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structural reasons that cannot easily be reversed. Technological innovation and reforms can cushion the deceleration, but it calls for a macroeconomic management framework that is more consistent with a slower, quality-driven growth model.

Reining in the build-up of macroeconomic leverage (measured by M2-to-GDP ratio) will be key. There is a consensus that high and growing macroeconomic leverage has been the main cause for rising financial sector risks. According

-to-GDP

ratio stood at 256.8 percent in the third quarter of 2017, the highest ratio among the Group of Twenty (G-20) economies. This ratio grew at an annual average pace of 11 percentage points over the past decade, the highest rate among G-

financial sector risks as its top priority.

The targeting or pursuit of an aggressive GDP growth rate has contributed to the excessive growth of monetary aggregates and therefore the rapid build-up in leverage. During 2009 10, the period after the global financial crisis, for example, the government targeted a GDP growth rate of 8 percent. It achieved 9.4 percent in 2009 and 10.6 percent in 2010. M2 growth accelerated to 27.7 percent in 2009, 11.2 percentage points higher than the annual average M2 growth during 2000 08. During 2011 16, the M2/GDP ratio continued to rise by 6.9 percentage points a year, as the government aimed for GDP growth of around 7 percent.

1. Structural Reasons for Growth Deceleration

Three key structural factors will continue to decelerate the Chinese economy in the coming decade or decades: demographics, environmental costs, and a shift in consumer preferences. All of them are difficult or impossible to reverse.

1) Demographics: *The Rapid Decline in the Labor Force*

Thanks to the one-

rate dropped from 4.8 percent in the early part of that decade to 1.7 percent in 2016 (Ministry of Health and Family Planning 2016). The policy has led to a significant decline in the labor force (the population 15 64) since 2013 (figure 9.1).

Figure 1 Actual and projected labor force participation in China, 2000–50

Sources: National Bureau of Statistics of China and demographic model of Ma, Zhang, and Li (2012).

According to the demographic model of Ma, Zhang, and Li (2012), which accounts for the effect of the two-child policy introduced in 2016, the decline

in 2028, equivalent to 1.1 percent of the labor force that year. Given a baseline labor share of 50 percent in the production function, the acceleration in the decline in the labor force will lead to a drop in economic growth of about 0.5 percentage points in 2028 from the 2017 rate.[2] (This estimate does not account for the fact that the rapid aging of the population may result in additional deceleration in growth via a lower savings rate.)

2) Environmental Costs

ing,

resulted in serious environmental degradation. This deterioration is beginning to limit potential growth and may threaten social stability.

Most of the environmental costs China is facing arise from air and water pollution, soil contamination, and CO_2 emissions. Future generations will need to bear these costs, the benefits of which were reaped by people who enjoyed very high income and wealth growth in the past several decades. Remediation costs in China during 2000 10 accounted for 6.5 percent of GDP for air, 2.1 percent for water, and 1.1 percent for land pollution/degradation, according to estimates by the RAND Corporation. Water pollution and land contamination costs are likely to rise. According to Zhuang Guotai, Deputy Director General of the Ministry of Environment, the remediation costs for

[2] According to the literature, the labor share in the production function in China is about 0.5 (see Cai and Yang 2013, among many others).

land contamination will be far greater than the costs for air and water pollution and could amount to many trillions of renminbi.[3]

These costs will significantly increase the costs of producing goods and services. For example, Carbon prices may rise by a factor of 10 15 in the coming decade, according to the World Bank (2017)[4], reaching $50-100 a ton by 2030.

Higher input costs should lead to lower profitability and thus less production and lower economic

annual GDP growth may slow 0.5 percentage points during the energy transition from 2017 2030 assuming clean energy is 30 percent more expansive than dirty energy[5]. Rising water and food costs may have a similar impact. After accounting for these environment-related costs (essentially a debt incurred by the past generation), it is possible that annual GDP growth could slow by 1 percentage point in the coming decade.

3) Shift in Consumer Preference from Goods to Services

percent in 2017[6] National Bureau of Statistics of China. It will continue to rise in the coming decade, because the penetration rates of goods (housing,

[3] See https://e360.yale.edu/features/the_soil_pollution_crisis_in_china_a_cleanup_presents_daunting_challenge

[4] Guidance note on shadow price of carbon in economic analysis, 2017. World bank.

[5] See Shenghao Feng, Jun Yang, and Jun Ma, 2018, "Economic implications of energy transition in China Analysis based on a dynamic CGE model with elaborated energy module", Working Paper of University of International Business and Economics (UIBE).

[6] National Bureau of Statistics of China

decline in the share of the manufacturing sector). This structural change implies aggregate (nonfarm) labor productivity growth of roughly 6.9 percent in 10 years. All else held constant, a decline of 0.3 percentage points (from 7.2 percent to 6.9 percent) in annual labor productivity growth reduces annual economic growth by roughly 0.3 percentage points in a decade.

4) Inevitability of a Growth Slowdown

The structural headwinds from these structural changes are difficult to reverse.

er challenges, including very high macroeconomic leverage, which means the country is no longer positioned to borrow at the pace it had. Urbanization is also slowing, which means that growth driven by infrastructure and property investment may lose steam.

Fortunately, the growth slowdown may not necessarily translate into severe unemployment, as the number of people seeking jobs will shrink as well. According to the demographic model of Ma, Hong, and Yang (2017), the labor force will decline by 11 million people, obviating the need to create net new jobs by 2028.[8]

2. Measures Already Taken to Offset Deceleration Pressures

The Chinese government has launched a number of initiatives to offset some of these factors and boost growth potential. The most notable effort is the promotion of technological innovation. Central and local governments promoted technological innovation and the development of new business

[8] Rural labor migration is projected at about 8 million people in 2028, almost the same as the net reduction in the urban labor force in the year.

models, through measures such as tax deductions and exemptions; increased government expenditure on research and development; the establishment of more than 3,000 high-tech start-up incubators; encouragement of the transformation of scientific products for commercial use; and the creation of one-stop-services for patent examination, verification, and protection. Many Chinese high-tech companies, especially Internet and e-commerce businesses, were listed on stock exchanges in the past few years. In power, engineering, mining, high-speed rail, and construction areas, China has become a technology exporter.

Acceleration of technology development may not be enough to offset the economic deceleration caused by structural factors, however. According to Gordon (2016), total factor productivity growth in the United States averaged less than 1 percent during 1980 2010. China has many patents, but their average quality is low, and per capita patent holding is only 10 percent that of Korea, which has not escaped economic deceleration in the past two decades. In light of these international experiences, it seems likely that technology may only partially offset the downward pressure on economic growth in China.

3. Features of the New Macroeconomic Policy Framework

macroeconomic management framework needs to shift toward one that promotes slower but higher-quality growth. Such a new framework should (a) replace GDP with employment as the most important macroeconomic policy objective; (b) enhance the independence of monetary policy, in order to avoid dominance by dovish tones in monetary policy making; and (c) make sure that the planning of fiscal and quasi-fiscal expenditures such as unfunded

mandates for local governments on education, health, environment, poverty alleviation, and so on, as well as the launching or support of economic/high-tech development zones is consistent with macroeconomic and financial stability objectives, in order to avoid further expansion of local government debt.

ng growth targets. It has the following key features:

- The central government sets 1-, 5-, and 10-year growth targets. Provincial and lower-level governments set their targets for growth, which are typically higher than the national target (if the central government targets 6.5 percent, the provincial government targets 7.5 percent and the city- or county-level government possibly 8.5 percent). Promotion of local government officials (such as party chiefs and

- China sought to spur regional development by launching many development zones. The central and provincial governments launched about 5,000 such zones (economic development, high-tech, free trade, and so on). City, county, and township governments also established numerous development zones. No official statistics exist on their number, but there are likely many thousands, if not tens of thousands. Infrastructure investment demand in the 5,000 development zones at or above provincial levels could amount to nearly RMB50 trillion, or 60 GDP in 2017.
- Historically, the State Council set monetary growth targets, based on

old macroeconomic management model becomes unsustainable.

This growth-centered macroeconomic management model needs to be replaced with a quality-centered one that focuses on macroeconomic prudence and financial stability. The decline in growth potential and labor force makes this transition feasible, as there is no more need to maintain strong growth for job creation. The need to contain macroeconomic leverage makes the transition imperative. The new approach needs to focus on several areas.

1) Abandoning the GDP Growth Target

China has long used GDP growth targets to boost investment and economic growth. In the 12th Five-Year Plan, the government set the goal of doubling

The drawbacks of this kind of target-setting have become increasingly evident. The main problem is that local governments top up the national growth target by setting higher targets and then resort to heavy borrowing to achieve them, pushing up local government debt and hence the leverage ratio of the overall economy.

In addition to boosting local government debt and macroeconomic leverage, the overemphasis on GDP growth performance caused overcapacity, environmental degradation, and statistical fraud. As many local governments lack sufficient revenues to fund their infrastructure investments, they resorted to multiple sources of debt financing, including loans, bonds, and shadow banking products. When they failed to meet their GDP targets, some local

governments manipulated their statistics, as evidenced by the fraud reported in Liaoning, Tianjin, and Inner Mongolia.

China should scrap the national GDP growth target and replace it with an unemployment rate target as the most important macroeconomic policy objective. Doing so would reduce the political pressure on local governments to borrow. GDP growth forecasts (instead of targets) should still be used as a guide for budgetary activities. They could be issued by the central bank, the National Development and Reform Commission, or the Ministry of Finance.

2) Enhancing Monetary Policy Independence

The State Council, rather than the central bank, makes all key monetary policy decisions in China, including adjustments to the benchmark interest rates and reserve requirement ratios. As the State Council makes decisions largely by consensus, the system often reflects the collective opinions of key ministries in charge of economic development and policymaking, as well as the views of local governments, which are less concerned than national policy makers about the macroeconomic spillover of such policies. The views of the central bank the agency mandated to maintain macroeconomic and financial stability carry limited weight. This system has a natural bias toward excessive monetary expansion.

The central bank should be given more independence in monetary policy making, transitioning away from M2 growth targeting toward interest rate targeting. To do so, when the authorities announce the official policy rate (to replace the benchmark lending and deposit rates) as the intermediate target for monetary policy, the central bank should be given key decision-making power.

This arrangement would better ensure macroeconomic and financial stability as a top priority of monetary and macroprudential policies.

3) Creating a Macroeconomic Stability Screening Mechanism to Cut Unrealistic Public Policy Mandates

To avoid further expansion of local government debt, especially implicit debt, it is important to make sure that the planning of quasi-fiscal expenditures (such as unfunded mandates for local governments on education, health, environment, poverty reduction, and so on) is consistent with macroeconomic

mechanism should be established for all major macroeconomic policies by quantifying their fiscal and monetary implications. For example, many targets set for poverty reduction, pollution reduction, and improvements in health care, education, and infrastructure require significant fiscal resources. If not included in the official fiscal budget, these mandates most likely result in local government quasi-fiscal debt. If they do not pass the macroeconomic stability screening, which sets a limit on total government borrowing (including targets of budgetary fiscal deficit and quasi-fiscal deficit), such mandates should not

4) Abolishing Some Development Zones

Some development zones have contributed to rapid regional economic growth and technological innovation. But many are heavily indebted, because they borrow excessively for expenditures on infrastructure investment without credible plans for repayment.

counties lack the natural resources, workers, talent, and locational comparative advantages to attract private investment and land purchase in large-scale infrastructure development. As many as two-
5,000 development zones (at and above the provincial level) lack the growth potential initially foreseen or claimed. Continuing to advance large-scale development zones broadly would exacerbate the local government debt problem and increase macroeconomic leverage. The central government should therefore consider abolishing many of these development zones and refraining from launching new ones.

5) Enhancing the Transparency of the Quasi-Fiscal Debt of Local Governments

In 2013 the Third Plenary Session of the 18th Chinese Communist Party Congress decided that central and local governments would henceforth publish their government balance sheets, in order to enhance the transparency and responsibility of local government operations. Progress has been slow, with many local governments compiling but not publishing their balance sheets.

The rapid increase in local government quasi-fiscal debt in the past five years has underscored the importance and urgency of implementing this reform. A mandatory requirement for disclosure of local government balance sheets, including local financing vehicle debts, which represent contingent or implicit liabilities of the local governments, is critical to deter irresponsible and excessive borrowing by local governments. Publishing information on quasi-fiscal borrowing gives the general public, local residents, members of the local

-party service providers such as rating companies important information with which to assess local government debt risks. Public opinion and pressure from all these parties for local governments to stay prudent could be very powerful.

The authorities could take the following steps to implement the decision:

- The Ministry of Finance should create a standardized template for local government balance sheets, with clear definitions of contingent and implicit liabilities of local governments. For example, debts incurred by companies that are majority owned by local governments and for developing infrastructure projects whose cash flows are insufficient to cover debt repayments should be treated as implicit or contingent government liabilities, regardless of whether the local governments have issued an official guarantee.[9]
- The Ministry of Finance could select a few provinces and cities as pilot programs for launching this reform.
- Once sufficient experience is gained, this practice should be quickly replicated in the rest of the country.

4. Conclusion

Unlike countries that face secular stagnation, China is facing a slowdown in economic growth driven by three unavoidable structural issues: demographics, environmental costs, and changing consumer preferences. Ongoing

[9] -local government a few years ago and was involved in many technical discussions on definitions, scope, and valuations of local government balance sheet items. His experience suggests that these issues are not as problematic as many people perceive.

technological innovations and reforms can partially cushion the deceleration, but a further slowdown in growth is inevitable over the medium term.

This trend, together with the growing financial risks caused by a high macroeconomic leverage ratio, calls for a new macroeconomic management framework. Key to sustainable, high-quality, and environment-friendly growth in China is adoption of a framework that is less growth-centric and focuses more on macroeconomic and financial stability. To put such a new framework in place, policy makers should consider the following actions:

- Make employment, rather than GDP, the most important macroeconomic policy objective.
- Enhance the independence of monetary policy, in order to avoid the dominance of dovish tones in monetary policy making.
- Make sure the planning of fiscal and quasi-fiscal expenditures is consistent with macroeconomic and financial stability objectives, in order to avoid further expansion of local government debt, especially implicit debt.
- Abolish unqualified development zones.
- Enhance the transparency of quasi-fiscal borrowing by local governments.

till be among the highest in the world in the coming decade and the declining size of its labor force will allow it to tolerate a more moderate GDP growth rate without causing serious unemployment. Hence there is no convincing reason to be obsessed about reaching an annual GDP growth target. By reducing the probability of financial crises and large disruptions to growth, the new macroeconomic

management framework described in this chapter should help China better achieve its sustainable development objectives in the medium and long terms.

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