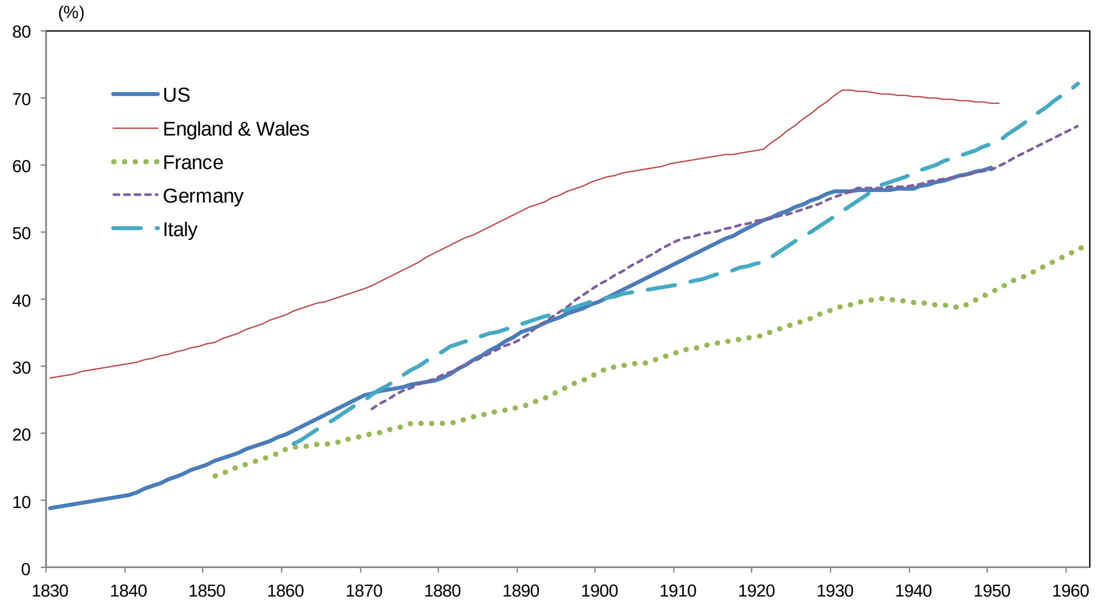
As business owners continue to generate profits and expand investment, the economy eventually reaches its LTP. Once that happens, urbanization is largely finished and the total wages of labor—which had grown only linearly until then—start to increase rapidly since there is no more surplus labor in the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

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 European and American populations still lived in rural areas until World War I, as shown in Exhibit 7. Even in the US, where—unlike Europe—workers were always in short supply, nearly half the

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

Exhibit 7. Urbanization* Continued in the West Until the 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*

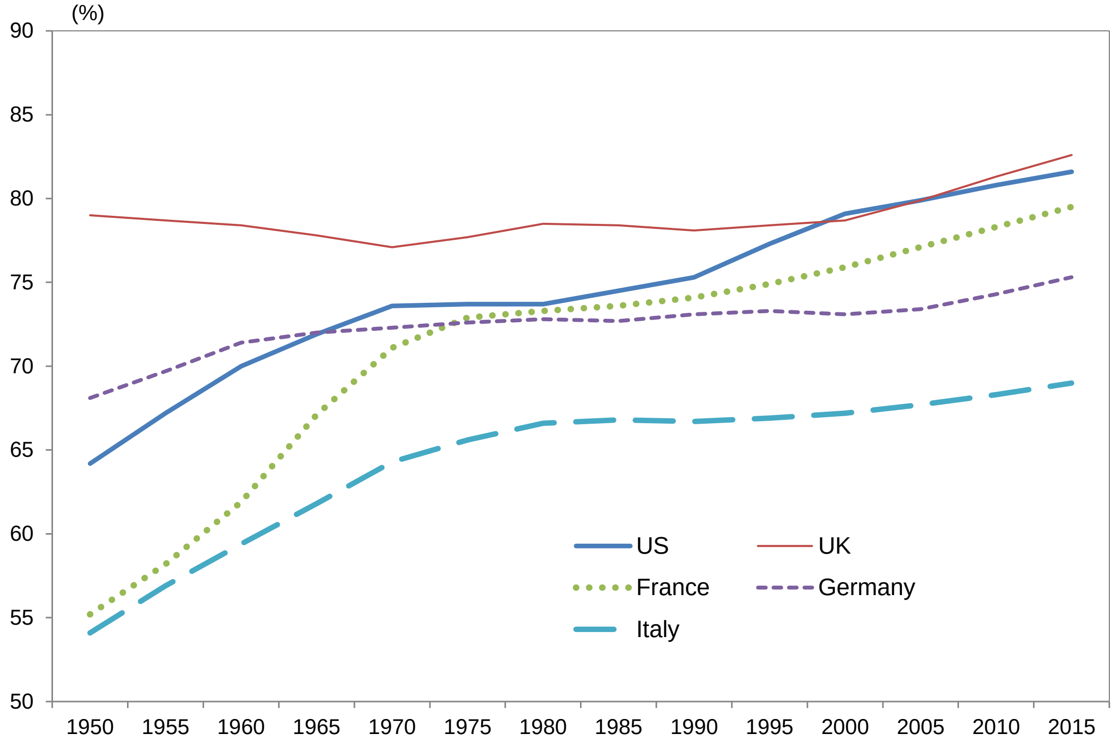
population was living on farms as late as the 1930s. The mobilization of two world wars then pushed these economies beyond the LTP, and standards of living for average workers began to improve dramatically. With workers' share of output increasing relative to that of capital, inequality diminished as 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.

<u>Exhibit 8. Western Urbanization Slowed in the 1970s</u>



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

Initially, capitalists 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 each other, 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.

With rapid improvements in the living standards of most workers, the post-LTP maturing phase is where everyone in the economy 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 huge investment opportunities. To meet this demand from ever-richer consumers while confronting rising wages, businesses invest in productivity-enhancing equipment. During this period, businesses invest heavily to improve the productivity of their workers. Even if the skill level of workers remains unchanged, their productivity increases because of the investments made by the businesses. And the need to remain competitive forces businesses to invest in such equipment in order to survive.

During this period, government tax receipts also increase rapidly, 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: post-LTP pursued economies

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 faced Japanese competition in the 1970s. Initially this was blamed on the wage gap between the US/Europe and Japan. 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 benefiting from lower wage costs.

Many in the West were shocked to find that Japanese cars required so little maintenance and repair after purchase. The Germans may have invented the automobile, and the Americans may have established the process to make cars cheaply, but it was the Japanese who created cars that do not break down. The arrival of Nikon F cameras from Japan 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, prompting professional photographers around the world to switch to the Japanese brand. For the first time since the industrial revolution, the West found it was being pursued by a formidable competitor from the East.

Once the country finds itself 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 businesses to buy directly from the chasing country or to invest in the chaser themselves. Indeed, many US and European companies happily bought Japanese products to add to their product lines or sell through their dealerships. Those 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 the viable alternative of investing in or purchasing from lower-cost production facilities abroad. In other words, capital invested abroad often earns higher returns than when it is invested at home. As a result, productivity gains made possible by investments in productivity-enhancing equipment at home slow down significantly.

According to US Bureau of Labor Statistics data compiled by Stanley Fisher at the Fed[4], 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 for the 2008 to 2015 period. 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.

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[4] Fisher, 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

With domestic investment opportunities shrinking, economic growth also slows in the pursued countries. This "pursued" phase is still very much the reality of Western economies today, with an ever-increasing number of emerging countries joining as pursuers.

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 the US/Europe and Japan. This was the first case of Western countries that had passed their LTPs being chased by a country with much lower wages.

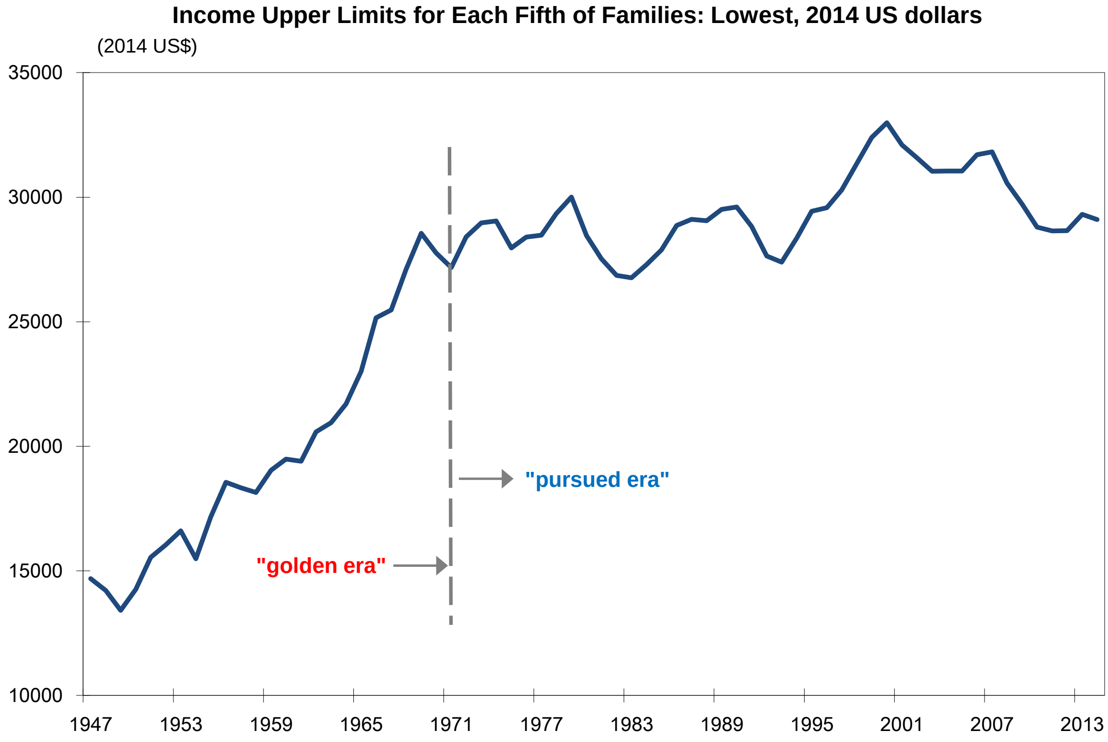
Many well-known US companies such as Zenith and Magnavox disappeared altogether under the assault from Japanese competition, and the West German camera industry, the world's undisputed leader until around 1965, had all but disappeared by 1975. While those at the forefront of technology in the West continued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

Experiencing this onslaught for the first time, there was 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 argued for additional 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 achieved in the Plaza Accord of 1985, which halved the value of the dollar against the yen.

Still others argued that they should study the Japanese success and learn from it. This 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 that they were the most technically advanced economies in the world was shattered.

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.

Exhibit 9. Incomes of Lowest 20% of US Families Shot Up Until 1970 But Stagnated Thereafter



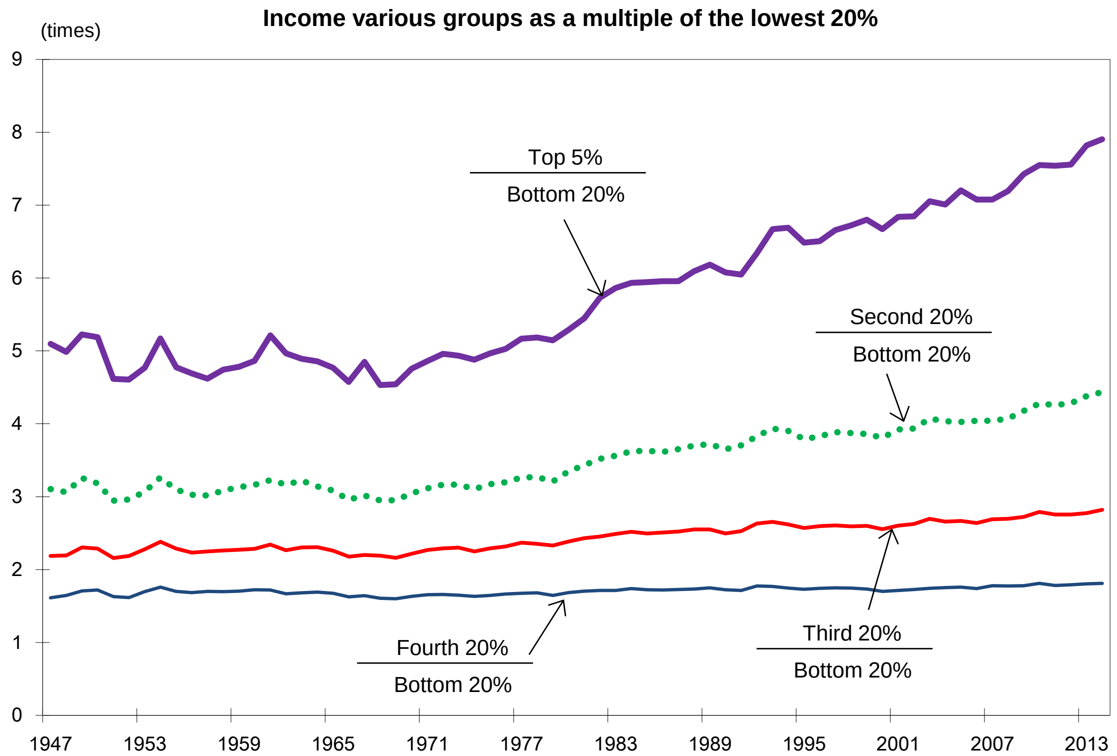
Source: Current Population Survey, 2015 Annual Social and Economic (ASEC) Supplement

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 that were at the forefront of technology were still doing well. But it was no longer the case that everybody in society was benefiting from 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, their income growth has stagnated as the country entered the post-LTP pursed phase. Exhibit 10, which shows the income growth of other quintiles relative to the lowest 20 percent, demonstrates that 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 shows annualized income growth for income quintiles 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, meaning there was a decrease in income inequality during this period. This was indeed a golden era for the US economy, where everybody was becoming richer and enjoying the fruits of economic growth.

Once Japan started chasing the US, however, the situation changed drastically. Exhibit 9 shows that the income growth of the lowest quintile stagnated from that point onward, 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 growth even after 1970. This group probably includes those who are at the forefront of innovation and who were able to take advantage of Japan's emergence.

Exhibit 11 demonstrates that income growth for different income quintiles was quite similar during the golden era but began to diverse significantly once the country became a chased economy. Income growth for the top 5 percent group drops 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.

Exhibit 11. Annualized Growth Rates of US Family Income by Income Quintile

(annualized, %)

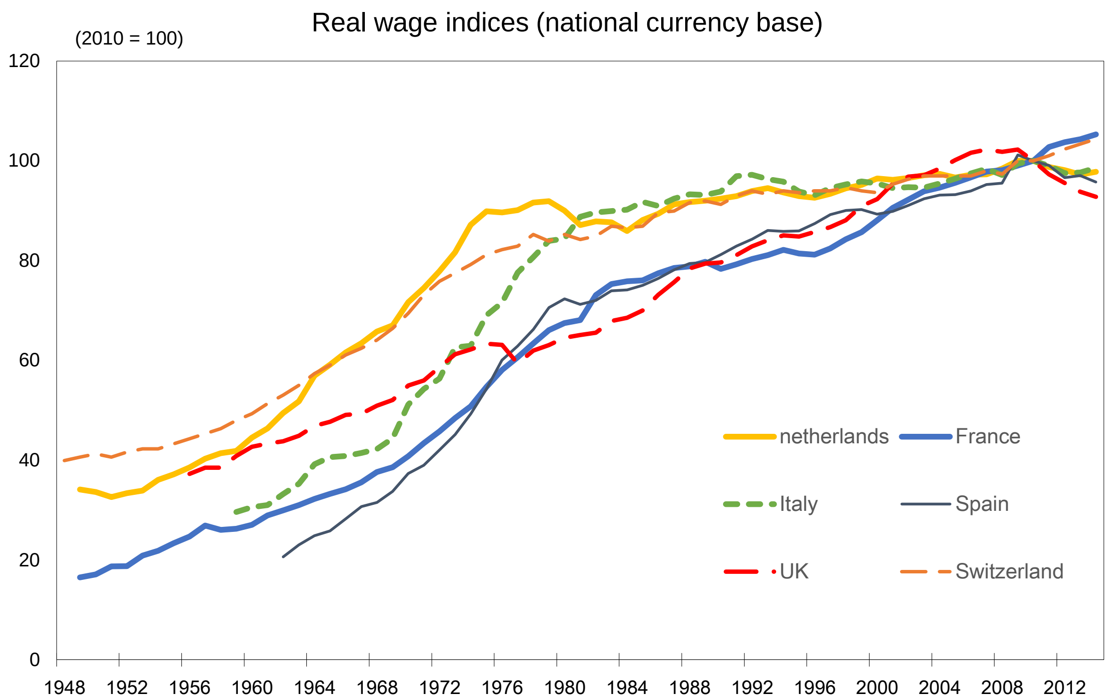
	lowest 20%	second 20%	third 20%	fourth 20%	top 5%
Post-LTP maturing phase 1947-1970	2.805	2.854	2.861	2.719	2.496
Post-LTP pursued phase 1970-2014	0.107	0.345	0.657	0.965	1.270

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

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

These statistics also suggest that economic, social or even educational policies that were appropriate during the maturing phase may be not be appropriate in the pursed phase. Unfortunately, few of the policy debates in advanced countries are couched in these terms, with many apparently hoping for the return of a golden era. These issues are revisited on page 69.

Exhibit 12. Real Wages in Six European Countries After WWII

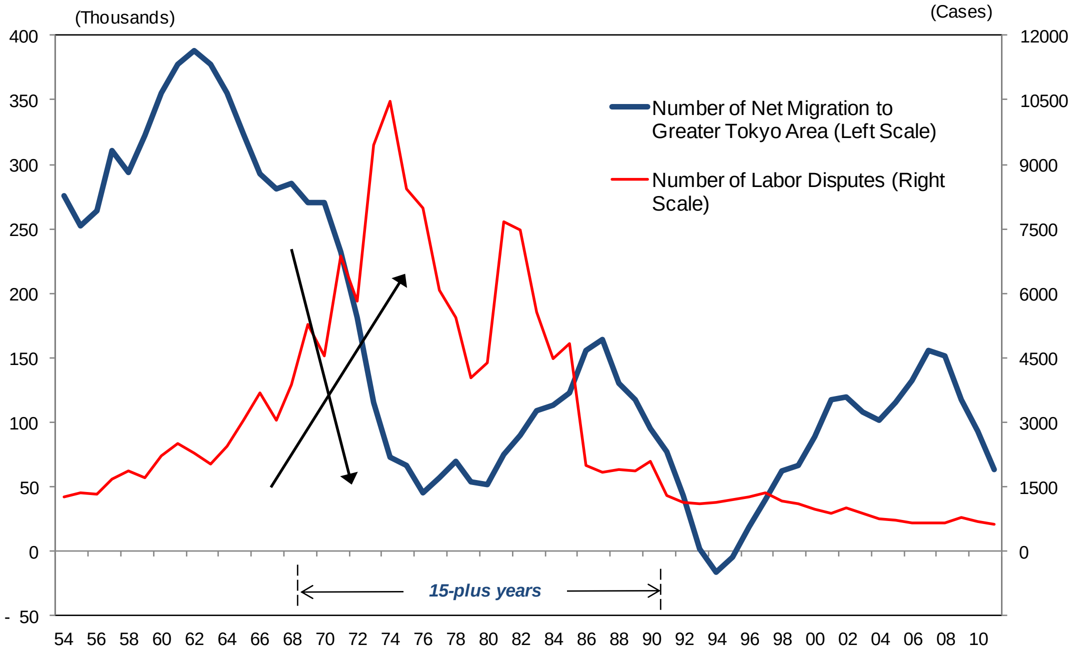


Source: Nomura Research Institute, based on the data from IMF, *International Financial Statistics* and Swiss Federal Statistical Office, *Swiss Wage Index*

The three stages of Japanese industrialization

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 was 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.

Exhibit 13. Labor Demand Skyrockets after Passing the Lewis Turning Point (1): Japan



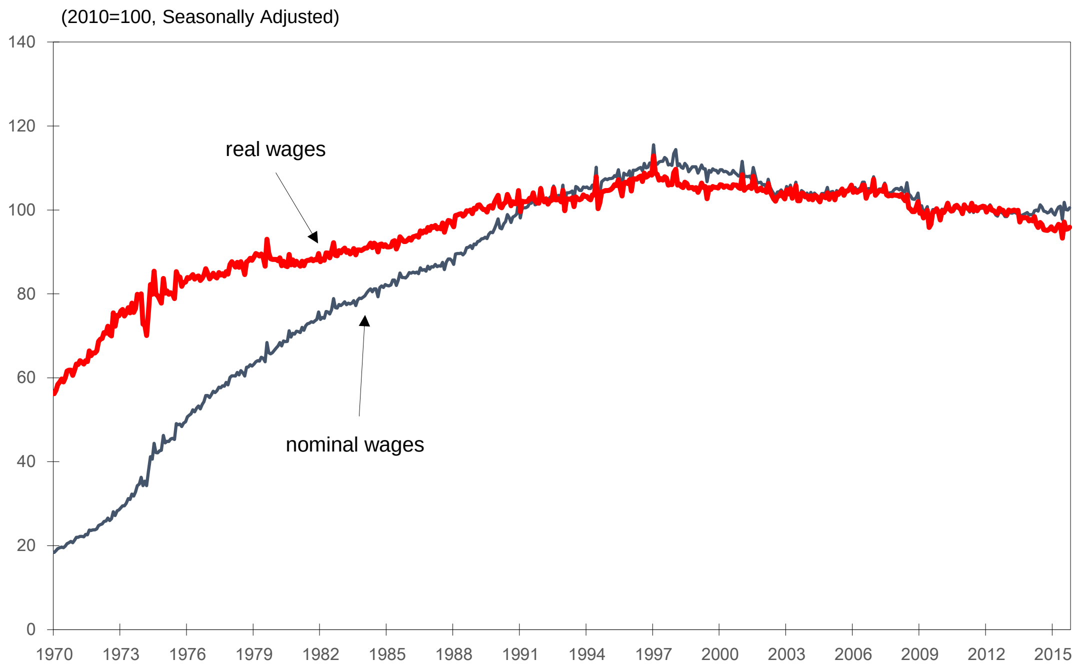
Note: Greater Tokyo Area consists of Tokyo Metropolis, Kanagawa prefecture, Saitama prefecture and Chiba prefecture.
Sources: Ministry of Internal Affairs and Communications, *Report on Internal Migration in Japan*, and Ministry of Health, Labour and Welfare, *Survey on Labour Disputes*

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 channel 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). Thus Japan was entering the post-LTP maturing phase that the West had experienced 40 years earlier.

Japan was fortunate in that nobody was chasing it at the time, enabling it to focus its efforts on catching up with the West. Wages were increasing rapidly, but Japanese companies invested heavily at home to improve the productivity of their domestic work force. As long as productivity rose faster than wages, Japan was able to enjoy a golden era of strong growth and prosperity.

Exhibit 14. Japanese Wages Peaked in 1997 When Country Entered Post-LTP Pursued Stage



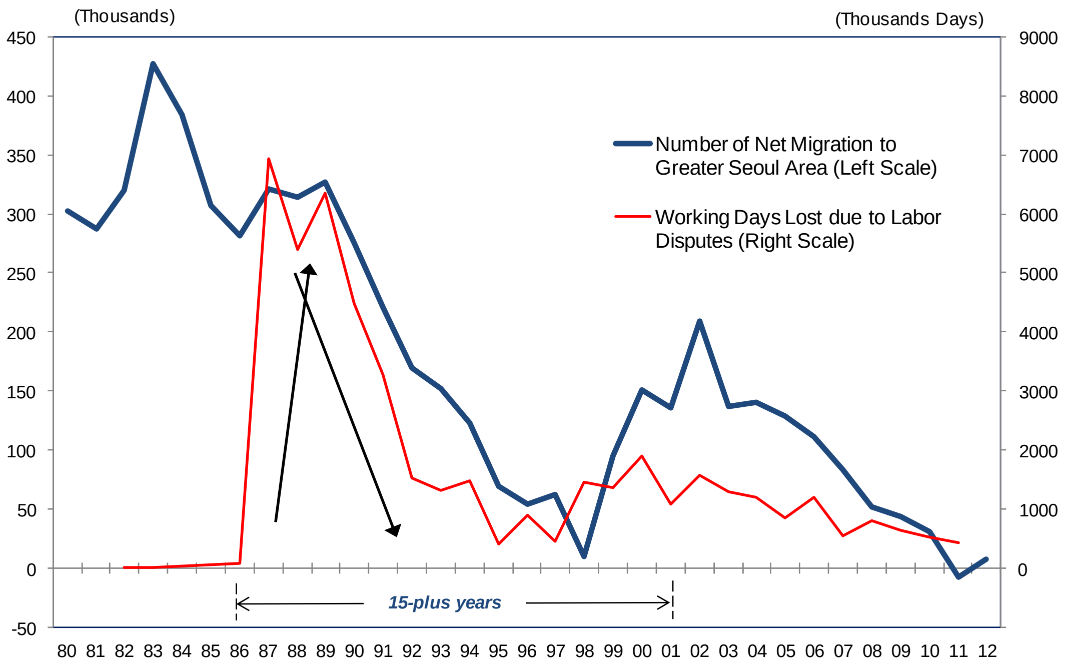
Source: Ministry of Health, Labour and Welfare, Japan, *Monthly Labour Survey*

As wages rose, so did labor's share of profits. 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 pursed stage. As Exhibit 14 shows, Japanese wages stopped growing in 1997 and started stagnating or falling thereafter.

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 from behind. That had never happened since the 1868 Meiji Restoration opened Japan up to the world, and 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 adjusted their economies accordingly were less disturbed by the emergence of China.

Exhibit 15. Labor Demand Skyrockets After Passing the Lewis Turning Point (2): South Korea



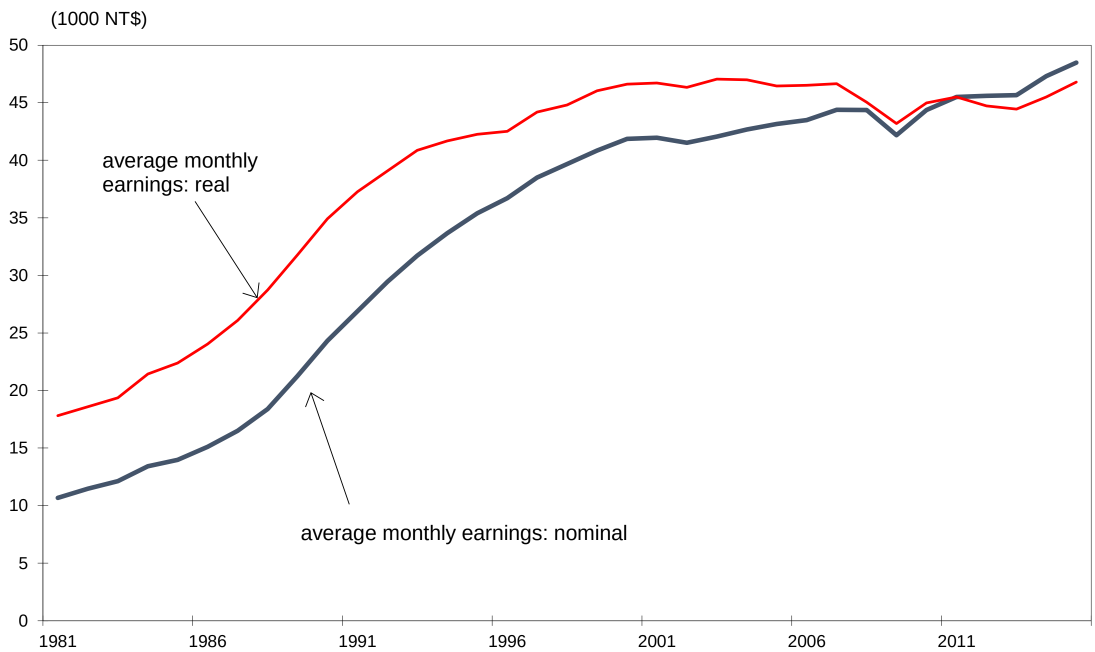
Note: Greater Seoul Area consists of Seoul city, Incheon city and Gyeonggi-do.
Sources: Statistics Korea, *Internal Migration Statistics* and *Korea Statistical Year Book*

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[5]. In other words, the country is experiencing what the West went through when it was being chased by Japan.

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

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, as shown in 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, as shown in Exhibit 16. Now both countries are feeling the pinch as China steadily takes over the industries that generated so much growth for these two countries in the past.

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*

Free trade 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 shortage of aggregate demand and the difficulty of accessing markets. In those days, most countries imposed high tariffs on imported products both to raise revenues and to protect domestic industries. If the 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 giant 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 absolutely massive.

The US initiative was partly motivated by the need to fend off the Soviet threat by rebuilding Western Europe and Japan quickly, 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* utilize the US market.

The advent of free trade made obsolete the whole notion of territorial expansion as 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 second and third largest economies in the world. In other words, post-war Japan and Germany have proven 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, or 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, after the free-trade regime took hold, colonies became more of a liability than an asset as far as economic growth was concerned. Today almost no one talks about the need for territorial expansion as a pre-requisite to economic prosperity.

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 all 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 a 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 1.3 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 as the per capita GDP of over one billion people grew from just over $300 to nearly $8,000. China wasted no time in integrating itself with the global economy, which enabled it to attract an astronomical amount of foreign direct investment, not just from the West and Japan but also from the Asian tigers including Taiwan, Hong Kong, Singapore and South Korea.

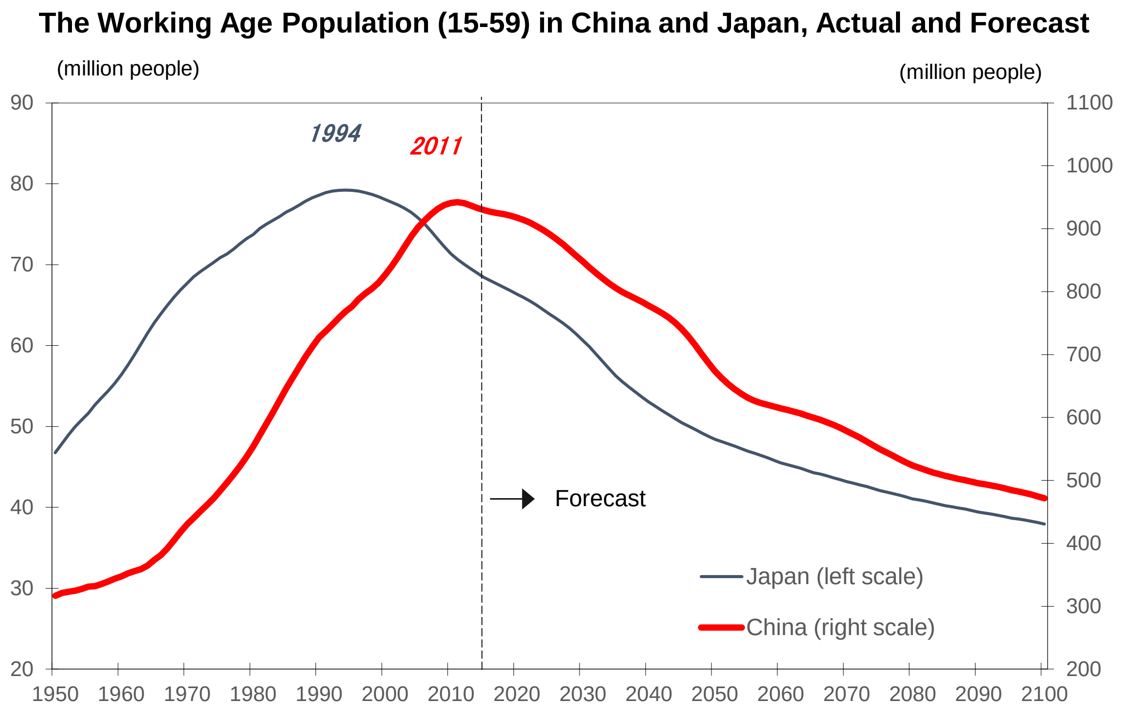
More precisely, China's fantastic economic growth was made possible by the US-led free-trade system, which allowed Chinese and foreign companies producing in China to sell their products anywhere in the world. It was that access to the global market that prompted so many businesses from around the world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

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 turned 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 growth in their home countries' economies and productivity. Indeed, the 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 firms in advanced countries.

For those in the advanced economies who are still wondering what has happened to all the enthusiasm for fixed capital investment, all they have to do is 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 factories after factories stretching in all directions that were started mostly by foreign capital. They were started with foreign capital because when Deng Xiaoping opened up the Chinese economy in 1979, there were no capitalists left in China: they had all either been killed or driven out of the country by the Communist revolution in 1949 and by 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 delivering 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 they can reasonably expect from each other.

At the same time, the working age population in China actually started shrinking in 2012. This is a highly unusual combination of demographics in that the whole labor supply curve began shifting to the left just as the country reached its LTP. The huge demographic bonus the country enjoyed up to 2012 is not only gone, but has now reversed, as shown in Exhibit 17. This means China will not be able to maintain the rapid pace of economic growth seen in the past, and in fact its growth rate has slowed sharply.

Higher wages in China are now prompting both Chinese and foreign businesses to move factories to lower-wage countries such as Vietnam and Bangladesh. This move is prompting fears that China will get 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. This means 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.

Put differently, the easy part of the Chinese economic growth story is now over. The challenge now is how to raise the productivity of each and every Chinese worker to offset higher wages when there are easier ways 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 emerging economies, including China, some decades earlier.

Chinese hawks must also face post-1945 reality[6]

The spectacular growth of the Chinese economy up to now also made its government and military rich. Today the country can afford to pay for

[6] This section is based on the author's article, "China and the US-led International Order" in *How Do Asians See their Future?*, edited by François Godement, European Council on Foreign Relations, 2015, pp. 59-63.
http://www.ecfr.eu/page/-/ECFR130_CHINA_ASIA_REPORT_pdf.pdf

advanced military systems ranging from stealth fighter planes to nuclear attack submarines. The confidence gained with such hardware is now making China increasingly assertive in all manners of territorial conflicts.

Many in China also feel justified in trying to take back what was lost during the last two centuries, when the country was trampled and humiliated by foreign powers. Indeed, some in China are of the view that the country should take back everything it has lost since the Opium War of 1840. That would include Vladivostok, which was ceded to Russia in 1860. Even Adolf Hitler only argued that Germany take back territory lost during the Great War, 20 years earlier. The Chinese are talking about going back 170 years.

There is, however, one major difference in the justifications Chinese hawks can provide to legitimatize the nation's territorial ambitions compared with those available to German or Japanese hawks back in the 1930s. Then, many if not most people in the world still believed that territorial expansion could bring economic prosperity, whereas the Chinese in the 21st century are operating in a world where few still see territorial expansion as a necessary condition for prosperity.

On the contrary, any government that pursues such a policy today puts its economy in grave danger. To begin with, the US-led post-1945 free-trade regime is predicated on participating countries accepting the integrity of existing territorial arrangements. Countries pursuing territorial ambitions therefore are likely to be denied access to global markets, which could prove fatal for economies seeking export-led growth. Post-war Japan and Germany would not have gained access to the US market if they had insisted on regaining their lost territories, and Russia recently lost that access when it annexed Crimea. Moreover, today's global supply chain encompasses so many different countries that any nation jeopardizing the chain or viewed as an unreliable part of it would be viewed as a highly undesirable destination for future investments.

Even though China itself is becoming the world's largest market for many goods, including automobiles, per capita income remains a fraction of those in Japan and the West. That means people are still expecting more, and if the closing of overseas markets due to territorial conflicts prevents the Beijing government from delivering higher living standards, it may find itself confronting an increasingly frustrated and dissatisfied population.

Now that China has passed its LTP, popular demands for everything from better pay to more civil rights are likely to pick up as workers gain bargaining power for the first time in 5,000 years of Chinese history. And these people may not be willing to forgo higher living standards for the sake of remote pieces of virtually inhabitable real estate.

The point is that China's spectacular economic growth, which gave its government and military so much confidence and power, is still predicated on the American-led free trade system. Once per capita income climbs high enough, China may be able to leverage its truly vast market for diplomatic and other objectives in the same way that Washington has leveraged its market since 1945, but that time is not now. Given its highly unfavorable demographics—the working age population began shrinking in 2012—China has no time to waste on territorial disputes that would not only add nothing to its economic growth but could subtract massively from its prosperity.

Although this reality should make Chinese leaders more cautious on the subject of territorial issues, one problem is that most of today's leaders know *only* the world of free trade. In other words, they take economic growth based on free trade for granted since they have no experience with the trade arrangements that existed before free trade. Although China has been the largest beneficiary of free trade by far, some of its leaders clearly under-appreciate the fact that territorial expansion is no longer a necessary condition for prosperity in the post-1945 world. This could lead to dangerous miscalculations if they push for territorial gains without realizing that such moves could jeopardize China's access to the world markets.

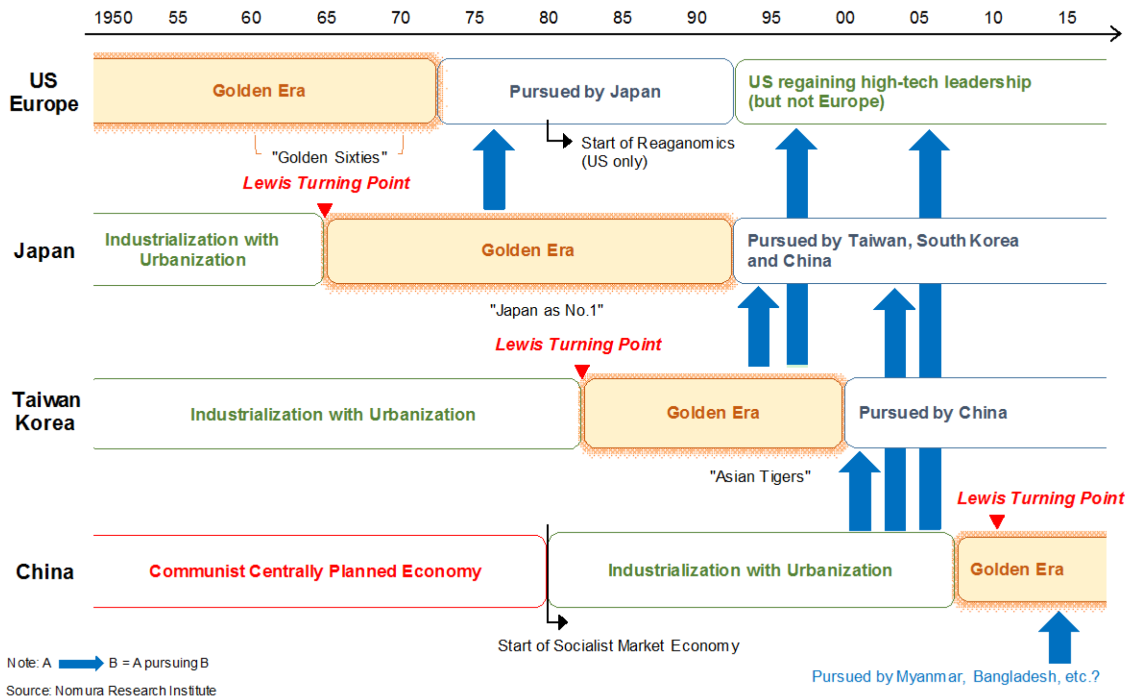
Chinese leaders need to recognize that there is a massive contradiction between their aspirations for regaining territories lost prior to 1945 and the fact that their prosperity is based on the post-1945 regime of free trade, which is predicated on the integrity of present territorial arrangements. Both Asia's safety and the prosperity of the Chinese people are therefore dependent on Chinese leaders' understanding of this contradiction and their ability to contain any popular fondness for the outdated pre-1945 notion of national greatness.

At the same time, if the US and other advanced countries start moving away from free trade, as suggested by US presidential hopefuls such as Donald Trump and Bernie Sanders, Chinese hawks will gain more influence in policy circles as the cost/benefit analysis of their territorial agenda is altered.

The Growth, Happiness and Maturing of Nations

The above discussion on the stages of economic growth is summarized in Exhibit 18. In this exhibit, "Industrialization with Urbanization" refers to the pre-LTP urbanization phase, "Golden Era" to the post-LTP maturing phase, and "Pursued by XX" 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 developments 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 until the mid-1990s. For Asian NICs like Taiwan and Korea, the golden era probably lasted about 20 years through 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. During this phase, strong demand for workers from a rapidly expanding industrial sector forces the service sector to offer comparable wages to retain workers. As a result, almost all members of society benefit from economic growth because wages are rising for everybody. Hence this is a Golden Era in which everybody 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 everybody else. 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.

Now that most advanced countries are in the post-LTP pursued phase, the key challenge in these countries should be how a society in this phase of development should re-organize itself. Unfortunately, the policy debate is seldom framed in such terms. Instead, the slogans used by presidential and prime ministerial hopefuls in many of these countries suggest that many still long for the return of the golden era they remember from the pre-pursued days. But until these hopefuls fully appreciate the economic reality of where they stand in the global context, they are unlikely to do much to improve the lives of ordinary people. These issues are discussed further on page 69.

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 found Communism appealing at a certain juncture in history. Marx and Engels, who lived in pre-LTP industrializing Europe, were appalled and outraged by the horrendous inequality they observed around them and the miserable working and living conditions for ordinary people. As indicated earlier, it was not uncommon then for people to work 16 hours 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 day.

Marx responded to this inequality with 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. For "exploited" workers forced to work long hours in dreadful conditions, Communism appeared to offer a hope for a better life with little to lose, and many embraced it enthusiastically. In that sense, the birth of Communism itself may 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 the capitalists were 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 dynamics kicks in.

Once the economy reaches its LTP and wages start increasing rapidly, the appeal of Communism quickly wanes as workers begin to realize that they can get what they want within the existing framework. Such a period is characterized by frequent strikes and labor disputes of all kinds as workers start to utilize their newfound bargaining power for the first time ever. 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. This point is discussed further on page 77.

Ironically, those 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 gets stuck in the pre-LTP phase. Second, those 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 not expanding 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 took place after they passed their LTPs. This suggests that sequencing matters and that there are certain laws of economic growth that must be observed in addition to the laws of physics and chemistry. People in emerging countries who want more inclusive reforms might first need to grow their economies beyond the LTP.

The failure of economics and the rise of National Socialism

Communism is a by-product of the extreme inequality that happens in the course of industrialization as an economy moves toward its LTP. In contrast, National Socialism or Nazism was a product of extreme economic hardship brought about by inept policy responses to the collapse of an asset price bubble. In other words, it was policymakers' inability to understand that their economies were in the other half of macroeconomics that led to that tragic outcome.

Although the private sector is usually careful with its money, once every several decades it loses its head in an asset price bubble. The promise of quick money prompts households and businesses to leverage themselves up by borrowing money to invest in all sorts of assets.

After the bubble bursts, people realize that their assets have collapsed in value while the debt those assets were purchased with remains, leaving them with a huge debt overhang. Hence they are forced to put their financial houses in order by paying down debt regardless of the level of interest rates. Paying down debt to clean up a balance sheet is the right and responsible thing to do, but when everybody does it simultaneously it causes the same fallacy of composition problem as the paradox of thrift mentioned earlier.

With no borrowers even at zero interest rates, the economy enters the $1,000 to $900 to $810 to $730 deflationary spiral now known as a balance sheet recession. This spiral will continue until the private sector has either repaired its balance sheet or become so poor that it cannot save any money or pay down debt (the world of a $500 economy).

When the New York stock market bubble collapsed in October 1929, all of those who leveraged themselves up during the bubble started paying down debt at the same time. This can be seen as the sharp fall in "loans" after 1929 in Exhibit 4. But since there was nobody on the other side borrowing and spending, the US economy fell into a deflationary spiral and lost a full 46 percent of GNP in just four years in what came to be known as the Great Depression. In 1933, the US unemployment rate climbed over 25 percent nationwide and was more than 50 percent in many major cities.

In this type of recession, the government cannot tell the private sector not to repair its balance sheet. A private sector with a debt overhang has no choice but to repair its balance sheet as quickly as possible by paying down debt. When the private sector is collectively paying down debt instead of borrowing money even at zero interest rates, the economy is in Case 3 of Exhibit 2 and monetary policy becomes ineffective because there are no private sector borrowers to take the central-bank-supplied money out of the financial sector and into the real economy.

This means the only remedy available to keep the economy out of a deflationary spiral is for the government itself to borrow and spend the unborrowed savings of the private sector. If the government borrows and spends the $100 at the outset, there is no reason for the economy to shrink to $900 since total expenditures will still amount to $1,000.

If the government keeps up this borrowing and spending, the private sector will have the income to pay down debt and, with sufficient time, its balance sheet will be repaired. Once that happens, it is then the government's turn to repair its balance sheet by raising taxes and cutting spending, but things must happen in that order. If the government tries to clean up its balance sheet before the private sector is ready to borrow, the economy will re-enter a deflationary spiral and fall into a double-dip recession. Such an outcome is also likely to depress asset prices even further and create a vicious cycle of balance sheet problems for the private sector.

Self-corrective mechanism of economies in balance sheet recessions

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 borrower remaining during a balance sheet recession. Life insurance and pension fund managers 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) therefore have no choice but to buy government bonds. Their rush to buy government bonds 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. The resulting fiscal action by the government will 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 old at selecting projects that will ultimately pay for themselves.

The problem is that the economics profession never considered this type of recession until a few years ago because it never allowed for the possibility of a private sector that sought to minimize debt. After all, the entire theoretical toolkit of economics, built over many decades, was predicated on the assumption that the private sector is always trying to maximize profits.

With no one teaching balance sheet recessions in 1929, it did not occur to political leaders of the time that the government should mobilize fiscal policy and act as borrower of last resort. Even Keynes, who finally argued for an increase in government spending in 1936 or seven years after the beginning of the Great Depression, failed to free himself from the notion that the private sector is always maximizing profits. Because recessions driven by private-sector attempts to minimize debt were never discussed in economics, the public was totally unprepared for the balance sheet recessions that hit them in 1929 and again in 2008.

Disappointment with established parties led to rise of Nazis and World War II

When the recession started in 1929, both President Herbert Hoover in the US and Chancellor Heinrich Brüning in Germany insisted the government should balance the budget as quickly as possible. But that was the worst possible policy one could have implemented during this type of recession because if the government stopped serving as "borrower of last resort," the $100 leakage to the income stream would be left untreated and the economy would fall into a deflationary spiral. Soon enough, the US and German economies both fell into deflationary spirals and ended up with unemployment rates of 25 percent and 28 percent, respectively.

Although the Americans had themselves to blame for getting involved in a bubble, Germany in 1929 was still recovering from the traumatic hyperinflation that followed its defeat in World War I and was very much dependent on US capital when the New York stock market crashed. With American capital fleeing back to the US and the Allied powers insisting that the German government maintain a balanced budget and continue its reparation payments, the German economy had no place to go but down.

The extreme hardship and poverty this mistaken policy imposed on the German people forced them to find a way out. 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 Socialist who argued against both austerity and reparation payments.

Thus the Nazis, who were considered by most Germans to be a bunch of hoodlums just a few years earlier, ended up winning 43.6 percent of the vote and securing the chancellorship in 1933. It was not as if nearly half of the German population woke up one morning and suddenly began hating immigrants and Jews. What happened was that they finally lost faith in established parties that remained beholden to fiscal orthodoxy. 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 horrendous poverty that followed the crash of 1929. The Nazis were swept to power because policymakers of that period failed to understand the balance sheet recession mechanics (the deflationary spiral described above) that led to so much suffering for the German people.

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 autobahn expressway system. By 1938, just five years later, the nation's unemployment rate had fallen to 2%.

This was viewed as a great success by people both inside and outside Germany—in contrast, the democracies of the United States, France and the UK continued to suffer from high unemployment as policymakers proved unable to think beyond orthodox fiscal consolidation. The stark contrast made Hitler look like God, and even those who used to look down their noses at the ranting lance corporal from Austria began to worship him.

Germany's spectacular economic success also led Hitler to think that this time he could win a war because the German economy was in a virtuous cycle and generating plenty of taxes to support re-armament efforts while the US, UK and French economies 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. Nothing is worse than a dictator with the wrong agenda having the right economic policy. And the problem was made far worse in the 1930s by the inability of democracies to switch to the right policy until the actual opening of hostilities.

Once the war began, however, the democracies were able to carry out the same sorts of policies that Hitler had implemented six years earlier. In other words, 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.

Every country has its share of extreme nationalists who blame immigrants and foreigners for society's problems. But their ability in Germany to garner enough votes and actually emerge victorious despite the region's democratic traditions and high levels of education suggests ordinary people who traditionally voted for parties espousing democratic values switched allegiance in desperation. It has been observed time and again that when a nation's survival is at stake, respect for individuals and human rights is often thrown out the window. And that is when things can go wrong in a big way.

The discussion above suggests that both the Nazis' initial successes and the tragedies that followed were attributable largely to a lack of understanding of balance sheet recessions among the economists and policymakers of that period. If the Allied governments and the Brüning government in particular had understood the mechanics and dangers of balance sheet recessions and administered sufficient fiscal stimulus to fight deflationary pressures in Germany, most Germans would never have voted for an extremist like Hitler.

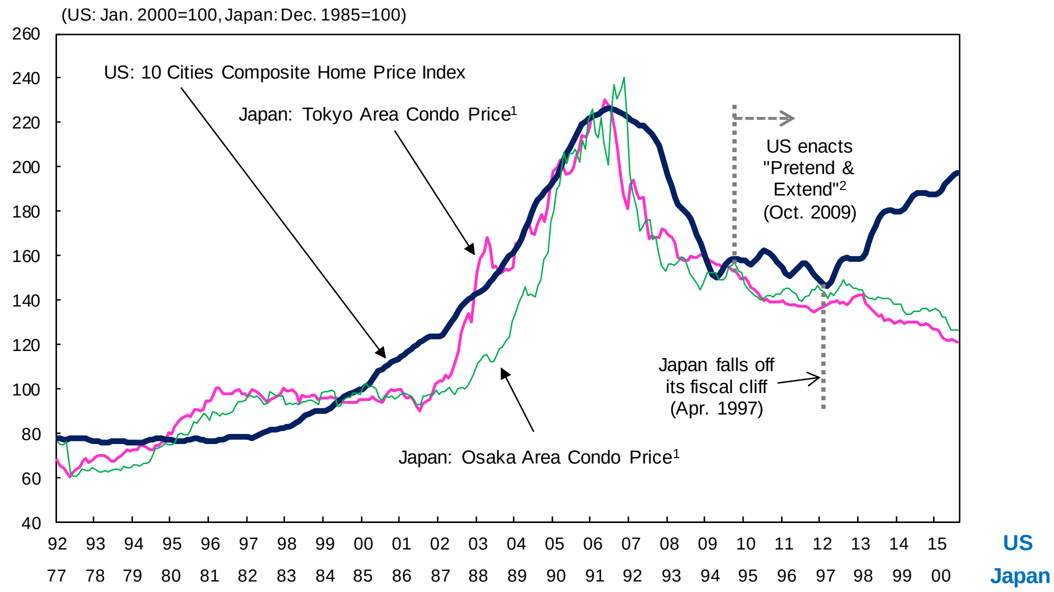
If the Allied governments had also administered sufficient fiscal stimulus to prevent deflationary spirals in their own economies, Hitler's success would not have appeared so spectacular by contrast. And if strong Allied economies had been able to present a credible military deterrent, Hitler might have thought twice about starting a war. The failure of economists in the democracies to understand balance sheet recessions in the 1930s therefore contributed to the initial success of the Nazis and all the human suffering that came after.

History repeating itself after Global Financial Crisis (GFC) in 2008

With 50 million lives lost in World War II, readers may think this mistake could never be repeated. Unfortunately that is not yet the case, especially in

Europe.

Exhibit 19. Cause of Breakdown in Monetary Transmission: Bursting of Debt-Financed Bubbles



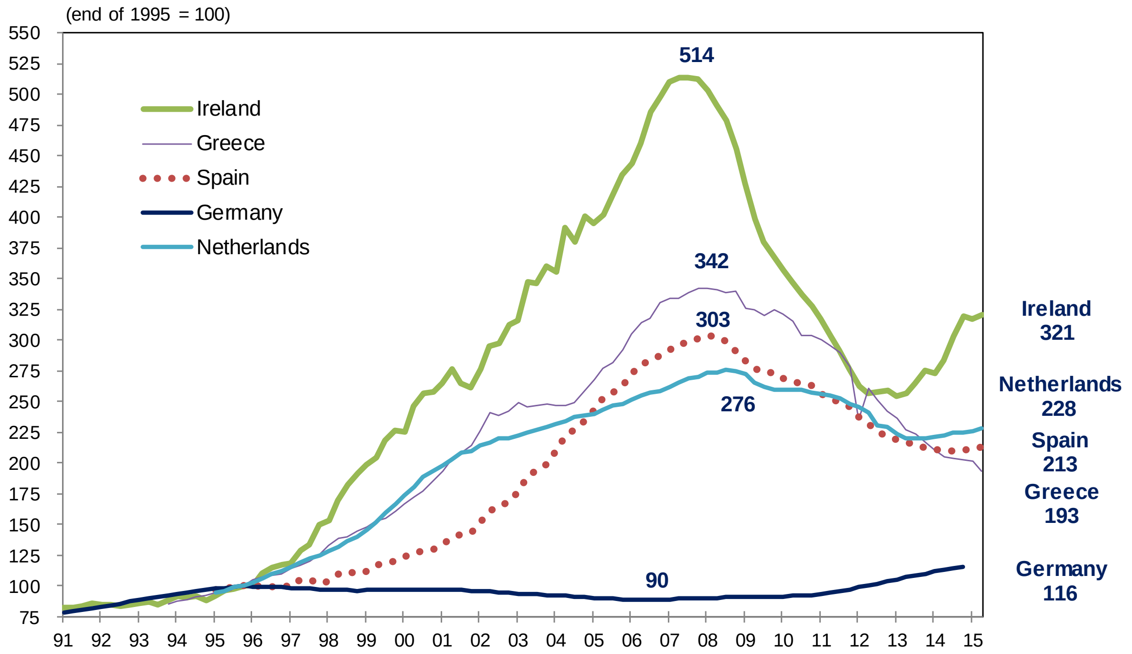
Notes: 1. per m^2, 5-month moving average.
2. "Policy Statement on Prudent Commercial Real Estate Loan Workouts" (October 30, 2009)
Sources: Real Estate Economic Institute, Japan; S&P, S&P/Case-Shiller® Home Price Indices.

When housing bubbles burst on both sides of the Atlantic in 2008, the West fell into a severe balance sheet recession, with private sectors in all these countries increasing savings or paying down debt in spite of zero or negative interest rates. Because the US bubble was almost as large as the Japanese bubble 15 years earlier (Exhibit 19) and the European bubbles were even larger in some cases (Exhibit 20), the resultant damage to private-sector balance sheets was huge.

Exhibit 21 shows the financial position of the private sector in countries that experienced large housing bubbles. In this exhibit, a reading below zero indicates the private sector is running a financial deficit, i.e., it is increasing its financial liabilities faster than its financial assets. In other words, it is a net borrower. A reading above zero means the private sector is increasing its financial assets more than its financial liabilities, i.e., it is a net saver.

The exhibit shows that the private sectors in many countries were borrowing huge sums of money to invest in houses during the bubble, but after the bubble burst they all began saving, some to a massive extent, in spite of zero interest rates. The Irish private sector (household sector + corporate sector + financial sector) saved 8.66 percent of GDP in the 12 months ending in Q2 2015, while the Portuguese and Spanish private sectors were saving 8.38 percent and 7.38 percent of GDP, respectively. The private sector should be *borrowing* 8 percent of GNP at zero interest rates, but instead they were saving 8 percent of GDP. That puts these economies fully in Cases 3 and 4 of Exhibit 2. And if the private sector as a whole is saving, someone outside the private sector must borrow and spend those savings to keep the economy out of a deflationary spiral.

Exhibit 20. Europe (ex- Germany) Also Experienced Housing Bubbles



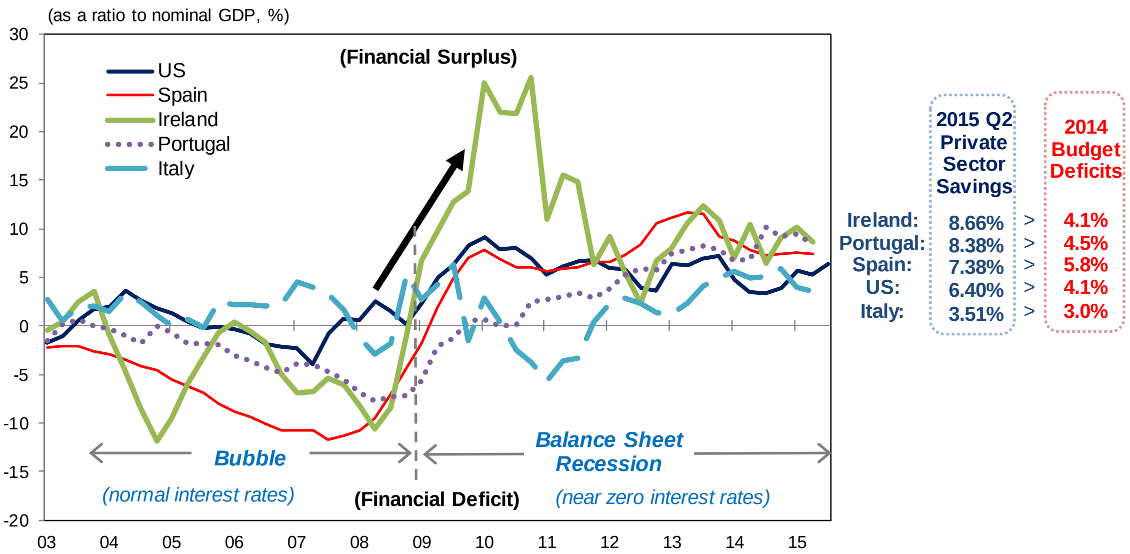
Notes: 1. Ireland's figures before 2005 are existing house prices only.
2. Greece's figures are flats' prices in Athens and Thessaloniki.
Sources: Nomura Research Institute, calculated from Bank for International Settlements data.

Unfortunately, in spite of massive increases in private-sector savings, the concept of balance sheet recessions was still nowhere to be seen in economic textbooks, and powerful figures on both sides of the Atlantic started pushing for fiscal consolidation in a repeat of the 1930s.

In the US it was the Tea Party wing of the Republican Party, and in the Eurozone it was the Germans, led by Chancellor Merkel and Finance

Minister Schäuble. In the UK, Prime Minister Gordon Brown, who understood balance sheet recessions, initially implemented the needed fiscal stimulus, but he was soon replaced by David Cameron, who also opted for fiscal consolidation.

Exhibit 21. Private Sectors[1, 2] in the West Saving Massively After 2008



Notes: 1. Private Sector = Household Sector + Non-Financial Corporate Sector + Financial Sector
2. All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2015 Q2 (for US only, 2015 Q3) are used. Budget deficits in Euro area in 2014 are from Apr. 2015 release by Eurostat. Budget Deficit in the US's 2015 release by IMF.
Sources: Based on the flow of funds data from FRB, Banco de España, National Statistics Institute, Spain, The Central Bank of Ireland, Central Statistics Office Ireland, Banco de Portugal, Banca d'Italia and Italian National Institute of Statistics and IMF

Fortunately for the US, policymakers from Ben Bernanke to Larry Summers recognized soon after the GFC that they were facing a balance sheet recession, the same sickness that had afflicted Japan. This was amply demonstrated when Larry Summers, then Chairman of the Obama administration's National Economic Council, indicated in July 2009 that fiscal stimulus must have the "three S's": it must be sufficient, sustained and speedy[7]. It must be sufficient to fill the deflationary gap and stabilize the economy. It must be sustained until the private sector has finished its balance sheet repairs. And it must be implemented speedily to preempt a deflationary spiral. Doing any less risks creating a deflationary spiral when the private sector in aggregate is not borrowing.

[7] Summers, Lawrence H. (2009). "Rescuing and Rebuilding the US Economy: A Progress Report" Speech at the Peterson Institute for International Economics, Washington, DC. July 17, 2009.

They also used the expression "fiscal cliff" to warn against premature fiscal consolidation. They noted that the US private sector, which should be borrowing money at zero interest rates, was actually saving 6 to 10 percent of GDP in the years immediately after Lehman went under (these numbers were subsequently revised down somewhat).

US policymakers realized that with the entire US private sector engaging in massive deleveraging at zero interest rates, the government must administer sufficient fiscal stimulus to keep the economy from entering a deflationary spiral. Even though the US came very close to falling off the fiscal cliff on several occasions with its government shutdowns, debt ceiling debates and sequesters, it ultimately managed to avoid that predicament and is now doing much better. It is doing better because, after seven years of fiscal support, private-sector balance sheets are becoming healthier, and some are actually starting to borrow money again.

Defective Maastricht Treaty an Invitation for National Socialists To Return

In the Eurozone, where there was no such understanding among policymakers, one country after another fell off the fiscal cliff with devastating consequences. The Maastricht Treaty, which created the euro, made no provision whatsoever for this type of recession and prohibited governments from borrowing more than three percent of GDP regardless of the size of private-sector savings. In other words, Eurozone governments are prevented from acting as a borrower of last resort beyond three percent of GDP.

This was hardly surprising given that when the Treaty was ratified in 1998, no one outside Japan knew anything about balance sheet recessions. But when the housing bubbles burst in 2008, triggering Europe's balance sheet recessions, policymakers were left with no tools to stop the deflationary spiral, resulting in deep recessions and tremendous human suffering.

For example, the Spanish private sector saved an average of 7.26 percent of GDP in the seven years since Q3 2008. But since the government was allowed to borrow only 3 percent of GDP, savings amounting to 4 percent of GDP leaked out of the nation's income stream. Shockingly, the Treaty says absolutely nothing about what the government should do with this deflationary gap of 4 percent because it was built on the assumption that situations like this could never happen. It is this fundamental defect in the Treaty that is killing the Eurozone economies in balance sheet recessions.

In reality, reduced tax receipts pushed deficits in most of the weakened economies beyond 3 percent. Deficit growth caused by economic weakness is referred to in economics as an automatic stabilizer because the forced increase in government borrowing and spending due to lower taxes helps stabilize the economy. But instead of strengthening the stabilizer function to end the recession by increasing borrowing to match the level of private sector savings, Eurozone governments were forced to reduce their borrowing toward the 3 percent rule. Instead of ending the recession, government actions actually made it worse. The Spanish unemployment rate shot up to 25 percent as a result, and many other countries suffered a similar fate. With center-left and center-right political parties alike insisting on fiscal consolidation as mandated by the Maastricht Treaty, average citizens are becoming both destitute and desperate.

This disastrous outcome was perfectly predictable given the limitations of the Treaty. The author tried to warn Europeans in his 2003 book, *Balance Sheet Recession,* by saying: "Since fiscal stimulus is the most effective—if not the only—remedy for a balance sheet recession, as soon as the symptoms of balance sheet recessions are observed in Europe, the EC Commission is strongly advised to take action to free the Eurozone economies from the restrictions of the Maastricht Treaty. Failure to do so may result in Europe falling into a vicious cycle with an ever-larger deflationary gap. Indeed of the three regions—Japan, the US and Europe—Europe is by far the most vulnerable when it comes to balance sheet recessions because of the restrictions placed on it by the Maastricht Treaty."[8] Unfortunately this warning went unheeded, and one Eurozone economy after another fell into a prolonged balance sheet recession.

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[8] Koo, Richard (2003) *Balance Sheet Recession: Japan's Struggle with Uncharted Economics and its Global Implications*, John Wiley & Sons (Asia), Singapore, p. 234.

The author even warned in his 2008 book *The Holy Grail of Macroeconomics* that, "…forcing a country or region in a balance sheet recession to balance the budget out of misguided pride or stubbornness will not benefit anyone. Indeed, forcing an inappropriate policy on a nation already suffering from a debilitating recession can actually put its democratic structures at risk by aggravating the downturn."[9] This political warning, too, went unheeded, and extremist parties are gaining ground in all of these countries, as predicted.

By May 2014, people had become so desperate that nationalist anti-EU parties emerged victorious in the European Parliament elections in the UK, France, and Greece, shocking the political establishment. In Italy, Prime Minister Matteo Renzi's Democratic Party, running on a platform of structural reform, won 40.8% of the vote, but the anti-EU 5-Star Movement still managed to come in second with 21.2% of the vote.

The voter turnout of 43% was one of the lowest on record, suggesting the European Parliament itself is somewhat removed from people's daily lives. Nevertheless, the election results underscore just how many people are unhappy and distrustful of the established political leadership in Europe.

The gains made by the eurosceptics prompted both the media and the markets to warn about a loss of momentum in the fiscal consolidation and structural reforms considered essential to the region's economic revival. The problems are said to be particularly pronounced in France. The powers-that-be have labeled the triumphant eurosceptics "populist" and are desperately trying to paint them as irresponsible extremists.

All of the anti-EU parties that came out on top in the recent elections are indeed populist and irresponsible inasmuch as they are opposed to immigration and blame immigrants for many of their countries' domestic problems. After all, there is no reason why stricter controls on immigration at this point would meaningfully improve the lives of people suffering from

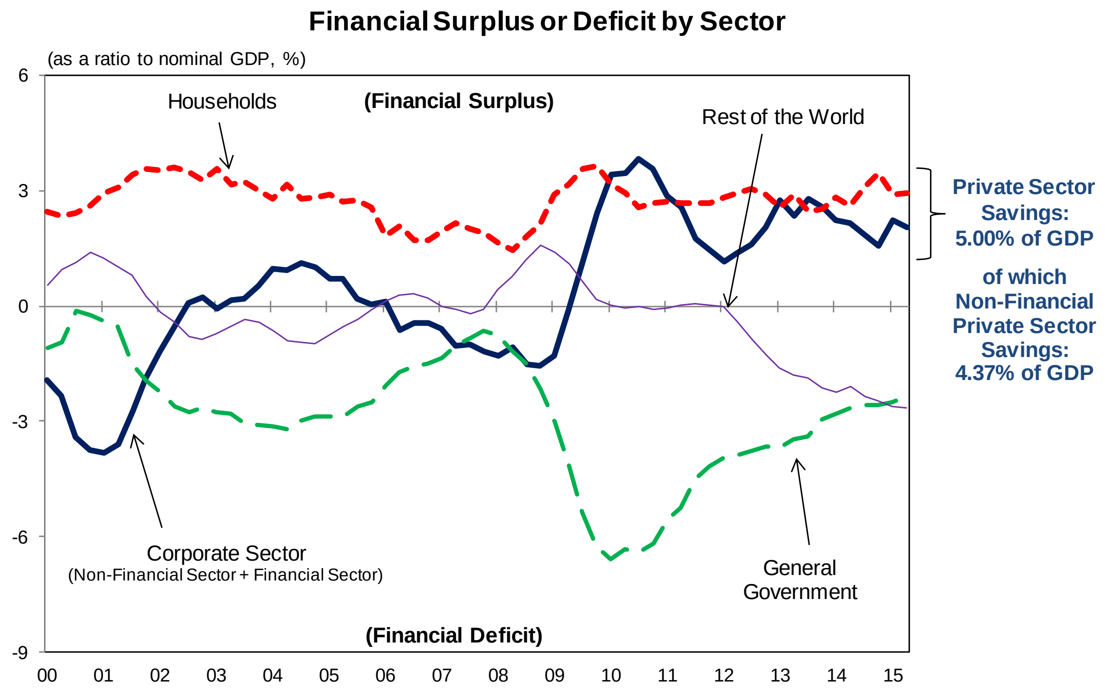
[9] Koo, Richard (2008) *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession,* John Wiley & Sons (Asia), Singapore, p. 250.

balance sheet recessions. In other words, these parties all have some elements of National Socialism in them.

Policymakers need to ask why eurosceptics made such gains

On the other hand, the establishment's argument that it has implemented responsible policies deserves to be critically reexamined. Most countries in Europe slipped into severe balance sheet recessions following the collapse of the massive housing bubble, yet not a single government has recognized that and implemented the correct policy response. To make matters worse, establishment policies have centered on fiscal consolidation, which is the one policy a government must *not* implement during a balance sheet recession. That decision has had painful consequences for the people of Europe.

Exhibit 22. Eurozone Household and Corporate Sectors Have Become Massive Savers Since 2008 Despite Zero or Negative Interest Rates



Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2015 Q2 are used.
Sources: ECB and Eurostat

Moreover, the establishment has made the situation worse by mistaking balance sheet problems for structural problems. While every country suffers from a variety of structural problems, the recessions currently unfolding in Europe are due mostly—perhaps about 80%?—to balance sheet problems, with structural issues responsible only for the remaining 20% or so. After all, it is difficult to attribute the sudden collapse of these economies in 2008 and their subsequent stagnation to structural factors that existed for decades prior to 2008.

The situation also varies from one country to the next. In Spain and Ireland, which experienced particularly large bubbles, balance sheet problems are responsible for a greater percentage of the ongoing recession, while in Italy, which did not see a major bubble, problems are probably more structural in nature.

Regardless of national differences, that the Eurozone as a whole is in a balance sheet recession should be clear from the fact that net private-sector savings for the whole region amounted to 5.00% of GDP in 2015 Q2 (Exhibit 22) in spite of zero interest rates. This exhibit shows the borrowing (below zero) or saving (above zero) positions of the combined Eurozone household, corporate, government, and rest-of-the-world sectors. It shows that both the household and corporate sectors are saving money (above zero) in spite of zero or even negative interest rates. This means private-sector borrowers have completely disappeared from the scene. At such times the economy will not improve unless the government does the opposite of what the private sector is doing—i.e., unless it borrows and spends the unborrowed private-sector savings amounting to 5.00% of GDP.

Unfortunately, neither the European Commission nor European Central Bank (ECB) President Mario Draghi seem cognizant of the scale of private-sector savings. As a result, they continue to argue in favor of fiscal consolidation and structural reform while ignoring the need to put unborrowed private sector savings back into the economy's income stream. This means they are still operating on the textbook assumption that the Eurozone economy is in Case 2, where it is an absence of lenders that stands in the way of willing borrowers. That assumption led the ECB to introduce LTROs, TLTROs, quantitative easing, and a negative interest rate policy—all of which are designed to increase *lenders* on the assumption that there are plenty of willing borrowers.

Although some of these ECB policies did help the Eurozone economy to move from Case 4 to Case 3, there is no reason why Europe's economy should improve much further when fiscal authorities are implementing policies that are the opposite of what is needed. It should therefore come as no surprise that people suffering from misguided policies for the last seven years would cast their votes for the eurosceptics, the only parties to come out against austerity.

The eurosceptics have been successful in recent elections not because they are populists. They were successful *in spite of* their populist leanings because the established center-left and center-right parties were unable to break out of their policy orthodoxy. It was their bad policy choices that dragged the economy down and left residents no choice but to vote for the eurosceptics. For people whose lives have been devastated by their governments' inaction on the deflationary gap, the first remedy is to free their countries from the fiscal straitjacket imposed by the defective Treaty—hence the surge in support for anti-EU parties.

If it was the populist aspect of these parties that had attracted voters in the recent election, their historical election performance would have been much better than it actually was. Their much-improved showing in the recent elections can be attributed instead to the fact that, after waiting for seven fruitless years, voters realized the situation was not going to improve as long as the established parties remained in power. And those are exactly the circumstances under which Adolf Hitler and the National Socialists came to power in Germany in 1933.

It is said that history repeats itself, and it is ironic that the austerity policies demanded of the Brüning government by the Allies 80 years ago were the same policies that the EU and the German government are now insisting that Spain and Ireland implement. If the EU and ECB continue to demand fiscal retrenchment and structural reforms, some member countries may find their economic crisis accompanied by a crisis in democracy.

Social safety net programs today are far more extensive than in the 1930s, making modern democracies more resistant to such recessions and policy mistakes. Nevertheless, people's mistrust and unhappiness could eventually explode if complacent politicians, economists and bureaucrats continue to implement misguided policies. Indeed, the recent refugee crisis on top of the severe recessions could tip the balance in the direction of total Eurozone disintegration if not handled quickly and correctly.

Two simple measures needed to fix Eurozone problems

Once it is understood that balance sheet recessions are at the root of the problems in the Eurozone, the solution is both simple and straightforward. It also requires no fiscal union, no structural reform, no monetary easing by the ECB and no German fiscal stimulus nor German taxpayer funds.

First, the Maastricht Treaty should be amended so that the governments of countries where the private sector is saving more than 3 percent of GDP at near-zero interest rates should be allowed to borrow more than 3 percent of GDP to stabilize the economy. Second, to ensure that the excess private-sector savings of countries in balance sheet recessions flow into that country's government bond market, a differentiated risk weight or similar measure should be introduced for Eurozone's institutional investors.

The first change is straightforward enough and will enable the Treaty to respond to both ordinary downturns and balance sheet recessions. It will also maintain the spirit of the original Treaty by allowing governments to borrow more than 3 percent of GDP only if the private sector is saving more than 3 percent of GDP at near-zero interest rates.

The second change is needed because the economy's self-corrective mechanism (page 50) in balance sheet recessions does not work well in the Eurozone. This mechanism, which lowers government bond yields in countries suffering from balance sheet recessions to provide "fiscal space" to the affected governments, works because of fixed-income fund managers' fear of incurring foreign exchange risk. But in the Eurozone there are 19 government bond markets that are all denominated in the same currency.

Hence there is no assurance that Spanish savings will go to Spanish government bonds, or that Portuguese savings will be used to buy Portuguese government bonds. It is this devastating uncertainty that robbed many peripheral countries of their fiscal space. Put differently, if countries in balance sheet recessions had their own currencies, their massive private-sector savings could easily have financed the necessary fiscal stimulus.

To address this Eurozone-specific problem, measures are needed to encourage Spanish savings to stay in Spain and Portuguese savings to stay in Portugal. One way to achieve this is to assign lower risk weights to institutional investors' holdings of domestic government bonds relative to foreign government bonds. If such incentives succeed in lowering bond yields in peripheral countries, these nations will have the fiscal space they need to finance necessary fiscal stimulus.

Once Spain's balance sheet recession is countered with Spanish fiscal stimulus financed by the excess savings of Spain's private sector, no ECB monetary easing, no German fiscal stimulus or taxpayer funds are needed. All that is needed is to make the two simple modifications to the Treaty noted above so that the self-corrective mechanism of economies in balance sheet recessions will start working in the Eurozone.

Today there are 5 million more unemployed workers in the Eurozone than before the 2008 global financial crisis. The refugee crisis would be far easier to address both politically and economically if the policies noted above provided jobs for these 5 million people. It is hoped that the EU, the ECB and the German government will open their eyes to the reality of balance sheet recessions and implement these two simple measures before it is too late. If they do so, Europeans will resume voting in a direction more conducive to the proper functioning of democracy.

Three problems with Milton Friedman's call for free markets

When Milton Friedman, a Nobel Laureate and a champion of free markets, monetary policy and small government, visited Japan in the 1950s and spoke to Kazushi Nagasu, an economist, he said: "I am a Jew…I do not think I need to tell you what kind of horrible deaths Jewish people had to face. The real drive behind my argument for free market is the bloodied cries of Jewish people who perished under Hitler's and Stalin's regimes, and their message is that the best way to happiness is to have a mechanism that brings people together where states, races and political systems have no influence."[10]

Although many will side with Friedman and argue that free market is best, he is wrong on three counts. The first is his assumption that markets driven by a profit-maximizing private sector can never go wrong. Every several decades the private sector loses its self-discipline in a bubble, something observed most recently in the pre-2000 dotcom bubble and the pre-2008 housing bubble. During a bubble, the private sector ends up misallocating resources to a degree no government can ever hope to match. In other words, markets work well when businesses and households have cool heads, but not when a bubble has formed.

When the bubble bursts, the private sector comes to its senses and realizes it has to restore its financial health by shifting priority from maximizing profits to minimizing debt. But, the economy will fall into a balance sheet recession if everybody does that at the same time. This is where Friedman makes his second mistake. He argued that monetary policy—where the central bank supplies liquidity and lowers interest rates—should be mobilized to counter recessions. But once the private sector is minimizing debt to repair its balance sheet, the economy is in Case 3 or 4 where monetary policy is no longer effective. It stops working because the absence of borrowers means funds supplied by the central bank to the financial sector have no way to enter the real economy even at zero interest rates.

His third mistake is that he vehemently opposed the use of fiscal stimulus, which is basically government borrowing and spending, in fighting recessions. But in a balance sheet recession, the government must act as borrower of last resort to keep the economy from entering a deflationary

[10] Uchihashi, Katsuto (2009) "Shinpan Akumu-no Saikuru: Neo-riberarizumu Junkan (The cycle of nightmares: the recurrence of neoliberalism)," updated version, in Japanese, Bunshun Bunko, Japan, pp. 88-89.

spiral and to give the private sector the income it needs to pay down debt and rebuild its balance sheet.

His overriding emphasis on small government as well as the supremacy of markets and monetary policy allows no room for government to act as borrower of last resort. But it was the failure of the Brüning government to act as borrower of last resort that allowed Adolf Hitler to take power in Germany in 1933. The failure of the French, UK and US governments to act as borrowers of last resort not only enhanced Hitler's reputation, but also prevented those governments from presenting a military deterrent to his rapidly expanding armed forces. To avoid the tragedy of another Holocaust, it is absolutely essential that the public be made aware of the economic disease called a balance sheet recession and learn how to fight it with fiscal stimulus.

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 people are becoming 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 everybody enjoyed the fruits of economic growth. Although Piketty attributes this to the destruction of wealth brought 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 to 1970 were a golden era for Western economies in which 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 also *transitory* phenomena. These countries enjoyed a golden era of growing income 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 world 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 investments 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 greater degree 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 that are 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. On this point, the US experience in fending off Japan is instructive.

When the US began losing industries left and right to Japanese competition starting in the mid-1970s, it pursued a two-pronged approach to counter the Japanese threat. This involved keeping Japanese imports from coming in too fast while simultaneously trying to make domestic industries more competitive.

The US utilized every means available to prevent Japanese imports from flooding its market. Those measures included dumping accusations, Super 301 clauses, gentlemen's agreements of all sorts, and exchange rate depreciation via the Plaza Accord of 1985.

At the same time, so-called "Japanese management" was all the rage at US business schools in the 1980s and 1990s, as mentioned earlier. Many of those schools eagerly recruited Japanese students so they could discuss Japanese management techniques in their classes. 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 the confidence of Americans to an all-time low, while their 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—which 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, poor quality of products coming out of US factories, 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 a sense of urgency that it was necessary to break from the past.

When President Reagan lowered tax rates 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 precisely, deregulation and lower taxes improved 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 growth engine.

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

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 line. And that line was "It's the economy, stupid!" The fact that Bush lost the election to Clinton suggests the economy was still far from satisfactory in the eyes of most Americans 12 years after the beginning of Reaganomics.

Once Clinton took over, however, the US economy began to do much better even though few can remember the Clinton Administration's economic policies. The economy was doing so well that the Federal government was running budget surpluses by Clinton's second term. And the surplus was growing so fast that the then-Fed Chairman Greenspan worried that there would not be enough US Treasury bonds for the Fed to conduct monetary policy. 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 reform policies take so long to bear fruit also means they are no substitute for fiscal stimulus if the economy is in a balance sheet recession, a point Eurozone policymakers should take note of.

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 be relegated to stagnation or worse.

The most important consideration for countries being pursued from behind, therefore, should be how to maximize the number of people capable of coming up with new ideas and products and how to give them the right set of incentives to maximize their creative efforts.

On the first point, the number of people who can come up with new ideas is limited in any society. Often they are not in the mainstream, because those in the mainstream are not incentivized 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 created 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. That means finding these people and encouraging them to continue on their creative pursuit is no easy task.

In this regard, the so-called 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. Thus they are encouraged to challenge the status quo, which is the only way to come up with new ideas and products.

This liberal arts tradition in the West started with the Renaissance and Enlightenment, where the value of man's intellect was finally recognized after being suppressed for centuries by the Catholic Church. This long struggle to free man's intellect from the church authorities was no easy battle as many brilliant thinkers were burned at the stake.

This freeing of man's mind from Catholic dogma contributed massively to the economic growth that followed by encouraging people from all walks of life to discover the laws of nature required for scientific and technological progress.

Those developments, which culminated in the industrial revolution, then opened up huge investment opportunities for private-sector businesses, as mentioned earlier. The implication is that citizens' creativity may not be fully tapped in societies where authorities, including educational establishments, continue to act like Catholic Inquisitors of the past.

The problem, however, is that a true liberal arts education is expensive, since the teachers themselves must be first-rate in order to guide the students, and teachers with such abilities are usually in strong demand elsewhere. Indeed, tuition at some of the top US universities is reaching almost obscene levels. Furthermore, learning how to think independently does not mean students know something that will immediately help them find a job. Thus this type of education is usually limited to those few who can afford it, reinforcing the income inequality that is already growing in post-LTP pursued economies.

The need to have the right kind of education

In contrast, the cookbook approach to education where students simply learn what the 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 therefore exposed only to this type of education, where there is limited room to express creative ideas. This means many creative minds could be buried in such educational establishments.

Because the US always had an excellent liberal arts education system where students were encouraged to challenge the status quo, it was able to maintain the lead in scientific breakthroughs and new product development, even though it lost the lead to the Japanese and others in the area of manufacturing those new products at competitive prices.

In contrast, many countries in catch-up mode adopted the cookbook-style education system where the maximum number of people can be readied for employment in an industrial setting 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 those countries can adjust their educational systems so as to produce a sufficient number of independent, innovative thinkers to sustain growth in their economies. 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 immigration-friendly US is full of born-abroad 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 the well-known names but also their entire teams and families to do research in Singapore. Many pursued countries should seriously consider implementing and augmenting similar programs to acquire and retain those who can come up with 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 reduced attractiveness 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 the tradition-bound restrictions on where they can express their creative talents. This means new businesses that are open to new ideas and innovations are very much needed in tradition-bound societies.

The importance of having the right tax and regulatory environment

On the second point, of 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 requires an insane amount of effort "where any rational person will give up," to use Steve Jobs' words. A similar comment was also made by Thomas Edison who said the inspiration leading to a new invention is one percent of the total effort, while the perspiration needed to successfully complete the product constitutes the remaining 99 percent.

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

Picketty deplored the retreat of progressive tax rates as the cause of the increase in post-1970 inequality in the 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, stagnated. This comparison suggests a tax regime that was reasonable when nobody was chasing the country may no longer be appropriate when the country is being pursued.

An advanced economy that is pursued from behind must run faster to remain an advanced country. And it is the outside-the-box thinkers that create the innovations and breakthroughs that allow these countries to stay ahead by providing new investment opportunities for businesses. Although sustained and substantial fiscal stimulus is absolutely necessary during a balance sheet recession, at all other times the policy priority for any country in the post-LTP pursued phase should be tax incentives and other measures to maximize innovation and investment opportunities.

The difficulty of achieving a public consensus

Unfortunately for many countries, these sorts of measures are often decried as "favoring the rich" and are therefore rejected. For emerging economies with plenty of low-hanging investment opportunities, such opposition may not lead to a noticeable economic slowdown. But for mature economies that are being chased from behind and must therefore run faster, an inability to fully utilize the creative and innovative potential of their people could have highly detrimental consequences for everyone. For those countries in the developed world now facing this challenge from the emerging world, future growth may well depend on how quickly they can achieve a social consensus and develop the necessary infrastructure, such as true liberal arts education and an innovator-friendly corporate culture and tax system, to maximize their innovative capacity.

This may require the creation of a new consensus where those who are not blessed with the ability 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 in generating new investment opportunities to 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 income distribution 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 the pursued countries.

To make matters worse, most countries in the West were engulfed in balance sheet recessions when their housing bubbles burst in 2008. This development accelerated the disappearance of borrowers that started in the 1970s when these countries entered their post-LTP pursued phases.

Moreover, when these countries finally come out of their balance sheet recessions, they will be saddled with huge public debt because they implemented fiscal stimulus to fight the recession. The natural tendency of orthodox economists and policymakers faced with a large public debt is to raise taxes wherever possible. But such wonton 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 necessary 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 chased from behind 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 of the latter in rural areas who are willing to work in urban factories at the going wage. Workers really have no bargaining power until the country reaches its LTP. During this stage, many if not most workers are not particularly well educated or skilled because of limited opportunities for education and vocational training in the rural areas where they spent most of their lives prior to migrating to the cities. With so many of them competing for a limited number of jobs in the cities, there is not much job security, either.

Once the economy passes the LTP, however, the table is 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.

At this stage, any expansion also means *domestic* expansion: firms have little experience producing abroad, and domestic wages, while on the rise, are still likely to be competitive at this stage.

To meet this 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 this demand manifests itself in the form of large 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 also become more common. The emerging power of unions also forces employers to improve the job security of workers. Working conditions improve as businesses offer safer, cleaner working environments to attract and retain workers.

During this post-LTP maturing period, therefore, it is businesses that 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 are effectively "pampering" workers with ever more productivity-enhancing equipment so they can afford to pay them higher wages.

At some point, however, wages reach point EQ in Exhibit 6 where businesses are forced to look for alternative production sites abroad because domestic production is no longer competitive. Businesses may find domestic production uncompetitive for two 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. The two could also happen at the same time. 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.

Once the economy reaches this stage, the way businesses perceive workers changes once again because they must now consider 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 less incentive to invest at home, and fixed-capital investment, which was such a large driver of economic growth during the post-LTP maturing phase, begins to slow down. The slowdown in investment also means growth in labor productivity, which shot up during the post-LTP maturing phase, starts to decelerate as well. Wages also began stagnating around this time.

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 people abroad 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 that 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 their workers at home. The workers must invest in *themselves* to enhance their productivity and marketability.

Indeed, job security and the seniority-based wage system become increasingly rare in industries forced to become more agile and flexible to fend off pursuers from behind. 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 Japanese labor relations since China emerged in the mid-1990s.

Those who take the time and effort to acquire skills that are 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.

Consequently, workers in the post-LTP pursued economies must 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 easy days when businesses invested to increase workers' productivity so that workers could be paid higher wages are gone for good.

Summers' secular stagflation thesis

Larry Summers argued in his secular stagnation thesis 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[11]. The sudden loss of momentum in Western economies after 2008 is obviously due to the fact that they are all

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

suffering from serious balance sheet recessions, just as when Alvin Hansen coined the term "secular stagnation" in the US in 1938 in the midst of the greatest balance sheet recession of all, the Great Depression.

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.

This pattern of emerging economies stealing 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.

Preparing emerging economies for the future

The emerging countries that are in a post-LTP maturing phase will eventually reach the pursued phase with all its attendant challenges. How should they prepare themselves for that eventuality? What can they learn from the experiences of advanced countries today?

The first point to note is that they should not operate on the assumption that the rapid growth they may be enjoying now will continue forever, since there will come a time when rising wages force businesses to look for alternative production sites elsewhere. And that may come sooner rather than later with so many countries joining the globalization bandwagon.

This means emerging countries should operate on the assumption that institutional arrangements such as tax rules and regulations are not permanent and might have to be changed as the economy moves from one stage to another. They should also work on their education system to make sure it does not discourage outside-the-box thinkers. Even though such thinkers may appear to be of limited value today, they may become the key drivers of growth when the economy enters the next stage. Liberal arts education should be introduced as early as possible to encourage students to think on their own.

They should also build as much long-term growth infrastructure as possible while government revenues are still growing. Even if that means changing eminent domain legislation in favor of government and at the expense of local residents, it will be worth it from a long-term perspective. Indeed, they should concentrate their resources on a few big-ticket items that will last for a long time instead of many small projects with limited lifetimes. Smaller projects can always be implemented if there is a little bit of money left in the budget, but big projects can be undertaken only when the economy has real momentum on its side.

Historical buildings, neighborhoods, and monuments of cultural value, however, should not be readily destroyed in the name of modernization. The more rapid the country develops, the more important this cultural heritage becomes because people in a rapidly changing environment need to be able to put down their psychological roots.

Historical neighborhoods and monuments also attract foreign tourists, which help the country earn foreign exchange. Emerging countries should learn from Europe, which attracts a huge number of foreign tourists year after year because it kept its architectural heritage largely intact. Even though Europe's high-tech industry has fallen somewhat behind those of America and Asia, the European tourist industry draws millions of American and Asian visitors every year.

<u>The economic destiny of human progress</u>

If the destiny of human progress is to accord respect to everybody on earth, regardless of background, creed, sex or sexual orientation, or skin color, what is the *economic* destiny of human progress? What is the end game for all the chasing and being chased described in Exhibit 18?

It appears that the economic destiny of human progress is a world in which the opportunity for economic advancement is available equally to everyone regardless of where the person was born or raised. It is a world where a person born in Somalia or Uruguay will have the same opportunity as someone born in the US or Germany to advance themselves economically. Today, unfortunately, the world is far from that destination.

Those born in Somalia today would have to study and work exceptionally hard to attain the economic wellbeing of those born in the US or Germany, even though many in the latter countries may not be particularly diligent relative to their counterparts in Somalia. During the golden age of the US in the 1950s and 1960s, those with minimal skills could still afford a house and a car in a reasonable neighborhood and enjoy a comfortable living that was unthinkable for people with similar skills on other continents.

It is this geographic *inequality* that is being corrected by the process of industrialization and globalization described above. The easy days for those in the advanced countries who do not study or work hard are over. Their real wages are likely to stagnate or fall if they do not boost their productivity. They must realize there are countless workers in the emerging world who are willing and able to take over the jobs they hold if they do not put in the effort to stay ahead.

At the same time, opportunities in both the developed and the developing world are expanding rapidly for those who are willing to study and work hard. IT has lowered the cost of communication so much that any job that can be performed outside an office can now be performed anywhere in the world. This development also lowers the cost of starting a company or doing business in both the developed and the developing world.

Rethinking macroeconomics

Macroeconomics is still a very young science. It really started when Keynes started taking about the concept of aggregate demand in the 1930s. With only 85 years of history, it is like a toddler when compared to such disciplines as physics and chemistry. As a 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 the time it would take to recover from it. This is because most macroeconomic theories and models developed during the last 85 years assumed that private-sector agents are always willing to borrow 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 questions of whether there are sufficient investment opportunities worth borrowing for and whether there are enough businesspeople who are able and willing to shoulder the risks entailed by 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 lack 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 experiencing a golden age with no one chasing them. New products were being invented one after the other and people were optimistic about the future. Their 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 everyone 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 his followers, the Keynesians, 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 fad shifted to the opposite extreme, with people like Milton Friedman arguing that monetary policy and smaller government were the answer to most 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[12].

When the private sector lost its head in a bubble and sustained massive balance sheet damage first 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. Although fiscal policy was mobilized immediately after the Lehman collapse, by 2010 the orthodoxy had regained their grip on power and forced countries to cut their fiscal deficits at the G20 summit in Toronto, effectively throwing the world economy into reverse.

Policymakers who realized soon afterwards that the Toronto agreement had been a mistake, such as former Fed Chair Ben Bernanke and current Chair Janet Yellen, issued strong warnings about the fiscal cliff to ensure that 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

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

Abenomics. Their actions went a long way towards supporting the Japanese and US economies where unemployment rates now stand at fully-employed 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 member governments are required by the defective Maastricht Treaty to do the opposite of what is needed to fight balance sheet recessions. 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 to discover the effectiveness of fiscal policy in fighting balance sheet recessions in the 1930s. This was amply demonstrated by Joan Robinson, a famous British economist and a contemporary of Keynes, who said, "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."[13]

Perhaps the Germans today are so appalled by the utter brutality of the Nazi regime that everything Hitler did is now considered "out of the question," even though it was he who discovered the cure for a balance sheet recession. This sort of total rejection 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 that are suffering from balance sheet recessions but are unable to do anything about it 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 monetary policy is effective because there are ample investment opportunities and the private sector has a clean balance sheet and is maximizing profits, describes only one half of the

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

macroeconomic picture (Cases 1 and 2 in Exhibit 2). In the other half, the private sector is 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 from Case 1 to Case 3 or 4 very quickly after a bubble bursts. Even though government and central bank have the tools to move the economy from Case 4 to Case 3, it may take years if not decades for the 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 universities start explicitly teaching students about the second half, policy makers and 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.

Experiences in Japan since 1990 and in the West since 2008 have demonstrated that if balance sheet problems leave borrowers missing in action, the government must serve 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 this 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 nobody 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 pursuing countries. 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 that are 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. Instead of making the facile assumption about "trend growth rates" and that there are always willing borrowers, economists need to confront this problem head-on. The availability 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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