Chinese Economic Outlook: Unemployment Changes and Sector Shifts

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Abstract. A vivid image of the future of the Chinese economy proves essential in navigating the complex future of the Chinese economy. Under the impacts of the prolonged quarantine in China and the nation's strong recovery in the high-tech sector following large financial market reforms, the future of the Chinese economy becomes increasingly uncertain with the likeliness of a period of expansion as well as development to redistribute sectors within the Chinese economy. With seemingly contradictory trends of development, such forecasts become increasingly urgent. In this study, through the statistical exploitation of the unemployment rate of China, coupled with policy and economic analysis of the nation, this paper sought to determine the future of the Chinese economy through both structural perspectives and its overall trend, shedding light on some of the ambiguity of the future. Although the forecast of unemployment proved to be flat under the exploitation of two different models following manipulation and testing of the data, news, and policy generated other insights from which a more accurate and specific conclusion regarding the Chinese economy can be derived. Finally, the research explores in detail the implications of the alternations in the Chinese economy.

Keywords: Chinese Sectors, Forecast, Labor Market, Policy, Unemployment.

1. Introduction

With the reopening of China following COVID, the country is subjected to great expectations and challenges in its economy on the route of recovery, as one of the leaders of the transformation from a developing nation into a developed nation [1]. Under these circumstances, this report intends to explore the future conditions of the Chinese economy's future given its current policies and conditions, generating a revelation about the situation in future years.

In evaluating the Chinese macro economy, some structural changes deviate China from its initial, "orthodox" route of growth into one that is distinct and needs to be addressed specifically according to the conditions of the Chinese economy.

Initially, after reaping the benefits of the population growth on lower labor costs of production, China's manufacturing sector faces challenges from international competition while other industries begin their infant stage of development [2]. On the one hand, COVID policies were drastically different in China from surrounding nations, provided China's unique "zero tolerance" policy given a large population base more suitable for infection, COVID quarantine persisted in China beyond just that of the first surge. When the global economy learned to coexist with Omicron, China's quarantine kept the manufacturing industry more stagnated than its international counterparts. From the procedural complications average workers faced in attending work to the mass shutdowns of manufacturing industry factories, the Chinese Purchasing Managers' Index, a measure of the CNY quantity of purchase of materials for a firm, and the Producer Price Index, a measure of the income that producers receive from sales, simultaneously declined, indicating regressed activities in the manufacturing sector, with smaller scales of production and less profits [3]. On the other hand, East Asian and Southeast Asian counterparts to the Chinese manufacturing industry have been gaining competitiveness [4]. With major international firms relocating their production facilities to more cost-effective nations in Asia, the Chinese economy sees a withdrawal of foreign capital investments. Such withdrawal is also reflected partly in China's decreased PMI and PPI, from which international demand diminished to also harm suppliers. Overall, Chinese manufacturing regressed more in recent years than it has ever deteriorated.

Accompanying the degradation in the manufacturing industry are also opportunities emerging from the impact of COVID. Most notable of which is the emergence of the world's most robust online economy in times of the COVID crisis [1]. With quarantine and the physical incapability of the individual to shop offline, online shopping has been prevalent throughout the crises of COVID within China. Such prolonged prevalence would have likely accustomed the average Chinese consumer more to the online economy, facilitating a smoother and swifter transformation of the economy to one that is more online. Moreover, after COVID, the Chinese high-tech sector saw a robust recovery with the increased manufacturing of EVs and semiconductors, constituting a historical percentage composition of the high-tech sector's production process in the percentage added value out of all China's industrial processes [5]. Such success also triggered the financial market to inject funds into the sector, promising even more growth in the future. Rather than depicting COVID as a simplistic detriment to the macro economy, it is also essential to depict it as one which generated otherwise nonexistent opportunities.

Additionally, having undergone drastic capital accumulation in the excessive growth of the Chinese economy over the past decade, currently, the Chinese financial market sees signs of deceleration in "orthodox" growth. With the drastic effect of COVID in limiting the flow of population, the already inflated Chinese property market saw major stagnation starting in 2022 much like Japan in the 90s, with a mortgage system on the verge of crisis [6]. However, following recovery and the government's efforts to bolster the economy in contrast to the policies in every other place in the world, investor confidence is expected to grow, with an anticipated increase in funds in high-tech "innovative" sectors as well as recovered consumption sectors. With the gradual recovery of corporate profits, the financial market is expected to be blooming again in no time, like how the Chinese financial market has been for the past half a century.

2. Method

To best reflect economic alternations with simplistic model forecasts, the forecast of unemployment was chosen to avoid complications regarding the conversion of data from nominal values to real ones. Additionally, unemployment, compared to macroeconomic statistics like interest rates or gross domestic product, consists of less dependent factors in bypassing partially the cycle of wage-generating national income. The model was forecasted with both ARIMA and ETS.

The dataset employed came from tradingeconomics.com and reflects monthly Chinese unemployment rates from 2008 to the current day (Fig. 1). However, since the data before 2014 was only available in quarters while a drastic improvement in national income occurred in 2014, the section of the data before 2014 was cut so that the model predictions may be more optimal.

Initially, the data was exported and plotted by year as demonstrated below, with Chinese unemployment on the y-axis as a percentage and time on the x-axis. As seen, two surges of unemployment occurred at two respective peaks of the COVID Beta variant and the Omicron variant, however, it should be noted that such occurrences are not seasonal components, but unexpected events.

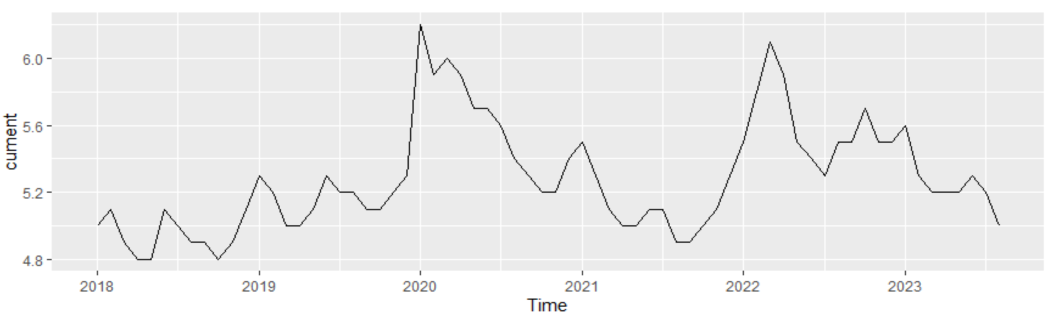

Fig. 1 Raw Chinese unemployment data (Photo/Picture credit: Original).

The data was then presented for tests regarding stationarity and autocorrelation. While the data was stationary at a 10% level with the Augmented Dickey-Fuller test and at a 5% level with the KPSS test, the data demonstrated significant autocorrelation following test results of the Ljung Box Test and the ACF and PACF functions (Fig. 2).

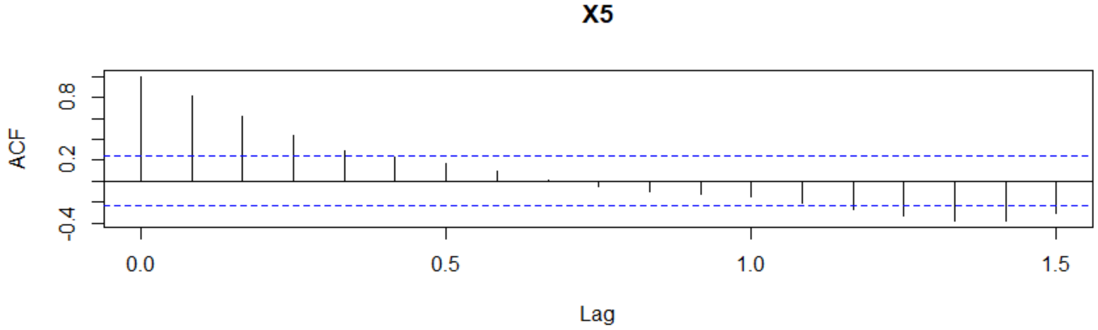

Fig. 2 Autocorrelation Function of Raw Chinese Unemployment Data (Photo/Picture credit: Original).

3. Results

Under such conditions, two methods of forecasting were employed, one involving the use of the AUTOARIMA function in bypassing autocorrelation by computing a moving average, another involving the use of the ETS function after differencing the series to avoid autocorrelation's influences (Figs. 3 and 4). Both models generated random residuals, meaning both were accurate on the large part.

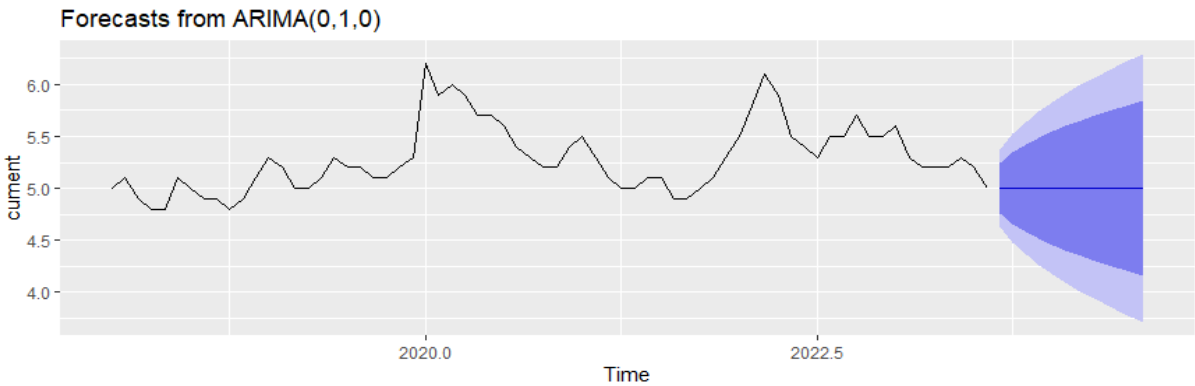

Fig. 3 Forecasts from ARIMA(0,1,0) (Photo/Picture credit: Original).

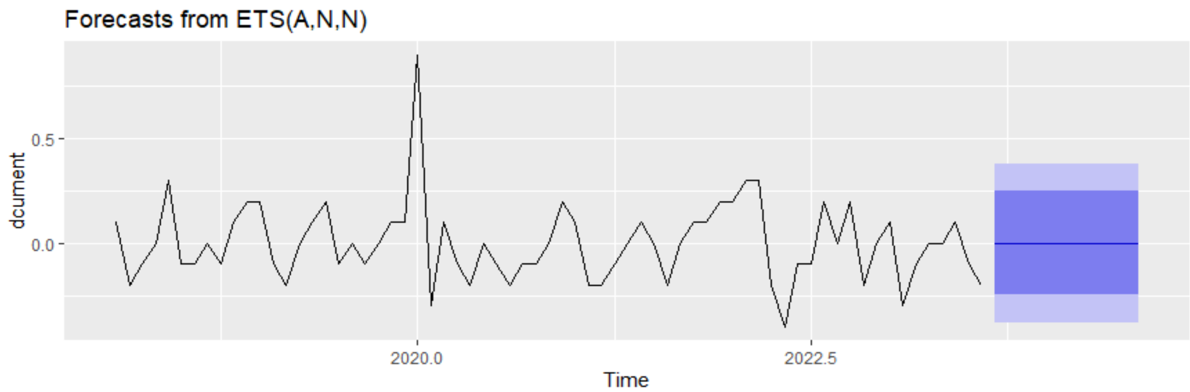

Fig. 4 Forecasts from ETS (Photo/Picture credit: Original).

However, both forecasts turned out to be flat, implying that on average, little alternations are going to be present regarding the change in unemployment [Fig. 3, Fig. 4]. Such conclusions do not necessarily have the same implications on the economic forecast of the nation, though.

4. Discussion

Given the multilateral and intricate nature of policy and the macroeconomy, unemployment cannot simply be outlined by the prediction of a model. With the increasing transformation of the Chinese labor market into one of a developed nation from one of a developing nation, aggregated with structural alternations of the economy followed by expansionary policies and numerous financial market reforms, China undertakes the necessary steps toward the transformation into a modernized, stable, and mature economy. However, such a long-run measure of growth in the short run may not definitively translate into economic growth, with uncertainties lying ahead of the recent future of the Chinese economy.

4.1. Policy Directions

Policy ties closely into the condition of the Chinese economy: while the recovery from COVID and the development of novel industries require optimal support from the state, a previously unchecked financial market, and a deteriorating housing market require optimal state stabilization, reflected upon policies that could potentially cause a stagnation of the economy.

Chinese monetary policy, in short, is highly expansionary. With lowered interest rates and increased liquidity, as signaled to commercial banks by the central bank, monetary policy in China aims to see results of increased borrowing in the generation of more funds in the economy, eventually promoting the development of the real economy [7]. More importantly, following global political turmoil and the drastic destabilization of expectations following the commonality of unconventional monetary policies on the global stage, Chinese monetary policies, targeting stable inflation rates and promising to engage in a smooth recovery of the economy with the stable injection of funds, attempts to anchor domestic inflation expectations [8]. Such reestablishment of nominal anchors maximizes real growth in the long term in ensuring the economy's stable transition from the medium run to the long run, where real variables are more easily deducted from medium run nominal variables, again, maximizing real economy growth.

Chinese fiscal policy, expansionary in general terms just like monetary policy, targets a more detailed range of industries and sectors, however. For one part, the Chinese government outlined national funds for infrastructure projects for different regions in generating job positions as well as improving regional efficiencies [7]. For another part, complementary to monetary policy, fiscal policy functions to expand credit to the Chinese private sector [9]. Whereas lowered interest improves the trade balance, the capital account deteriorates correspondingly. With China not yet being an economy with a fully open flow of capital, to prevent excessive international capital investments, the fiscal expansion of debt alleviates in part the pressure for domestic capital to invest internationally. Most importantly, Chinese fiscal policy, having proven stable over the past decade, possesses credibility unlike that of most other nations. Following international patterns of increased government debt, mirror actions from the Chinese government are likely to result in better effects, as such expansion alters little the existing debt of the Chinese government in preventing the public's anticipation of future contractionary policies to alter the effects of current fiscal policy. Such stabilization of expectations, like the stabilization in anchoring inflation with monetary policy, leads, again, to a swifter and smoother transition of the economy into the long run, promoting growth eventually.

In terms of the specifics of the reforms of the Chinese financial system, the government addresses long-lasting issues of corruption and the continuous lack of regulations in certain industries. In March, the Chinese Communist Party established the Central Financial Commission to better oversee the financial market [10]. This institution carries the duty of eliminating corruption in minimizing the misuse of funds in the Chinese financial market, while this establishment also researches quantitatively the implementation and results of monetary policy. The Chinese government also sought to decelerate the growth of the housing market, with the collective requirement for the construction of more affordable housing while simultaneously providing liquidity in preventing developers from bankruptcy from abruptly contracting demand [11]. The aggregated effects of these policies, again, stabilize domestic expectations in the long run. On the one hand, with the address to corruption, investors would expect less bureaucratic inefficiencies hence better directions of their funds into invested projects, bolstering confidence. Real estate regulations, on the other hand, provide investors with insurance on the safety of their funds while bracing them for the gradual decline of the industry, paving the way for a gradual withdrawal of funds from this industry. Moreover, with the establishment of the new high-tech sector, such withdrawal of funds can then be directed into more efficient sectors in the real economy, again, ensuring growth.

4.2. Rational Expectations

Provided that policies are expansionary in the very short term, it is almost definite how the economy is going to accelerate its growth in perhaps the coming two to four quarters. With recovery from COVID-19 as well as the development of new sectors, China will likely meet its 5% anticipated growth rate.

After that point, however, the government is likely going to conduct adjustive policies either to increase the interest rates back to their pre-COVID levels or cut down the spending to restore a more balanced budget. Such policies are not only rational corresponding to the prevention of the economy from overheating after a period of increased growth, but it is also rational corresponding to the positive expectations and confidence the public has for Chinese policymakers. Knowing that adjusting interest rates or the government budget provides policymakers the grounds for the long-run approach to stabilizing the economy, such actions, accordingly with systemic reformations regarding the economy, are likely to signal a strong domestic economy, with the increase in demand spawning from such expectations. In other words, the economy is destined to return to its pre-COVID condition within half a decade.

Structurally, the economy, following alternations of industry and policy, is likely going to see shifts. Although it is possible that unemployment might not change following a structural change in the economy, the value of the product of labor will likely increase due to the increase in national resources devoted to the production of more valuable goods. The wide array of financial assets is likely going to be diminished, meaning that employment in Chinese financial industries like real estate is likely going to decrease. Additionally, with alternations also in manufacturing following international competition, employment in that sector may decrease. However, with the prevalence of startups and the introduction of the new high-tech sector, the sector is likely going to be faced with a temporary shortage of labor. The next step to the policy of China might then be to ensure a smooth transition of the composition of the labor force, from one which is more specialized in manufacturing to one which will be more accustomed to the duties of an advanced economy in the development of technology as well as the provision of service.

5. Conclusion

In conclusion, there are many chances and problems facing China's economy. Provided the almost definite resolution of policy to the deceleration of economic growth following a likely period of expansion, the nuance of the focus of policy would then be to quantitatively ease all short and medium-term interest rates from expansionary to contractionary, a possible focus of further studies. Additionally, with the increase in employment opportunities in the Chinese high-tech sector, it is also crucial for policymakers to consider methods of improving public services like education as well as infrastructure to ensure the smooth transition from a labor-based to a human capital-based economy. In ensuring such aspects of future growth, Chinese living standards and per capita satisfaction are likely to be improved, ensuring China’s growth into the ranks of the most advanced economies on a per capita basis.

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