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Regaining China's Resource Reallocative Efficiency to Boost Growth

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Abstract

The structural changes that the Chinese economy has been experiencing since its working-age population began to decline pose challenges for its further growth. First, as it loses its comparative advantage in labor-intensive activities, the share of manufacturing in its GDP has shrunk. Second, unproductive enterprises that are reluctant to exit the market tend to seek policy protection, which leads to the immobility of resource allocation. Third, the reallocation of the labor force from the highly productive manufacturing sector to the low-productivity service sector leads to the degradation of resource allocation. The inadequate exploitation of the potential of resource reallocation implies that the decline in manufacturing is premature. It is therefore important to combine market competition policy, industrial policy, and social protection policy to stabilize the development of manufacturing.

Keywords: labor productivity, resource reallocation, share of manufacturing, total factor productivity

JEL codes: L10, O14, O47

I. Introduction

Economists who adhere to neoclassical growth theory often fail to interpret the source of China's fast growth in the past 40 years. They include Krugman (1994, 2013) and Young (2003), who firmly believe that China's economic growth, like that of its more advanced counterparts in East Asia in the 1990s, is not a miracle at all and cannot be sustained because the growth is only driven by intensive factor inputs but not by any improvement in productivity. Likewise, neoclassical growth theory struggles to answer questions such as how China can realize the fastest growth for such a long time by relying on inputs of capital and labor without diminishing returns and where the productivity growth (if any) comes from in the growth models of China and, to an extent, other East Asian economies.

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One cannot negate the two facts that China's impressive growth has been sustained for a long time and that the improvement in its productivity has contributed a reasonable part to the growth (Cai, 2015). In fact, many empirical studies have offered answers to those two questions. First, in the course of the development of the dual economy, which is characterized by an unlimited supply of labor, the phenomenon of diminishing returns on capital can be avoided. Until surplus laborers are absorbed, therefore, capital formation continues to contribute significantly to economic growth (World Bank, 1998; Zhu, 2012). For example, studies have found that the capital investment return in China was exceptionally high in comparison with many economies in other parts of the world (Bai et al., 2006) before it began to decline rapidly and significantly as the labor shortage emerged (Bai and Zhang, 2014). Second, the massive migration of the labor force from low-productivity sectors (agriculture and rural sectors) to high-productivity sectors (non-agricultural and urban sectors) generates resource reallocation efficiency, which is the characteristic way to increase labor productivity and total factor productivity (TFP) in the demographic dividend-driven growth (Cai, 2017).

The unique experience of China can be used to interpret the factors contributing to growth, particularly the source of productivity improvement and the characteristics of sectoral changes in the period where the phase of demographic transition and the stage of economic development combined to help China catch up with more advanced countries. From that experience and the discussions around it, one can also infer that, as the demographic dividend begins to vanish and the dual economy development approaches its end, it is urgent for China to explore new sources of productivity improvement and growth momentum.

The working age population, aged between 15 and 59, has shrunk since 2010, which signals the waning of the demographic dividend in China. As a result, both the potential growth and the actual growth of GDP have since slowed due to the changes resulting from the reversed population trend, which include labor shortages, slower improvement of human capital, diminishing returns on capital, and less room for resource reallocation.

Accompanied by the growth slowdown, equally severe challenges have occurred in the industrial structure. First, as a result of the weakening comparative advantage in the labor-intensive industry, the share of manufacturing value added to GDP has been declining since 2006. Second, the reluctance of inefficient enterprises to exit operations and the government policies of protection and stimulus tend to immobilize resource reallocation across sectors and among enterprises. Third, as employment in manufacturing shrinks, laborers tend to transfer from the high-productivity sector (manufacturing) to the low-productivity sector (low-end service), which results in the involution of resource allocation. Preventing those trends from continuing is vital in order for China to

maintain the level of economic growth rate necessary to reach the goals blueprinted in the *Fourteenth Five-Year Plan on the National Economic and Social Development and the Long-term Objectives through the Year 2035*, and that is the theme of this paper.

Productivity differentials exist across countries, regions, industries, and enterprises. Correspondingly, productivity can also converge through international trade, international and interregional flows of production factors, firms entering and leaving sectors, and the survival or death of enterprises facing competition. Although differences in productivity never disappear in reality, the existence, erasure, and re-emergence of productivity differences is the mechanism by which productivity is increased.

The convergence of productivity across regions, sectors, and firms is the process of productivity growth of any economy as a whole. The direction of the factors of production flows – namely, from low-productivity areas to high-productivity areas or the opposite – therefore determines the healthiness of structural changes and the sustainability of economic growth. In the different stages of development, the convergence and enhancement of productivity have different characteristics, which pose different challenges for institutional arrangements and policy adjustment. Worldwide experiences show that there are two major ways of reallocating factors of production and thus increasing productivity, which are especially relevant to China.

First, characterized by labor reallocation from low-productivity agriculture to high-productivity non-agricultural sectors, industrial structure changes lead to the convergence of productivity among sectors and an increase in productivity of the economy as a whole. Kuznets (1957) pointed out that reallocation is the main driving force of sectoral changes. Such a process can be called the Kuznets process (Aoki, 2012). By combining productivity growth through factor reallocation with income growth through labor migration, such a process is characterized by gradualism and the Pareto improvement – when the institutional arrangement is correct, it benefits the main participants without harming anyone else.

Second, by letting the productive enterprises survive and expand and allowing unproductive enterprises to contract or die, competition reallocates factors of production among enterprises, promotes the convergence of productivity among them, and increases the overall productivity of an economy. To Schumpeter (1982, 2003), the function of entrepreneurs is to innovate in their daily operations and reorganize factors of production during the recession. As a result, some enterprises win whereas others lose in competition. This is called creative destruction. In that sense, the Schumpeterian process is not a Pareto improvement at all.

Changes in the stages of economic development share many characteristics with changes in the stages of demographic transition, so one can observe the convergence

and growth of productivity through changes in the two stages. In fact, there are useful categorizations of countries by the World Bank that divide countries into four groups in terms of either the level of per capita GDP or the stage of demographic transition. It turns out that the two sets of four-group categorizations correspond to each other. That is, the countries with low-income, lower middle-income, upper middle-income, and high-income status are very similar to countries in the pre-demographic dividend, early demographic dividend, late demographic dividend, and post-demographic dividend stages, respectively (World Bank and IMF, 2016; Cai, 2019).

Table 1 presents average labor productivity – the value added per employee in the primary, secondary, and tertiary sectors by demographic transition status. Two facts stand out from the data. First, in almost all stages, countries have the potential to increase overall productivity by reducing the share of primary and correspondingly by increasing the share of the secondary and tertiary sectors. This characterizes the process of resource reallocation among three main sectors – that is the Kuznets process. Second, some countries may experience a sectoral change characterized by the share of the industrial sector (mainly manufacturing) declining, and the share of the tertiary sector (particularly the non-tradable service sector) increasing. As productivity in secondary is usually higher than that in the tertiary sector, such a sectoral change can be called the reverse Kuznets process.

Table 1. Sectoral productivity by the stage of demographic transition (2018 US$)

	Primary	Secondary	Tertiary
China	3,830	23,157	14,992
Pre-demographic dividend	1,659	12,396	5,811
Early demographic dividend	2,262	12,744	11,737
Late demographic dividend	4,314	24,146	17,106
Post-demographic dividend	35,588	92,336	85,253

Source: World Development Indicators (see: https://data.worldbank.org/).

According to the classification of the World Bank, China is in the late demographic dividend stage. While the indicative features of China overall tally with those of the demographic group to which it belongs, there are some exceptions in comparison with the average of the countries in the group. Some differences may not be statistically significant. For example, China's per capita GDP is slightly higher than the average, and its overall and sectoral productivity is moderately lower than the average. Other differences are much more obvious. For example, China's labor share of primary sector is significantly higher than the average and, as a result, productivity in primary sector relative to the productivity in secondary and tertiary sectors is much lower than

the average of its demographic group. Those abnormal characteristics of the Chinese economy against its stages of economic development and demographic transition tend to pose severe challenges in productivity growth.

This paper tries to explain what makes China's productivity stagnate and how policies should be deployed to tap the potential for productivity growth. Section II summarizes two stylized facts showing the way to look into productivity growth – namely, the Schumpeter process and the Kuznets process. With the help of such a framework, we find that as the traditional comparative advantage weakens, both of the processes of productivity growth witness significant reversal – that is, the immobility of resource reallocation between enterprises within sectors and involution of resource allocation between sectors. Section III analyzes empirically the conditions that determine the readiness for the decline in the share of manufacturing in the economy and tries to generalize some laws from the findings. We also discuss the necessity for China to stabilize its manufacturing to tap the significant potential for resource reallocation. Section IV concludes with some policy suggestions for stabilizing the share of manufacturing in the overall economy, increasing productivity, and creating momentum for the growth of the Chinese economy.

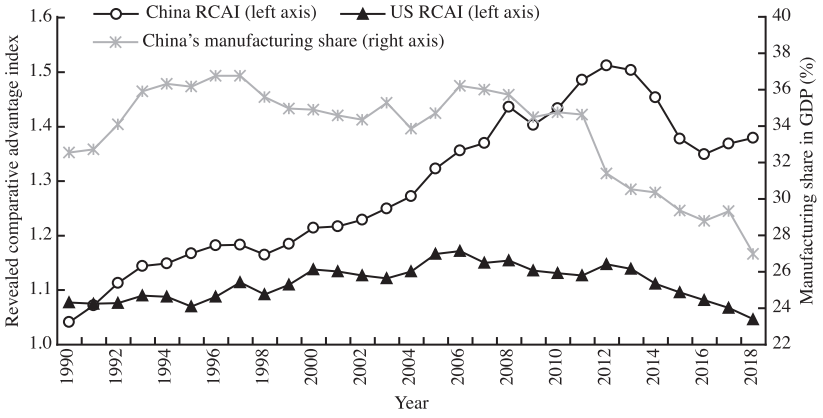
II. Two processes of productivity growth and their reversal

Since reform was initiated in the late 1970s, China's economic growth has benefited from the demographic dividend, which originated from the fast growth of the working-age population and was reflected in the exceptionally large share of manufacturing in both GDP and trade. China's manufacturing began to increase markedly in the early 1990s. The proportion of manufacturing value added to GDP reached a peak of 36.8 percent in 1997 and remained relatively steady before it began to descend. As a result of the demographic transition, which is shown as the shrinking working-age population and, therefore, labor shortages, manufacturing's share declined from 36.3 percent to 27.0 percent in the period from 2006 to 2018 (Figure 1).

The shrinking of the working-age population, the same force that drove down the manufacturing share, also leads to the weakening of manufacturing's comparative advantage and, thus, a relative decline in the export of manufacturing commodities. The revealed comparative advantage index (RCAI), the calculated ratio of the share of manufacturing in merchandise export of a country to the same share of the world's total, allows us to examine such a change in time series and across nations. As is shown in Figure 1, as early as the early 1990s, China's manufacturing RCAI surpassed that of the US. After China entered the World Trade Organization, its RCAI increased dramatically

and reached a peak of 1.51 in 2012, in comparison with the RCAI of the US, 1.15, which has decreased rapidly since.

Figure 1. Manufacturing's comparative advantage index and share in GDP



Sources: Data from Timmer et al. (2015); World Development Indicators (see: https://data.worldbank.org/).
Note: RCAI, revealed comparative advantage index.

The decline in manufacturing's share of both GDP and export is the result of the deceleration of manufacturing growth relative to the growth of the economy as a whole and is driven by the increase in unit labor costs. Under such circumstances, those enterprises that are not productive and competitive tend to have great difficulty surviving. According to the Schumpeterian theory of innovation, this is the right time for the market to push unproductive enterprises out of business and to allow the more productive enterprises to expand and the startups to enter by realigning factors of production. There are some obstacles, however, that prevent such a creative destruction process from happening in the case of China.

While uncompetitive enterprises turn to policy protection, the governments, which are concerned about growth, tax revenue, and employment, sometimes offer such protection to those enterprises in three ways. First, the central government implements loose monetary and fiscal policies to help reduce enterprises' financing and operation costs. Second, local governments provide official guarantees to encourage banks to make loans to those enterprises even if the investments are not used in a profitable way. Third, governments sometimes incorporate those enterprises into industrial policy-related projects aiming to promote the industries that are supposed to embody dynamic comparative advantage. By receiving credit and even new investments, consequently, some unproductive and uncompetitive enterprises continue to survive.

The reasons why governments often have unrealistic hopes for protected enterprises are twofold. First, some policy advisers think of the growth slowdown of the Chinese economy and, therefore, the difficulties facing enterprises, as cyclical phenomena and external shocks (Lin, 2011). Policymakers are sometimes prone to adopt that advice simply because the cyclical factors and the structural causes of the growth slowdown are intertwined and, thus, hard to distinguish. According to the line of reasoning discussed above on the vanishing demographic dividend, it is evident that such policy advice is misleading and the policy measures based on such advice are bound to fail to prevent enterprises from losing viability, manufacturing from declining, and the economy as a whole from slowing down.

Second, a loose monetary environment and fiscal subsidies help promote enterprises' capital deepening process – namely, replacing laborers with types of machinery and robots, which may increase the output–labor ratio by reducing the number of laborers used in production. Moreover, the increasing capital–labor ratio and output–labor ratio contribute statistically to the enhancement of labor productivity. However, such labor productivity growth cannot be sustained, nor does it mean that there is any strengthening of competitiveness as there is no improvement in TFP, as the protective policies have impeded the creative destruction process. The rapid and excessive increase in the capital–labor ratio has also accelerated the diminishing return on capital, which further weakens competitiveness and slows the growth of China's manufacturing. In China's manufacturing, for example, the growth rate of fixed capital was more than twice that of labor productivity and 50 percent faster than that of value added in the period from 2006 to 2017.

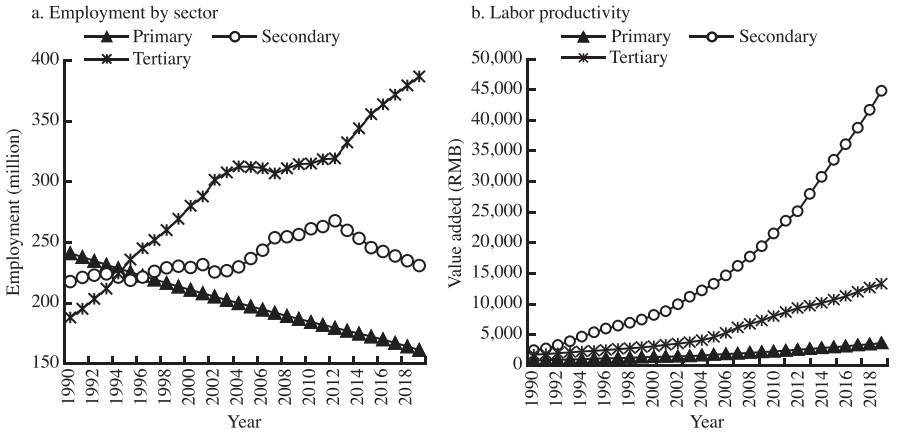
As a result of the weakening comparative advantage and declining shares in trade and the economy, manufacturing in China is losing its status as the overwhelming absorber of the transferred surplus laborers from agriculture and rural areas. As Chinese manufacturing makes up roughly 60 percent of the secondary sector in terms of both value added and employment, the relative changes in employment between the secondary and tertiary sectors can be a proxy for the structural consequence of the shrinkage of manufacturing.

Some researchers argue that the official data released by the National Bureau of Statistics of China have overstated the absolute numbers and relative share of agriculture in the overall employment in China (IMF, 2006; Brandt and Zhu, 2010; Cai, 2017). To avoid the adverse impact of such a statistical bias on the composition of employment, we have adjusted the data series of the sectoral employment based on some assumptions.[1] The indicators plotted in Figure 2 are all calculated based on the adjusted

[1]For explanations of the data adjustment, please see Cai et al. (2013) and Cai (2017).

data. The figure first shows the employment reduction trends in the secondary sector and expansion in the tertiary sector in recent years (Figure 2a). In fact, observation of labor market also shows that the new entrants to the labor force – namely, graduates from all levels of schooling and rural to urban migrants – mainly flow to the tertiary sector. Then, it shows the dynamics in labor productivity and its huge differentials between the secondary and tertiary sectors (Figure 2b). As the labor reallocation process goes in the opposite direction to productivity, one can clearly see the reversed Kuznets process – that is, reallocation tends to become unproductive.

Figure 2. Employment shares and productivity dynamics of three sectors



Source: NBS (1991–2019).

Throughout the period of the economic reform and opening initiated in the late 1970s, labor mobility from the primary to secondary and tertiary sectors has been an important source of labor productivity growth. By decomposing the overall productivity growth of the Chinese economy, Cai (2017) found that in the period between 1978 and 2015, the labor productivity increased in the primary, secondary, and tertiary sectors, respectively, contributed 13 percent, 32 percent, and 11 percent to the total productivity growth of the economy, and labor reallocation from primary to secondary and tertiary sectors contributed 44 percent to the total. As the reallocation process slows and even goes in the opposite direction, consequently, overall productivity growth will stagnate.

In parallel with the diminishing demographic dividend, which tends to weaken irreversibly the growth potentials determined by the supply and allocation of factors of production, China's economic growth has slowed since 2012 as the result of a slower potential growth rate (Cai and Lu, 2013). This shows that, in addition to the changes in the demographic dividend-related factors – namely, labor shortage, slower improvement

of human capital, and diminishing returns on capital, the slowdown in productivity growth is also an important drag on economic growth. Moreover, the cause of the productivity slowdown is the reduced room for resource reallocation across sectors and the subdued competition among enterprises within individual sectors owing to the policies that impede market entry and exit.

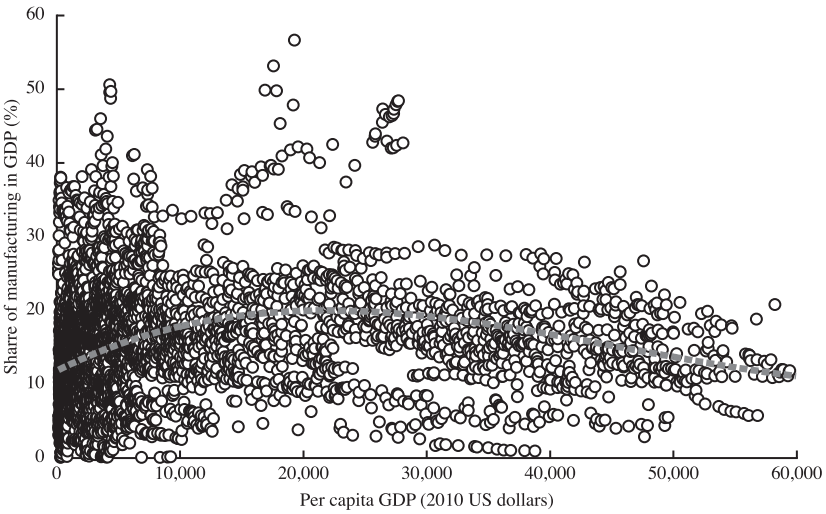
Some studies show that China's productivity is stagnating. Based on data from Task Force Team (2019), for example, we can compute the arithmetic mean of the TFP annual growth rate of the Chinese economy in different periods. It was 4.1 percent in 1978–1988, 3.3 percent in 1988–1998, 0.5 percent in 1998–2008, and −1.8 percent in 2008–2016. From the published data, we also find that the growth rate of labor productivity – namely, the GDP per employee in China – has been diminishing since 2007, despite the fact that the rise in the capital–labor ratio helps mitigate the trend a little.

III. Has the decline in China's manufacturing come naturally?

The share of manufacturing tends to rise in some countries and fall in others but it eventually descends in the long run. This phenomenon has been found not only in China but also in other countries. Looking at the share of manufacturing in the national economy against per capita GDP based on available cross-nation data (Figure 3), one might imagine two pictures emerging successively and one holistically. First, a horizontal V-shaped curve (or a greater-than sign) implies that, in the transition stages from low- and middle-income status to high-income status, countries tend to converge in terms of the share of manufacturing – namely, moving towards a certain range of levels in the middle from two extreme ends. Second, in the countries in the early stage of high-income status – or, ranging from per capita GDP of US$12,000–US$25,000, the share of manufacturing stabilizes at its high level until it begins to decrease. Third, from the whole picture, a reverse U-shaped curve shows that as per capita income increases, the share of manufacturing continues to increase until it peaks and then shifts to descend.

However, such a sketchy picture may obscure the great differences between countries in terms of the changing path of manufacturing. In particular, the shrinking of manufacturing's share may come naturally in some countries, or it may be caused by distorting factors, which often lead to the immobility and involution of resource allocation. In what follows, we discuss the timing and conditions of the decline in manufacturing in international comparison and try to summarize some facts relevant to China.

Figure 3. Descriptive relationship between per capita GDP and manufacturing



Sources: Timmer et al. (2015); World Development Indicators (see: https://data.worldbank.org/).

First, at an early stage of development, countries enjoy both a demographic dividend and the advantage of backwardness, which allows them to catch up with their more industrialized counterparts if the necessary conditions are met. When per capita income grows to a certain level, at which the population drivers fade, and the comparative advantage in labor-intensive industries vanishes, and manufacturing has no other way to grow except through innovation. Countries' economic growth usually slows at this stage, but whether they succeed in innovation or not determines how soon the slowdown of manufacturing occurs and how fast it goes.

Second, if primary sector constitutes a small share of the total employment in a country, it means that there are no longer surplus laborers in primary and tertiary sectors and that the resource reallocation has been adequately carried out. The decline in manufacturing is therefore not a reversed Kuznets process and will not cause any significant reduction in overall productivity.

Third, the decline in the share of manufacturing does not necessarily mean the mitigation of the relative importance of the sector in the economy as a whole if a series of necessary conditions are met. Such conditions can be discussed by comparing China with countries in different stages. Table 2 lists some critical statistics when major economies reached their turning point of manufacturing from rise to fall. Those statistical indicators include the starting year (Year), the share of manufacturing (Peak), per capita GDP (Income), and the share of agricultural employment (Agriculture) when

the countries' share of manufacturing began to decline. By comparing those indicators between countries, one can see that the decline in China's manufacturing is premature.

Table 2. Time and conditions of reduction of manufacturing (2010)

Countries	Year	Peak (%)	Income (US$)	Agriculture (%)
US	1953	26.8	16,443	7.3
China	2006	36.3	3,063	42.6
Japan	1970	34.1	18,700	18.8
West Germany	1969	36.9	19,681	9.1
India	1995	19.7	675	62.4
France	1974	25.9	23,654	10.9
United Kingdom	1960	39.5	13,934	4.4
Brazil	1982	31.1	7,661	33.3
Italy	1976	35.1	21,363	15.7
South Korea	2011	28.2	23,755	6.4

Sources: Timmer et al. (2015); World Development Indicators from the World Bank.

Notes: The income of West Germany is at the 1970 level. Agriculture, the share of agricultural employment; income, per capita GDP; peak, the share of manufacturing; year, the year manufacturing starting reduction.

In 2006, when its share of manufacturing in GDP began to decrease from the level of 36.3 percent, China was classified as a lower middle-income country with a per capita GDP of US$3,069 at constant 2010 prices. Its agricultural share of value added in GDP and employment in the total was 10.6 percent and 42.6 percent, respectively. In 2018, the share of manufacturing decreased to 27.0 percent, its per capita GDP in real term was US$7,807, and the share of output and employment was 7.0 percent and 26.1 percent, respectively. That is, the decline in the share of manufacturing in China has occurred under unmatured conditions compared to the developed countries.

There are visible similarities in terms of per capita GDP and characteristics of sectoral structure between China in 2018 and Argentina and Brazil in 1974 when the share of manufacturing in the latter countries began to decline. Premature de-industrialization has been proven to be one of the root causes of economic stagnation in some Latin American countries. In other words, it is the premature decline of manufacturing that contributes to the important factors resulting in the so-called middle-income trap phenomenon. For that reason, China should make efforts to mitigate the trend of shrinking manufacturing, at least before it fully graduates from the middle-income group.

Manufacturing is the core sector where TFP and labor productivity growth through the reallocation of factors of production and where the knowledge-based

economy is nurtured. Those functions are basically embodied in three processes. First, manufacturing absorbs a surplus labor force from low-productivity agriculture, contributing to the economy's productivity growth as a whole. Second, manufacturing spreads productivity gains to more sub-sectors by deepening resource reallocation following industrial chains. Third, the improvement of productivity in manufacturing helps induce demand for producer services. In conclusion, having a reasonable proportion of manufacturing provides a solid foundation to promote the Kuznets process and Schumpeter process in an economy.

From the foregoing, it is logical to conclude that, for China, manufacturing has not developed to the level at which the low-hanging fruits of productivity growth have been picked (Cai, 2022). We can also confirm that conclusion from both international and domestic perspectives.

We first look into the global trend of manufacturing growth. The international statistics show that in parallel with China, the world economy as a whole has also experienced slower growth in manufacturing and a relative decline of its share in GDP and trade. There are some common factors that decelerate the world economy and cripple the world's trade of manufacturing commodities, such as population aging, secular stagnation, deglobalization, decoupling of supply chains, and trade wars.

Apart from that, a fact that is particularly relevant to China is that there is no well-matched manufacturing production capacity in the world, which can offset the relative reduction of manufacturing goods if China's share of the world's manufacturing production falls too quickly. After 2006, whereas China's share of manufacturing in its GDP declined, its share of manufacturing in the world's total increased. That implies that the decrease in manufacturing in China is premature, from both a domestic and an international perspective.

We next look into the industrial structure of China. In addition to the classification dividing the economy into the primary, secondary, and tertiary sectors, the secondary sector can also be further subdivided, and one of its subindustries, manufacturing, includes various levels and many subsectors as well. According to the classification by the Chinese authority (General Administration of Quality Supervision, Inspection and Quarantine and State Standardization Administration, 2017), the manufacturing industry identified as level C is further divided into a 2-digit level with 30 items, a 3-digit level with 178 items, and a 4-digit level with 604 items, respectively. Within manufacturing, the chain of resource reallocation is quite long, or in other words, the room for improving productivity is large enough so that the sector's development will remain an important source of productivity growth. Furthermore, there exist large differentials in productivity among enterprises within the narrowly defined

subcategories of manufacturing, which also provides a large amount of room for resource reallocation.

As shown in Figure 2, there are huge differentials in labor productivity between the primary, secondary, and tertiary sectors, which indicate opportunities for productivity enhancement at the macro level. There are also studies that indicate potential for increasing productivity at the micro level, which results from inefficient resource allocation and the existence of barriers deterring resources from reallocating. For example, a simulation by Hsieh et al. (2009) suggested that, if the differences in marginal outputs of factors of production among industrial enterprises could be reduced to the level of the US, the TFP of China's industry would increase by one-third to one-half.

The same evidence can be found at the subindustry level. Based on the data from four rounds of the China Economic Census, conducted in 2004, 2008, 2012, and 2018, respectively, we can calculate the labor productivity of over 40 subindustries.[2] The coefficients of variation of labor productivity among those subindustries were 0.901, 0.848, 0.834, and 0.961, respectively. The latest rise in the variation in productivity among subindustries implies that there is a setback in resource allocation efficiency, on the one hand, and a large amount of room to increase the overall productivity of industry by reallocating factors of production, on the other. Such a conclusion can be extended to other classification levels.

IV. Conclusion and policy suggestions

The process of increasing productivity by deepening the reallocation of resources is conducive not only to strengthening the comparative advantage of manufacturing and stabilizing its share in the economy but also to laying a solid foundation for upgrading industrial structure. At China's current stage of economic development, manufacturing's untimely loss of comparative advantage and the premature shrinkage of its share of the economy indicates an unhealthy change in the industrial structure. Sustaining China's manufacturing requires the transformation of the growth pattern from a demographic dividend-driven type to a TFP-driven type.

Both theoretical reasoning and empirical evidence suggest that, as the demographic dividend diminishes and comparative advantage weakens, factor endowments change so that the inputs of capital and labor can no longer sustain the growth. It is equally important to know, on the other hand, that productivity improvement encounters bigger

[2]See official website of State Bureau of Statistics, available from http://www.stats.gov.cn/tjsj/pcsj/.

challenges at the time when factor endowments change. That is, the immobility and involution of resource allocation tend to occur. For China to tackle such challenges, efforts have to be made to build creative destruction mechanisms to mobilize the reallocation and stabilize and upgrade manufacturing.

The diminishing demographic dividend also implies the narrowing of opportunities for resource reallocation – namely, greater difficulties in improving productivity, compared to that during the period when surplus laborers massively migrated from low-productivity agriculture to high-productivity non-agricultural activities. One such difficulty is that reallocation is no longer a Pareto improvement, benefiting some entities without hurting others. Deepening reallocation by the mechanism of creative destruction will unavoidably produce "winners" and "losers" in market competition, which also impacts workers who happen to work at the losing enterprises but are not necessarily responsible for their failure.

Neither those who are laid off, self-perceived potential losers, nor the stakeholder entities (enterprises or local governments) that claim to have an obligation to protect the workers affected by reallocation are willing to accept the results of such creative destruction. That is, because further reallocation is not a Pareto improvement process, any reforms aiming to improve productivity will encounter incentive incompatibility, free riding, and resistance from vested interest groups. While the entry–exit and survival–death mechanisms tend to play a greater role in increasing productivity (Foster et al., 2001; Foster et al., 2008), the fear of enterprises going out of business and workers being laid off becomes the most convincing excuse for limiting competition.

Studies suggest that further reform can bring about significant dividends – namely, the increase in the GDP potential growth rate by improving the supply of labor, operational efficiency, and reallocation efficiency (Lu and Cai, 2016). With such reform dividends, the requisite costs of reform can be reasonably shared among all stakeholders involved, and individuals can be protected through a policy framework that combines competition policy, industrial policy, and social policy. That puts forward the tasks for the government to formulate a policy trinity.

First, the purpose of perfecting competition policy is to increase productivity through creative destruction and deepening resource reallocation. In the new stage of development, the sustainable source of productivity improvement will depend increasingly on market competition. Central government and local governments in China should therefore alter their roles from helping to bring in investment and introduce projects to safeguard a level playing field, reducing transaction costs of startups and businesses, and removing institutional obstacles that prevent enterprises from entering and exiting competitive activities freely.

Second, worldwide, industrial policy increasingly has little to do with the means of central planning or protectionism. Neither does it conflict with the principle of the market economy. Industrial policy was originally implemented to help startups, enterprises, and investors explore dynamic comparative advantage. Aiming to tackle the special challenges facing China, industrial policy should be implemented to (i) prevent the share of manufacturing from further falling, (ii) direct manufacturing to upgrade along the ladder of the value chain, particularly in the area of the digital economy, and (iii) help combine manufacturing with the producer services sector so as to increase the productivity of services.

Third, social policy is conducive to building an environment necessary to increase productivity and improve people's standard of living by sharing the outcomes of productivity growth among different players. Creative destruction involves letting inefficient enterprises out and even eliminating outdated jobs. In all those processes, however, the people must be protected through a social protection system and labor market institutions. When the Chinese leadership proposes to push forward common prosperity, the rhetoric not only declares the ultimate goal of China's modernization but also suggests the means of realizing it.

Two facts can be observed by exploring cross-nation data (Cai, 2021). First, labor productivity is significantly correlated with the ratio of government (social) expenditure to GDP. That is, the more sufficient the guarantee for people through the social protection system is, the more confident enterprises are to embrace the creative destruction mechanism. Second, cross-nation data suggest that the average proportion of government expenditure in GDP increases from 26 percent to 37 percent accompanying an increase in per capita GDP from US$10,000 to US$25,000. In terms of per capita GDP, China's development will be required to accomplish the same tasks during the period to 2035. It is both necessary and feasible for China to complete the task of building a welfare state in the next 15 years.

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