Piketty's inequality and local versus global Lewis turning points

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Thomas Piketty's *Capital in the Twenty-First Century* opened up an entirely new debate on the optimal distribution of wealth, an issue that was largely overlooked by the economics profession until now. Although I cannot claim to have understood all the implications of his enormous contributions, I do have one reservation about one of the historical points he makes. Namely, he claims that the extreme inequality that existed prior to World War I was corrected by the 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.

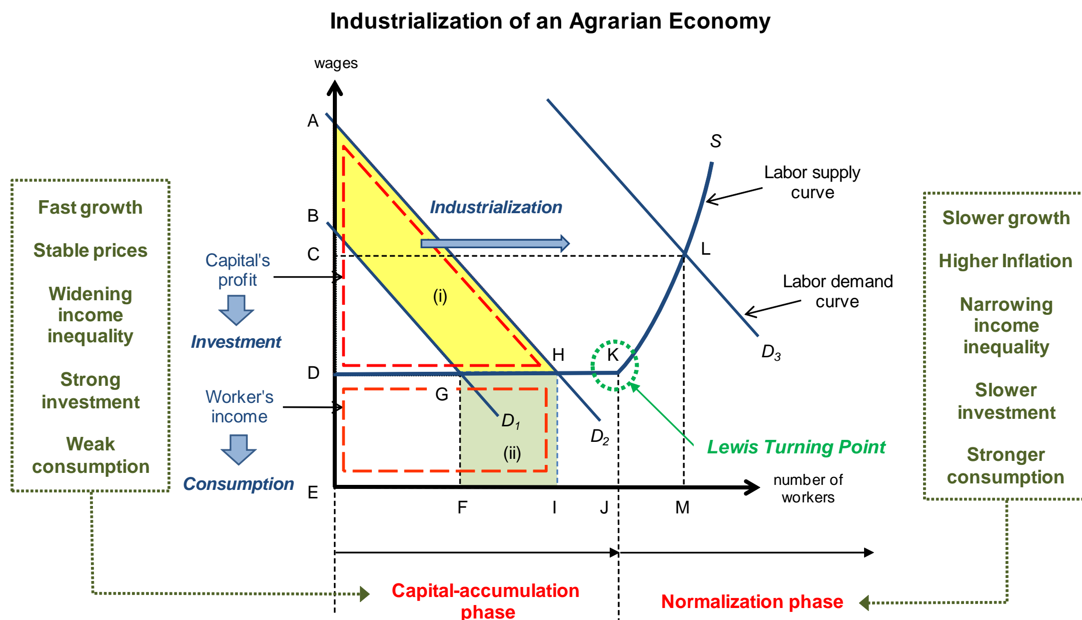
Although he has ample data to back his assertions, I would suggest that the pre-1970 results he obtained may also be due to the urbanization that drove the industrialization taking place in the developed world. Similarly, his post-1970 results may be attributable to urbanization in Japan and subsequently in other parts of Asia. In this paper I would like to propose that there are two relevant Lewis turning points (LTPs) – one for local economies (i.e., for the developed world) and one for the global economy – and that these two overlap Piketty's two observations on inequality.

The LTP refers to the stage in the industrialization of a nation's economy where urban factories finally absorb all the surplus labor in rural areas. From the standpoint of a capitalist or business owner, whether domestic or foreign, the pre-LTP world 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 able to supply products in demand before the LTP is reached can therefore earn huge profits, further increasing their incentive to expand.

Figure 1 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 a given 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. The inequality arises from the fact that 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.

Figure 1. The Lewis turning point



Source: Nomura Research Institute

Successful capitalists 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.

Until the LTP is reached, GDP growth increases 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 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). Inequality in China has worsened in recent decades for the same reason.

Inequality worsens with growth until LTP is reached

During this phase, income inequality, symbolized by the gap between rich and poor, widens sharply as capitalists' share of income (the triangle) increases much faster than labor's share (the rectangle). Because capitalists are profiting so handsomely, they will continue to re-invest profits in a bid to make even more money. Sustained high investment rates mean domestic capital accumulation also proceeds 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 have hard lives, even though the move from the countryside to the cities may improve their situations modestly. Business owners, in contrast, are able to accumulate tremendous wealth during this period.

Marx and Engels, who lived in pre-LTP Europe, were incensed by the horrendous inequality and miserable working and living conditions for ordinary people they saw and responded by inventing the theory of communism, which called for capital to be shared by the laborers. In that sense, the birth of communism may itself have been a historical imperative of sorts.

Today's so-called developed economies all started out as agrarian societies before the industrial revolution. As Piketty points out, economic growth was slow in the agrarian centuries, and upward mobility was very limited. With few technological breakthroughs, investment opportunities were limited if not non-existent – the only opportunities involved the acquisition of new territories, mainly through colonization. The absence of investment opportunities at a time when people were trying to save for the future meant these economies were constantly confronting what Keynes called the paradox of thrift.

The advent of the industrial revolution, which was in essence a technological revolution, opened up tremendous investment and employment opportunities in the cities where factories were being established. The massive growth in investment opportunities pulled these economies out of a multi-century paradox of thrift, and economic growth picked up sharply. That also kick-started the process of urbanization that continued until the LTP was reached. However, it was no easy transition for the average workers with 14-hour work day not at all uncommon until the end of 19th century. According to the OECD, the yearly working hours in the West in 1870 were 2950 hours or double the present level of 1450 hours. Access to capital and financing, together with the expertise needed to produce and sell products, was also limited to the educated elite, which in those days was a very small group. Those having this access and the right skills did very well indeed.

Inequality improves and economy matures after passing LTP

As business owners continue to generate profits and expand investment, the economy eventually reaches the Lewis turning point. Once that happens, the total wages of labor – which had grown only linearly until then – start to increase rapidly since the labor supply curve now has a significant positive slope. For example, even if labor demand increases just a little, from J to M in Figure 1, 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 finally has the bargaining power to demand higher wages, which reduces the profit share of business owners. But businesses will continue to invest in the economy as long as they are making good returns, leading to further tightness in the labor market. It is at this point that the inequality problem begins to correct itself.

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. From that point onward the economy begins to "mature" and "normalize" in the sense in which we use those terms today.

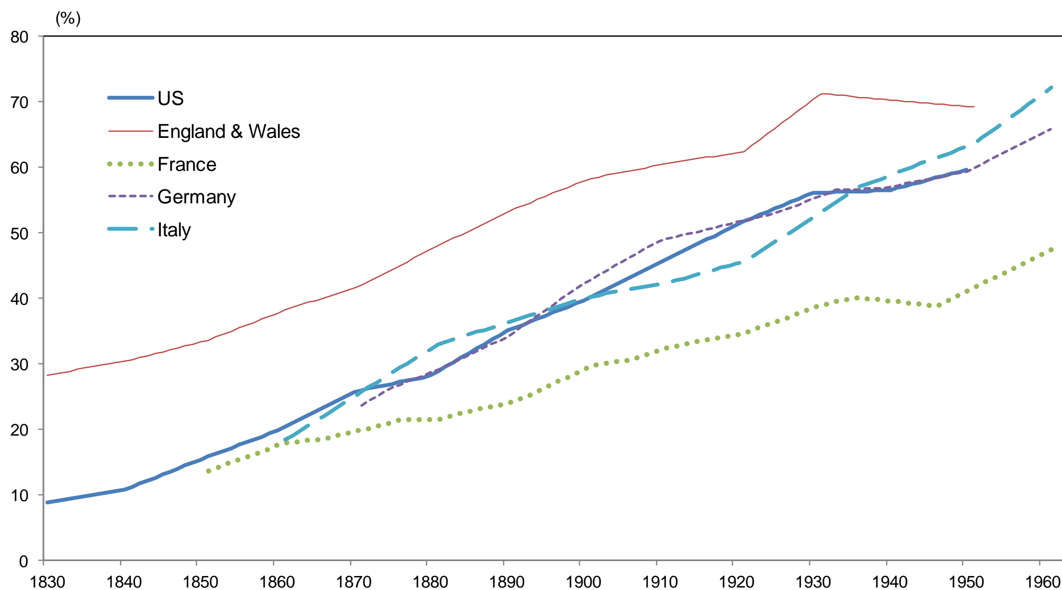
A significant portion of the European and American populations still lived in rural areas until World War I, as shown in Figure 2. Even in the US, where – unlike Europe – workers were always in short supply, nearly half the population was living on farms as late as the 1930s. The mobilization of two world wars then pushed these economies beyond the LTP, and standards of living began to improve dramatically. With workers' share of profits increasing relative to that of capital, inequality diminished as well, ushering in the so-called Golden Sixties in the US.

Marx and Engels' greatest mistake was to assume that the extreme inequality they witnessed (points G and H in Figure 1) would continue forever. In reality, it was just one inevitable step on the path towards industrialization. Ironically, those countries that adopted communism before reaching their LTPs ended up stagnating because the profit motive needed to promote investment and push the economy beyond its LTP was lost.

US-led free trade changed the game and enabled Asia's emergence

In the pre-1945 world, there was an important constraint that slowed down the progression described above – a shortage of aggregate demand and markets. If the workers constituted the main source of consumption demand, 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.

Figure 2. Urbanization* continued in the West until the1960s…



* 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*

To overcome this constraint, European powers turned to colonization in a bid to acquire both sources of raw materials and captive markets where they could sell the goods they produced. Indeed, it was believed for centuries that national economies could not grow without territorial expansion.

That led to constant wars and killing until 1945 when the victorious and enlightened Americans introduced a free-trade regime that allowed anyone with competitive products to sell to anyone else. The US took the lead by opening its own market to the world. Although the US initiative was motivated to a great extent by the need to fend off the Soviet threat by rebuilding western Europe and Japan, the free-trade regime allowed not only Japan and Germany, which had lost all their colonies, but also many other countries to prosper without the need to expand their territories.

The advent of free trade made obsolete the notion of territorial expansion as a necessary condition for economic growth. While the 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 proved that what is really needed for economic growth is markets, not territories. Economic growth will accelerate if markets can be accessed without the expense of acquiring territories.

The relative infrequency of wars between countries that had been fighting since history began may be due to the fact that free trade meant territorial expansion was no longer a necessary or sufficient condition for economic growth. Indeed, colonies became more of a liability than an asset after the free-trade regime took hold.

In Asia, it was the Japanese who discovered in the 1950s that an economy could grow and prosper simply by producing quality products for the US market. 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. Then the share of labor began to rise sharply, and the nation came to be known as the country of the middle class, with more than 90 percent of the population considering themselves to be part of the middle class. The whole country was proud of the fact that it had virtually no inequality. Some even quipped in those days that Japan was how communism was *supposed* to work!

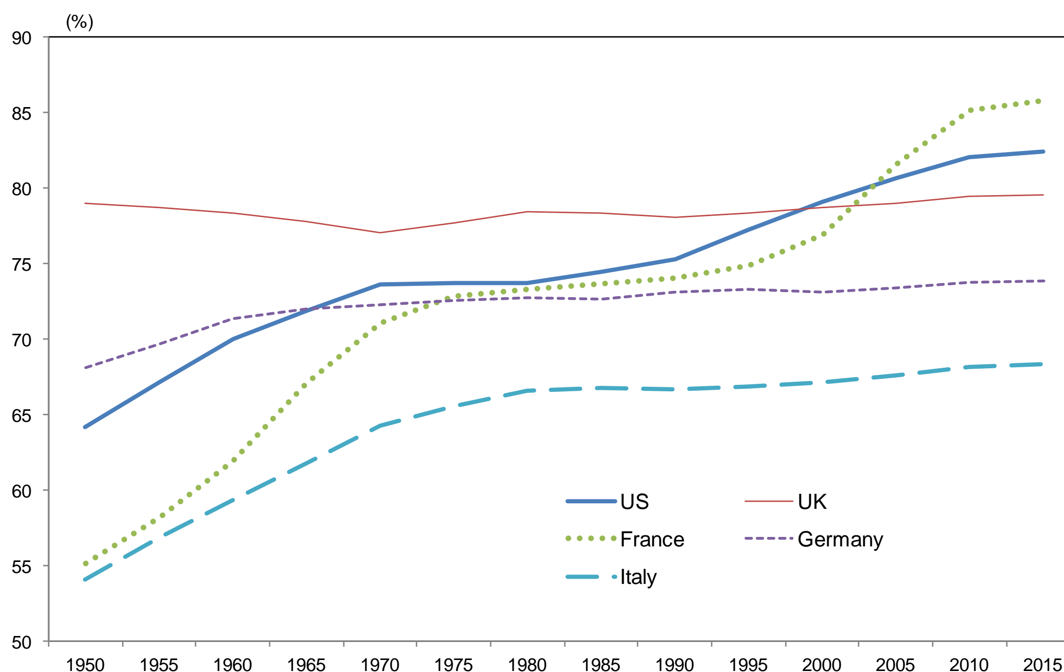
The Japanese success then prompted Taiwan, South Korea and eventually the rest of Asia to follow the same export-oriented growth formula in a process dubbed the “flying geese” pattern of industrialization. The biggest beneficiary of all, of course, was China, which was able to transform a desperately 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 probably qualify as the fastest and greatest economic growth story in history, but it was possible only because the US-led free-trade system allowed Chinese firms 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 companies from around the world to build factories there. Were it not for the markets provided by the free-trade regime, it could have taken many times as long for China to achieve the same economic growth.

Local and global Lewis turning points and Piketty's inequality

This increase and decrease in inequality before and after the LTP may explain the first part of Piketty's historical observation that inequality in the West increased until World War I but subsequently decreased until the 1970s. Although Piketty attributes this to the destruction of wealth brought about by two world wars and the introduction of progressive income taxes, this was also a period in which urbanization came to an end in most of these countries.

Figure 3. Urbanization in the West slowed down in the 70s



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2010 Revision and World Urbanization Prospects

The post-1970 increase in inequality in these countries noted by Piketty may also be due to the fact that Japan and later other Asian countries began exporting to the West as they reached their own LTPs. For western capitalists able to utilize Asian resources, it was a golden opportunity to make money. But for manufacturing workers in the West whose employers had to compete with cheaper imports from Asia, this was not a welcome development at all.

The Japanese ascent disturbed the US and European industrial structures in no small way. As many workers lost their jobs, ugly trade frictions ensued between the US and Europe on one side and Japan on the other. This was the first case of western countries that had passed their LTPs being chased from behind by a country where wages were much lower.

Some of the pain western workers felt were of course offset by the fact that, as consumers, they benefitted from cheaper imports. And soon enough, Japanese wages reached western levels. The Asian "tigers" reached their own LTPs by the late 1980s.

The end of the Cold War then brought China and India into the global trading framework. Both countries were still far from their LTPs, and each had more than a billion people. Although India is taking time to get its economy moving, China wasted no time in integrating itself with the global economy. That enabled it to attract an astronomical amount of foreign direct investment, not just from the West and Japan but also from Taiwan and Hong Kong.

Those in the West and elsewhere who have the skills needed to take advantage of the opportunities in China are operating like the capitalists in their own countries' pre-LTP eras and are making tremendous amounts of money. It also means those who have to compete with Chinese (and eventually Indian) workers are experiencing zero or even negative income growth. Foreign businesses that are expanding rapidly in China are also likely to be investing less at home, which will have a depressing effect on domestic economic growth and wages.

Moreover, the skills not easily replaced by cheap labor elsewhere are likely to be highly technical and require long years of investment in human capital. Not everybody in the developed world is willing to put up with the hardship required to acquire such skills, especially when they already enjoy a reasonably comfortable life.

The result has been the renewed increase in inequality that Piketty observed during the last three decades in the industrialized world. In other words, this is a story of a global LTP which still has some ways to go because there are many countries in the world that have not reached their LTPs.

The above suggests that there are at least two relevant LTPs for a country's development: the country's own turning point and the *global* turning point. For a capitalist in the developed world, the existence of developing countries that have yet to reach their LTPs represents an opportunity to make money by lowering production costs. For workers in the developed world, the same globalized environment means more competition from low-wage developing countries.

That, in turn, will increase inequality in the developed world until everyone in the world is gainfully employed, i.e., when all countries in the world have moved beyond their LTPs. The fact that China passed that point around 2012 should come as a relief for workers in the developed economies, but there are still other countries, such as India, that can continue to exert downward pressure on developed-world wages.

Global competition and the happiness of nations

The real issue for growth and inequality in the developed world, therefore, is how to fend off the countries chasing these economies from behind. The West faced this problem for the first time when Japan emerged as a formidable competitor in the mid-1960s.

It is well known that many US industries and companies disappeared under assault from Japanese competition, but the same phenomenon was also observed in Europe. The German camera industry, the world's undisputed leader until around 1965, had all but disappeared by 1975 due to Japanese competition. West German camera production that year was virtually zero. The disappearance of good manufacturing jobs was not helpful in reducing inequality in these countries.

Today the same challenge confronts Japan. Whereas it was once a country where 90 percent of the population considered itself middle class, more and more people are now worried about inequality. Millions of manufacturing jobs have migrated to Southeast Asia and China. The jobs that remain are often not particularly highly paid, and many have actually been taken by workers from abroad, such as Japanese Brazilians and young Chinese who came to Japan as students.

Many displaced workers who had to find jobs in the service sector are now considered "working poor." Regional cities that once prospered as centers of industry have become ghost towns with shuttered shopping streets, reminiscent of the US Rust Belt.

The same phenomenon can now be observed in Taiwan where a huge number of factories had moved to China. As a result, those who can utilize resources in China are doing well while those who cannot are doing poorly.

This is a natural result of the progression of industrialization at the global level. And this process has been accelerated by the global free-trade regime and continuous technological innovation.

This global perspective also implies that nations are at their happiest – i.e., inequality is shrinking and people are enjoying the fruits of their labor – when they are either well ahead of other nations or are chasing other countries but are not being pursued themselves. The West was at its happiest until the 1970s because it was ahead of everybody else – until Japan started chasing it. 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. When the Asian Tigers and China began pursuing Japan in the 1990s, the nation's happy days were over.

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 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 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 sure whether such investments constituted the best use of resources. And businesses would be too ready to move to lower-cost countries to remain competitive.

The US experience in fending off Japan

Assuming that free trade is here to stay, the real issue for the developed world is how to maintain growth momentum when it is being pursued from behind. Here the US experience in trying to fend off Japan is instructive. The US pursued a two-pronged approach that involved

keeping Japanese imports from coming in too fast while at the same time trying to make its industry more competitive.

The US utilized every means available to prevent Japanese imports from flooding the domestic 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. Trade frictions between the two countries got so bad during this period that it began to resemble a racial confrontation.

At the same time, so-called "Japanese management" was all the rage at US business schools. Many of those schools eagerly recruited Japanese students so that 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 Ocean. Combined with the debacle of the Vietnam War, the self-confidence of Americans had fallen 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, I was frequently asked and briefed by the US Embassy in Tokyo to explain the US trade position to Japanese audiences. I was a frequently invited onto television programs in Japan to discuss economic issues. Although I tried my best to explain to the Japanese why it was in their own interest to find compromises with the US, I will never forget the intense mutual hostility that characterized the US – Japan relationship from the mid-1980s to mid-1990s.

After trying everything, however, the US seems to have concluded that when the country is being pursued from behind the only solution is to run faster – i.e., to stay ahead of the competition by continuously generating new ideas, products and designs. The supply-side reforms of President Ronald Reagan were indeed a way to maximize the incentives for such innovators so that their number and output would be maximized. Although the reforms, which included significantly lower taxes, took a long time to produce results, they began to pay handsome dividends in the 1990s when the US started to regain its leadership role in many high-tech sectors.

The real challenge for the developed world

The problem is that not everyone in society is capable of coming up with new ideas or products. And it is not always the same group that is coming up with new ideas. It also takes an enormous amount of effort and perseverance to bring new products to market. But without innovators who can come up with new ideas and industries, the rest of society will be relegated to stagnation or worse.

Reagan's reforms allowed the US economy to grow at a respectable pace during the two decades leading up to the global financial crisis (GFC) in 2008, but for 80 percent of the population there was no increase in real income at all during this period. In other words, the growth was accruing mostly to the 20 percent who were able to come up with new ideas and products.

Admittedly, some of the 20 percent actually made their money by riding increasingly deregulated Wall Street with clever financial manoeuvers that had little to do with adding

value to society, as the collapse of the market for toxic CDOs in 2008 amply demonstrated. But the problem of "financial capitalism" – excessive financial assets relative to GDP chasing too few real investment opportunities – is not only a separate issue that goes beyond the scope of this paper, it also runs counter to Piketty's assertion that the return on capital is almost always higher than economic growth. Indeed it was precisely the drive to achieve such returns that led to excessive risk taking and eventually the GFC.

The post-GFC re-regulation of the financial sector, including the Volcker Rule, is the right way to contain such excesses in the financial market. To the extent that some of the gains from financial transactions are zero-sum in nature, a country may also want to limit remuneration in the financial sector so that its best and brightest are not entirely absorbed by zero-sum or near zero-sum activities.

In any case, the real question is whether the 80 percent would be better off with higher taxes on the wealthy 20 percent, as proposed by Piketty. If a higher tax rate discouraged the 20 percent from taking huge risks to develop new ideas and products, their expenditures would fall. That would reduce the income of the 80 percent who provide products and services to the 20 percent. With no new products or industry, the whole economy might be overtaken by competition from the emerging world.

Viewed in this way, Piketty may be underestimating the tremendous costs and hard work involved in developing new products and ideas. A vast majority of new ventures fail. But – at least in the US – people keep on trying because they have a dream of making it big. Piketty will have to prove that the innovating 20 percent will work just as hard even if a much smaller reward awaits them at the end. The track record of generating new products and industries in Japan and Europe, both of which have taxes that are more progressive than the US, does not seem to support Piketty's position.

Conclusion

At least some parts of Piketty's historical observations on inequality can be explained with reference to two Lewis turning points: the western economies' own turning points and the not-yet-reached global turning point. Passing the country's own LTP reverses the worsening trend on inequality brought about by industrialization that was present prior to the LTP. But that improvement may be short-lived or even reversed by the subsequent competition from countries that are yet to reach their LTPs.

Viewed in this way, Piketty's favorite period of income distribution from the end of World War I to the 1970s may have been a transitory phenomenon when the West was ahead of everybody else and nobody was chasing the West. That happy period ended when Japan started chasing the West in the 70s, and the same happy period for Japan ended in the mid-1990s when China started chasing Japan.

For developed countries that are now being pursued from behind, the challenge is to maximize the output of the 20 percent of the population capable of developing new ideas and products so that they can both stay ahead of the competition and allow the remaining 80 percent to live off the new industries created by the 20 percent. Given the huge risk and hard work involved in bringing new products to market, Piketty's push for higher taxes on the

wealthy could turn out to be detrimental for developed nations trying to fend off competition from the emerging world.

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