

Analyzing the Causes of China's Slow Economic Growth Based on AD and AS Models

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Abstract: This paper tries to find out the reason for the slowing down of the Chinese economy based on both Aggregate Demand and Aggregate Supply models. It was triggered by the recent drop in China's economic growth rate, a phenomenon which has attracted many eyes. This paper identifies how such factors determine economic growth using the aggregate demand (AD) and aggregate supply (AS) models with respect to the macro-economy of China. This analysis identifies four key elements: consumption, investment, government expenditure, and net exports; it analyzes their different impacts on economic growth from demand and supply perspectives. Empirically, the results point to the continued growth in consumption and investment as core factors underlying China's slowdown. Besides the weak demand, deep-seated structural problems on the supply side -such as a drop in the growth of the labor force and low-capacity utilization in selected industries -further dragged down the economic growth. The findings from the study can, therefore, be used to inform policymakers that in the short term, there is a need to stimulate consumption and investment to spur demand. In the long run, however, reforms on the supply side of the economy are necessary for attaining sustainable economic growth.

Keywords: Economic growth, aggregate demand, aggregate supply, structural reform.

1. Introduction

Compared to the rapid expansion over the past decades, China has lately witnessed a slowdown in economic growth. This trend has run deeper since 2018 and reflects both the external and internal difficulties the Chinese economy is facing. Correspondingly, the Chinese government has used such policy instruments as fiscal stimulus and supply-side structural reforms. The effectiveness of these interventions remains doubtful, since the root causes of slowdown remain undefined. This paper draws on AD and AS models and tests the current situation in China from both sides in an effort to come up with the main causes of economic slowdown. The analysis is focused on the key factors of consumption, investment, imports and exports, and government spending, along with principal elements like low industrial capacity utilization and demographic changes. In this way, it purports to give a holistic understanding of the current economic predicament and valuable lessons for future policymaking.

2. Literature Review

Literature on the economic slowdown of China identifies demand, supply, and external side factors as the contributing factors. This paper aims to explore how these features of the literature can explain the slowing down of the Chinese economy with the help of aggregate demand and aggregate supply models in order to understand the complicated interplay that has been influencing the trajectory of the contemporary Chinese economy.

2.1. Demand-Side Factors

Bekaert et al. provide a real-time analysis of the COVID-19 recession and its impact on the economy of China, showing that the high drop in GDP at the beginning of 2020 was mostly due to a demand shock. Further quarters exhibited both demand and supply shocks, thus proving that it's seminal to understand these dynamics to accurately predict recovery [1]. Dutt puts emphasis on aggregate demand in long-term growth (precisely investment and government expenditure), insufficient technological response could make the impact of demand extension narrow, and therefore needs the inclusion of policies on the demand side to maintain growth [2]. These are, therefore, very important inputs in a country like China where factors like weakened consumption and investment have been at the root of its recent slowdown.

2.2. Supply-Side Constraints

The other identified key factor that explains the slowdown of the Chinese economy has been associated with supply-side constraints. Dutt focuses on the effects of government spending on labor productivity and, through this channel, both short- and long-term economic growth. His results formally indicate that models of endogenous growth are better able to account for business cycle dynamics if they postulate the presence of both demand and supply factors [3]. Fleisher et al. discuss China's regional disparities of growth and state that human capital and infrastructural investment belong to the most important supply-side elements. According to their research, human capital investment may be crucial in promoting growth for the less developed regions, while the infrastructure investment yields higher returns for the developed regions [4]. These issues on the supply side are already visible, as already-low labor force growth began to go down and industrial capacity began to be underutilized, stemming the drag further on economic momentum in China.

External Influences

Arora and Vamvakidis study the international spillover effects of rapid growth in China and find that a one-percentage-point increase in the Chinese growth rate is associated with a 0.5-percentage-point increase in global growth. This depicts the salient role which important external factors and international integration play in the current determination of economic performance in China [5]. As China is increasingly integrating itself with the world economy, external shock and global economic conditions bear more and more influence on internal economic trends.

2.3. Contribution of the Current Study

This paper adds value by providing a comprehensive analytical review to evaluate the economic slowdown of China in the light of AD and AS models. Unlike most available works that lean on either demand or supply factors, this paper integrates both perspectives and, as such, provides a new understanding of the challenges being faced by the economy of China. This study offers valuable insights useful for policymakers through examining the interplay between the demand and supply sides, whereby both short-term demand deficiencies and long-term supply-side structural issues need to be corrected in the process of fostering sustainable economic growth in China.

3. Analysis and Methodology

This paper aims to explain the causes of the slowdown of China's economy using both the aggregate demand and aggregate supply models. Over the past few years, Chinese economic growth has changed from high speed to more moderate growth. This has been a serious attention matter. In that regard, this study will discuss the various factors that determine aggregate demand and supply and how their interaction may have led to the slowdown. It is to inform policymakers generally about the demand and supply drivers of China's economic trajectory.

3.1. GDP and GDP Growth in China

Before the global financial crisis in 2008, China's GDP growth rate had always been at a fairly high rate and once achieved about 9% in 2008. With the global economic environment worsening after the crisis, along with internal structural problems piling up, its GDP growth rate began to decline slowly. By 2019, the growth rate dropped to around 5%, indicating that the Chinese economy had entered a phase of moderate growth. In 2020, the outbreak of the COVID-19 pandemic further exacerbated this slowdown of economic growth, dropping the GDP growth rate to around 2%, which was the lowest it had been in decades [6]. As Naseer et al. commented, the COVID-19 pandemic has represented the most serious threat to the global economy since World War II, with severe negative impacts on major economies like China, leading to unprecedented contractions of manufacturing and services [6]. Although the GDP growth rate did bounce back to about 7% in 2021 due to the gradual recovery of the world economy and domestic stimulus adopted, such a rebound did not last. The GDP growth rate in 2022 slid once more to 2.5%, a development pointing out the fragility and uncertainty of the recovery (shown in Figure 1).

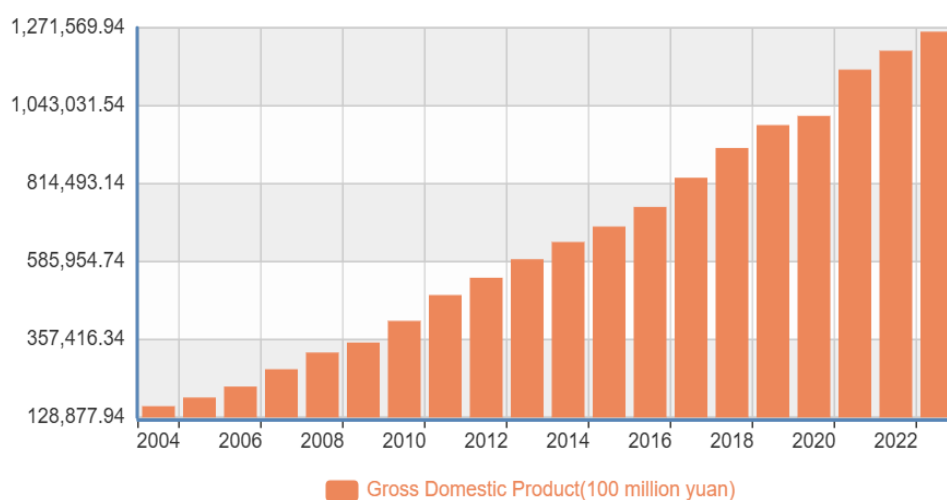


Figure 1: GDP growth in China (Data from National Bureau of statistics of China)

3.2. Total Retail Sales of Consumer Goods

In trying to evaluate total retail sales of consumer goods in China from 2004-2019, there is a general upward trend since the total went up from 4,559.37 billion yuan in 2004 to app 39.5 trillion yuan in 2019. However, when the COVID-19 pandemic broke out in the year 2020, the Chinese economy took a deep hit and because of that, a dip in the total retail sales to 38.96 trillion yuan. Shortly after, with the easing of restrictions related to the pandemic and the adoption of a series of government stimulus policies, it bounced back vigorously to 43.5 trillion yuan in retail sales in 2021. Growth rates levelled off in the year 2022 at 0 % and then showed a small recovery to reach 7% in the year 2023.

Creation of stellar growth from the period of 2004–2007 at 23% in 2007 was more due to the global trade boom post-China's accession into the WTO. It dropped step by step due to the eruption of the 2008 global financial crisis, the re-escalation of the U.S.-China trade war in 2018–2019, to a -3% rate in 2019. The intensity of the 2020 contraction portrays the impact of the COVID-19 pandemic, while the rebound presents the buoyancy of economic recovery following this period (shown in Figure 2).

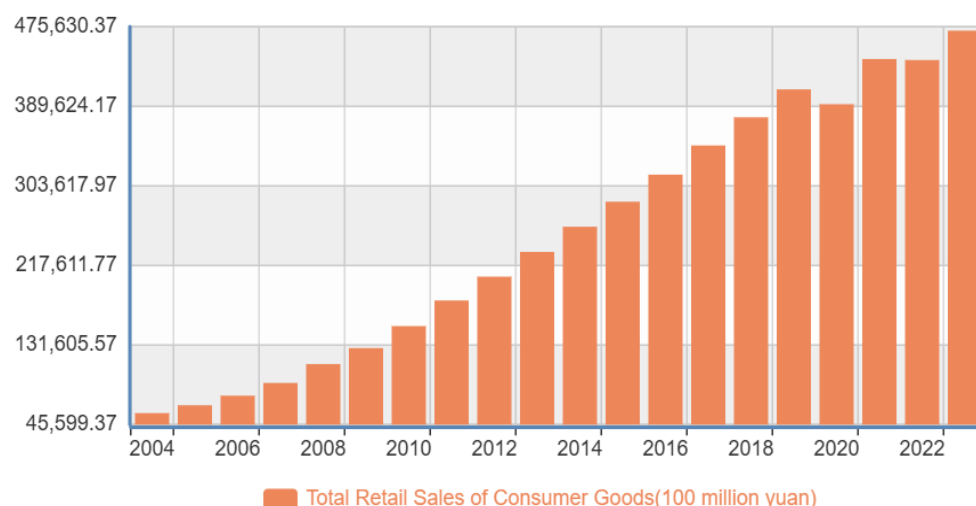


Figure 2: Total retail sales of consumer goods (Data from National Bureau of statistics of China).

3.3. Total Investment in Fixed Asset in the Whole Country

From 2004 to 2010, one can observe a tremendous growth in total investment in fixed assets of China. The total investment in fixed assets moved from 5.29308 trillion yuan to 21.4354 trillion yuan with respective growth rates that ranged between 18 per cent and 26 per cent. The key drivers for such growth were the rapid expansion in the economy from 2011 to 2019 mainly, though total investment continued to increase in the upward trend, the growth rate showed a gradual decline. In 2020, the growth rate of fixed-asset investment has fallen to about 2 percent which had reached a multi-year low of point (shown in Figure 3).

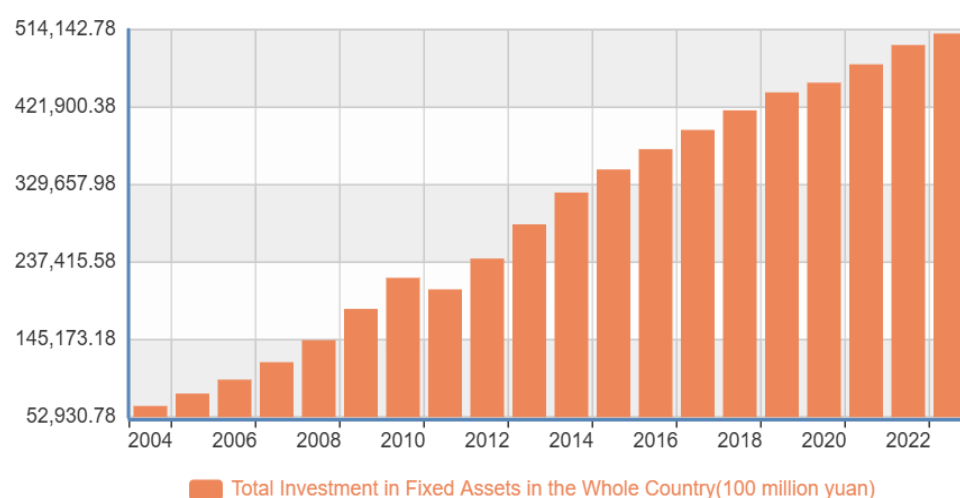


Figure 3: Total investment in fixed assets (data from National Bureau of statistics of China).

3.4. National Government Revenue and Expenditure

The trends of national government revenue and expenditure are important in understanding the slow growth of the Chinese economy with respect to the AD/AS analysis. Off late, especially from 2004 to 2023, China has been experiencing growing fiscal deficits caused by continuous expenditure outlay above revenues by the government. For instance, in 2023, the national general public budget revenues reached 21.6784 trillion yuan, while expenditures have overshot 27 trillion yuan, reflecting a year-on-year growth of 5.4%. These expenditures appear to have provided impetus to short-term economic growth by adding to aggregate demand; however, the continuous and growing scale of the fiscal deficits is likely to cause long-term problems. If analyzed from an AD/AS perspective, the increase in government expenditure will shift the AD curve to the right and might stimulate economic activity. But if the deficits continue to rise in this fashion, many fingers may be pointed at fiscal sustainability, which could erode investor confidence, thereby shifting the AD curve leftward. Further, if, at some point in time, the government is forced into austerity measures to keep the debt levels under check, then it might further dampen aggregate demand and economic growth. Government expenditure has thus far given some support to economic activity, but the longer-term impact of the same on growth remains somewhat uncertain, particularly if the deficits continue to expand.

3.5. Export and Import of China

Embedded in China's economic growth was its export and import activities that are analyzed through AD and AS models. Total trade in goods reached 42.07 trillion yuan in 2022, the highest ever; of these, exports grew 10.5 percent to 23.97 trillion yuan and imports rose 4.3 percent to 18.1 trillion yuan. It has been among the key drivers of China's economic growth, given that net exports have turned into a significant element of aggregate demand. The continuous inflows of exports have propped up aggregate demand in China through elevated production and employment, which in turn has sustained economic expansion. Conversely, reliance on trade surplus makes any economy vulnerable to shocks from outside the economy, such as a general decline in global demand or changes in trade policy. The factors can tip the AS curve, mainly if the supply chains are disrupted or if world demand for Chinese goods weakens. Moreover, the rising share of general trade, which grew 11.5 percent in 2022, and the expansion into new markets have helped further diversify China's export base. There are arguments that this reduces some of the risks but brings new dependencies. From the perspective of the AD/AS model, while the trade surplus supported economic growth by shifting the AD curve to the right, there might actually be a contraction in aggregate demand due to possible external shocks and therefore slow growth. It will be a challenge for China to maintain a balanced approach to trade that will continue supporting growth without risks associated with its global uncertainties.

3.6. China Industrial Capacity Utilization

In the application of the Aggregate Demand and Aggregate Supply models in explaining the causes of slow growth in China, there is one critical factor: the capacity utilization rate. The magnitude of industrial capacity utilization in China from 2015 to 2019 was low compared with such major economies as the United States, Japan, and Germany. The lower capacity utilization would thus suggest that there was a lot of underutilized industrial capacity in China, which would then have limited the country's potential to produce optimally and caused slower economic growth due to the constrained AS curve. That changed dramatically in 2019 with the emergence of the COVID-19 pandemic. China's industrial capacity utilization was relatively less influenced compared with a lot of other global economies. This resilience therefore allowed China to outperform the United States and Japan in industrial capacity utilization for some time. This transition could have lent temporary

support to the growth of China by preventing the AS curve from contracting further, as the country was still able to sustain a higher level of production than most of the other major economies. Although this created a temporary advantage in its favor, by 2021, the United States did catch up with and overtake China in the realm of industrial capacity utilization. The ongoing gap shows that the extent of underutilization of industrial capacity is still quite considerable, at something like 4% separating China from the United States. Underutilization mirrors deeper structural problems within China's economy relating to inefficiencies in resource allocation and possible overcapacity in some sectors. These factors reduce the growth rate in the Chinese economy by lowering the rate of expansion in the AS curve and also leading to a drop in potential output.

3.7. Aging Group

Some of the factors that would explain the slow growth in China's economy using the AD-AS model are the aging population. China has experienced a dramatic change in demographics over the past few decades, where the birth rates have continuously fallen and the percentage of elderly population has increased. As the birth rate continued to drop, the aging population rose, which may bring along potential problems in the labor market. The retirement age at the national level is not changed yet, and the shrinking labor force may menace productivity. The reduced labor force means fewer workers are made available to contribute to production, hence underutilization of the resources, and a possible drop in aggregate supply. The result of this will thus be a contraction in the AS curve, which eventually limits the capacity of an economy to grow by producing fewer goods and services to meet demand.

Moreover, the impact of aging does not stop at the supply side. Chen et al. found that the deepening of the rural elderly population in China increases the poverty headcount ratio for most rural areas, and the growth rates of those ratios even exceed that of the elderly population itself. This demographic change has perpetuated high levels of rural poverty, which again, retards economic growth – the impoverished rural population derives less benefit from the phases of economic growth [7]. In this regard as well, the research recognizes that the ever-increasing internal Gini coefficient within the poverty groups of rural areas reduces the positive impact of poverty reduction on the issues of the aging population [7].

3.8. Causes of China's Slow Economic Growth

The main problems with the economic growth of China are as follows: First, the low industrial capacity utilization rate presumes inefficiencies in resource allocation that impinge on the slow expansion of the Aggregate Supply curve and hinder economic growth. Second, an aging population reduces the labor supply further, hindering production capacity and contracting the AS curve. Thirdly, despite fluctuations in retail and fixed asset investment, growth is sluggish, reflecting insufficient domestic demand. While exports have been supportive to a certain extent, reliance on external factors increases vulnerability. Continuous expansion of fiscal deficits may stimulate demand in the short run but creates risks for long-term fiscal sustainability. All these factors together mark China's transition into a phase of moderate economic growth, with further risks of slowdown.

3.9. Policy Recommendation

The slowing of Chinese economic growth could, therefore, be addressed through the AD-AS model to guide proper policy formulation. First is consumer confidence, which increases domestic consumption. In this regard, the government is called upon to adopt confidence-enhancing policies, such as tax cuts, consumer subsidies, and public campaigns that boost confidence.

Further investment is important in order to maintain growth amidst global uncertainties. They can lower borrowing costs by cutting interest rates, thus motivating firms to invest, expand activities, and innovate. Jian and F demonstrate that an increase of the business creation rate by 10% can rise annually GDP growth per capita by between 0.75 to 1.625 percentage points, while innovation entrepreneurship exerts a positive lagged effect, increasing growth by 0.05 to 0.188 percentage points for every 10% increment in innovation levels [8]. Policies that encourage entrepreneurship and innovation are thus of the utmost importance in ensuring long-term growth -reducing regulations, for example, or providing tax breaks.

Increasing the capacity utilization is also another important strategy. As Turhan put forward that reducing interest rates and providing cheap loans increase capacity utilization in countries significantly [9]. Multi-shift investment in production, particularly with tax breaks for additional shifts, will greatly raise the output and total tax revenue. Full capacity utilization should be encouraged by the government to meet the output targets of firms with minimum capital investment.

Finally, export promotion is strategic to increase external demand. This could make Chinese products more competitive internationally, as the exchange rate depreciates, it will widen the export base, hence reducing reliance on domestic demand fluctuations. The negotiating of favorable trade agreements and reduction of barriers, particularly in developing nations, would further strengthen demand for Chinese goods and services abroad. In 2010, Tsen also found two-way causality from export to economic growth and vice-versa, and also two-way causality from domestic demand to economic growth and vice-versa [10]. Therefore, underlined the need to have balanced policies that enhance both exports and domestic consumption with a view to improving the trade balance towards the attainment of sustainable economic growth.

4. Limitation and Future Outlook

The paper is generally all-rounded in the use of the aggregate demand and aggregate supply models in analyzing the case of China's economic slowdown. However, the paper admits to some limitations of the aggregate demand and aggregate supply models. Although useful, the AD-AS models themselves are inherently simplified attempts at capturing complex economic realities. They might not fully capture the subtleties embedded in the interaction between the demands and the supply factors in a rapidly growing economy like China's. For example, the models may be too simplistic in order to capture progressively the effects of policy changes, alterations in technology, or even changes taking place in the world economy over time on the Chinese economy.

A second limitation is that the data are subject to their own sources of inaccuracy and lack of timeliness. Chinese economic data are, by their nature, like those of most large economies, subject to various revisions and updates that can affect the drawn conclusions' robustness. Also, it is based mainly on history, which may not portray how the economy is currently poised and faring into the future, more so in a post-pandemic world, where economic recovery is yet not outlined. The study is central to majorly macroeconomic variables and therefore may be turning a blind eye to microeconomic differences that are in existence within the different sectors of the Chinese economy. For instance, although the analysis has wide themes such as consumption, investment, and capacity utilization across industry, it lacks critical drilling-down to specific industries or regional disparities, which often have a very large bearing on economic growth

5. Conclusion

The current Chinese economic slowdown, therefore, is built off an AD-AS framework of a set of factors. Empirically, it finds that sluggish consumption and investment, coupled with deep-rooted structural issues on the supply side, such as low industrial capacity utilization and gradually slowing

labor force growth, combine to account for the deceleration in economic growth. The trajectory that the economy of China is taking is being influenced by exogenous factors, such as global trade dynamics and economic uncertainties. Underlining the need to get down to both short-term deficiencies in demand and long-term reforms on the supply side, the assessment has stressed the initiation of proper measures to sustain economic growth. In the near term, stimulus measures for consumption and investment are required to enhance aggregate demand. What would be necessary in the longer run, however, are structural reforms for productivity, innovation, and increasing industrial capacity utilization. Overall, this paper provides some useful lessons for policymakers in terms of a balanced approach that could address both demand and supply issues in the economy. If these two perspectives were to be integrated, that would mean China could tide over this challenge with its present economic slowdown and achieve a resilient, sustainable growth path in times to come.

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