



## Complicating China's Rise: Rural Underemployment

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# Complicating China's Rise: Rural Underemployment

China's economy has doubled in size every eight years since 1979, making it over 32 times bigger now than it was then and the second largest in the world today.<sup>1</sup> Four decades of growth have ushered more than 400 million people in China into the global middle class.<sup>2</sup> According to the World Bank, China is currently an upper middle-income country. The country is the only major economy on earth to report growth in 2020 in the wake of the coronavirus pandemic.<sup>3</sup> What are the prospects for China to continue its spectacular economic rise and become a high-income country? In this article, we aim to draw attention to an underappreciated factor that we believe may complicate China's continued economic ascent: hundreds of millions of poorly educated, increasingly underemployed workers hailing from China's rural hinterland.

## Middle-Income Countries and Graduates: The Global Landscape

We begin our argument by categorizing three types of major economies in the post-World War II era. The first comprises countries that were wealthy in 1960 and are still wealthy today, such as the United States, Denmark, Japan,

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and most other Organization for Economic Cooperation and Development (OECD) countries. The second group is smaller, encompassing the mere handful of economies that have managed to climb from middle- to high-income status since 1960, including the economies of South Korea, Singapore, Israel, and Ireland; note that no country has elevated itself to high-income status in the past 20 years.<sup>4</sup> The third grouping is the largest: countries that were middle income in 1960 and are still middle income today. These countries are sometimes described as being stuck in the “middle-income trap”<sup>5</sup> and include dozens of countries across several continents such as Turkey, Thailand, Argentina, and South Africa. Decade after decade, countries in this group endure false starts and cycles of growth followed by contraction or collapse without ever managing to rise to high-income status. When contraction or stagnation in these countries occurs, millions of people often are hurt, and the livelihoods of families invariably fall.

While there are a number of different factors that may account for the difficulty of escaping from the middle-income trap, one underappreciated factor is education. According to the OECD, among wealthy countries, the average share of the labor force (all individuals between the ages of 18 and 65) with at least a high school education is 78 percent.<sup>6</sup> Using the same metric, countries that have exited out of middle-income status to join the ranks of the wealthy also had high levels of education—even when they were still middle income (72 percent). Conversely, in countries that have failed to exit from middle-income status, the share is much lower: 36 percent on average.

Low levels of human capital can be a key factor in preventing countries from transitioning out of middle income to high income, because an educated labor force can more easily shift into higher value-added work, facilitating the national transition from a low-skill, low-wage economy to a high-skill, high-wage economy. A good example is the experience of South Korea. After wages in that country rose steadily in the 1980s, firms began to globalize and automate to replace increasingly expensive workers. This caused demand for low-skill, labor-intensive employment to fall sharply.<sup>7</sup> However, because education rates were already very high at this time, displaced workers easily shifted into higher-skilled work as accountants, clerks, and office staff.<sup>8</sup> In essence, more schooling allowed these workers to “learn how to learn,” helping them reskill after leaving jobs on factory floors or construction sites for new and higher-paid employment.<sup>9</sup>

As a country’s workers rise up the value chain, their wages stay relatively high, as does their demand for services.<sup>10</sup> High-wage jobs with benefits encourage demand for high-value services, creating a virtuous cycle that can sustain growth over the long term.<sup>11</sup> Without requisite education, too many unskilled workers are squeezed out of upgraded industries because they lack the skills to compete. Their wages can stagnate, curtailing demand and hampering growth,

leading to social problems like higher rates of unemployment, crime, and social unrest. These scare away investors, exacerbating the problem. The ensuing vicious cycle has ensnared many middle-income economies for decades—hence, the “middle-income trap.”

## Fewer Options for China's Low-Skill Workers

So how does China measure up? In fact, China's overall education rate is one of the lowest in the middle-income world, according to OECD measures. Compared with that of other countries, China's human capital is not only systemically lower than South Korea, Ireland, and other “graduates” out of middle-income status,<sup>12</sup> it is also lower than virtually all trapped middle-income countries. According to China's own census data from 2015, just 30 percent of its labor force between the ages of 25 and 65 had ever attended high school, which is less than the average of other middle-income countries (36 percent) and well below the OECD average (78 percent).<sup>13</sup> Furthermore, China's census shows that, in 2010, only 12.5 percent of the overall labor force was college educated, lower than that of most other middle-income countries. In other words, China's workers lag behind not only the high-income country graduates in terms of secondary and tertiary education levels, but also their middle-income peers.

**C**hina's human capital is lower than virtually all trapped middle-income countries

Low levels of education were not a problem earlier in China's development. When China was a low-income country chasing middle-income status, the nation required a labor force that was numerate, literate, and disciplined; China delivered. It got almost all children into primary and middle school, taught everyone basic arithmetic and language skills, and trained them to be disciplined and productive citizens. Such an education was adequate for building a labor force for the “world's factory,” which could supply large volumes of low-wage, low-skill manufacturing that drove China's growth in the 1980s, 1990s, and early 2000s. Because the rural economy employed large numbers of workers who had been engaged in low-productivity farming and sideline activities, China did not experience a significant rise in the labor-intensive wage rate during those first two decades.<sup>14</sup> Indeed, in part based on this, China was able to launch its economy in the late 20th century into one of the fastest periods of growth in history.<sup>15</sup>

Since about 2000, as China's rapid economic growth finally had attracted almost all young, able-bodied people between the ages of 15 to 35 into the labor market,<sup>16</sup> the absence of extra people in the countryside caused low wages to gradually come to an end.<sup>17</sup> For more than a decade after China's

entry into the World Trade Organization in 2001, growth accelerated, and wages rose faster than labor productivity growth and began to squeeze profit margins for firms dependent on low-skilled labor.

How have rising wages affected opportunity for low-skilled workers? Three trends stand out. First, China's firms have responded to costlier workers by automating rapidly. China installed more robots in 2019 than the United States, Japan, Korea, and Germany combined.<sup>18</sup> Government policies have hastened this process by supplying subsidies to robot manufacturers and firms that adopt robots.<sup>19</sup> Indirect subsidies take the form of state-funded research and development for technology-based industrialization. Much attention has been placed on these measures to spur automation and keep the industrial value chain in China. There has been less discussion of an unintended consequence: although ostensibly emphasizing automation as a means of adapting to a tightening labor force (and rising wages), the rapid pace of automation is speeding the outflow of labor-intensive workers from the manufacturing industry.

Second, offshoring presents a looming challenge for low-skilled workers. Global supply chains have allowed firms in labor-intensive exporting industries, such as apparel and electronics, to increasingly relocate to countries like Bangladesh, Ethiopia, and Vietnam, displacing many of China's low-skilled workers.<sup>20</sup> Recent international events, such as the US-China trade war and the political fallout from the COVID-19 crisis, have further accelerated these trends.<sup>21</sup> Moving forward, China will have few options for gainful employment within the manufacturing industry.

Finally, employment in the construction industry, a mainstay for China's low-skilled workers like manufacturing, is also facing headwinds. In the 1990s to the 2000s, large quantities of low-skilled workers were used to build China's massive investments in infrastructure, from highways to office parks to high-speed rails. Tens of millions of apartments have been built. Today, most big infrastructure projects are complete. Many residential markets outside major cities are struggling with oversupply.<sup>22</sup> According to official statistics, employment in the construction industry has been flat since 2013.<sup>23</sup>

Taken together, the declining options for low-skill workers due to automation, offshoring, and slowing construction have meant that although the total supply of low-skill workers in China has been declining since 2015, wage growth for this segment is actually also declining.<sup>24</sup> China's formal economy is leaving hundreds of millions of these workers behind.

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## The Rise of the Informal Sector

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With little opportunity present in the manufacturing and construction sectors, where are low-skilled workers going? According to official statistics, the fastest-

growing sector of China's economy is the informal service sector. Informal employment rose from 144 million workers to 227 million between 2013 to 2017, while formal employment has fallen slightly over the same period from 181 million workers to 176 million.<sup>25</sup> This means that nearly 60 percent of China's non-agricultural workforce works in the informal sector today up from only around 40 percent in 2005. Informal service-sector workers—such as delivery people, nannies, street hawkers, food stall workers, and many others—do not have the health insurance or social security benefits typical of a formal worker. China's premier Li Keqiang referenced these workers in a 2020 speech in which he bluntly asserted there were 600 million people in China earning less than 1,000 RMB (around US\$150) per month.<sup>26</sup>

The large and rapidly growing informal sector can be obscured by vibrancy in the formal sector. As China's GDP has grown and the number of people in China's middle class has risen (from nearly zero in the 1990s to over 400 million today)<sup>27</sup>—the demand for employment in skill-intensive sub-industries—such as high technology, finance, education, and health care—has increased. Particularly representative of this growth is the high technology industry, where high-profile firms like Alibaba and Tencent are among the top 50 of the world's largest companies.<sup>28</sup> Similarly, China's banking, technology, insurance, health, and professional services industries have seen exponential growth over the last decade. Despite healthy gains in skilled employment, demand for skilled work has increased even faster, meaning wage rates for skilled workers have risen.<sup>29</sup> In contrast, demand for low-skill services has not kept up with the increase in low-skill workers, whether new entrants to the work force or workers laid off from the formal sector. The extra supply of low-skill workers has meant stagnating wages for this nearly 230 million-strong group. Given falling growth in wages in the informal economy and the rising growth in wages in the formal economy, China may be entering a new era of wage polarization.

**B**etween informal and formal economies, China may be entering a new era of wage polarization

The problem with having a large informal sector is that it can pull from growth in the formal sector, curbing growth in demand for services. Countries that have large informal sectors are often the same ones mired in middle income for decades. For example, informal employment accounts for about 50 percent of employment in Argentina, 40 percent in Brazil, 55 percent in Mexico, and 35 percent in Chile, all of which are “trapped” middle-income countries.<sup>30</sup> In Mexico, tax and regulation avoidance in the large informal economy undermines the rise of a formal economy.<sup>31</sup> As the benefits are outweighed by the costs, many

firms choose to exit the formal sub-economy. When this occurs on an increasingly large basis, it affects the ability of the government to finance public services, which further accelerates the decline of the formal sub-economy. This vicious cycle and the accompanying weakening of the overall public infrastructure have further increased wage polarization, leading to large increases in crime rates and further expansion of the informal economy as well as the emergence of an illegal sub-sub-economy.<sup>32</sup> Importantly, the literature indicates that such trends have not been confined to Mexico. Wage polarization has brought with it a generation of social tensions in many countries across Latin America, the Middle East, and elsewhere.<sup>33</sup>

Excessive informality in the labor force also curbs demand for services by forcing individuals to save rather than spend. China's economy is characterized by a high rate of savings, which is common in economies when consumers feel that they face relatively high levels of risk with little institutional insulation from it.<sup>34</sup> Among middle-income households, the households that should be driving the increase in the demand for services, the rate of savings is around 34 percent,<sup>35</sup> and in the informal sector it may be even higher (and the demand for services is even lower). In contrast, the United States has an average savings rate of 19 percent; in Europe, it is 12 percent. High savings rates divert disposable income from boosting demand for services and instead compensate for the lack of a comprehensive social safety net, high housing prices, and poor access to financial systems.<sup>36</sup> The tendency to save is a symptom of the large informal economy, where benefits are rare, and the state's longstanding tendency to fund infrastructure and the state-owned sector rather than entitlements for China's people. In China's 14th Five-Year Plan (2021–25), one of the keys to continued growth of the economy is the rise of domestic demand. If the informal economy continues to rise in importance (indeed, it probably needs to substantially contract), the scope for creating higher demand from more than half of the labor force and their families seems severely limited.

### **Locked Out of the Middle Class: Rural Workers**

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China's middle class has grown at a rapid pace in recent decades, but an examination of its composition further highlights the risks of rising informality. The rise in the middle class, or the number of people who can be said to be living at middle-class levels comparable to those in OECD countries, has been tremendous and is one of the great success stories of the last generation.<sup>37</sup> But there has been an important common denominator in the growth: almost all entrants into the middle class over the past 20 years have been urban people with formal, salaried employment.

Almost unique among countries of the world, China divides its people into two categories from birth: urban and rural. This classification, called a *hukou*, typically stays with an individual for life and determines what type of education, healthcare, and other social services an individual and their families can access. More than three-fourths of China's new middle class hold an urban *hukou*: over 60 percent (or more than 250 million) of the middle class consists of urban residents born with an urban *hukou*, and another 18 percent consists of *hukou* converts from nonurban origin. These converters are almost always the rural *hukou* holders who happen to have lived in villages that cities have expanded into and incorporated. Only 12 percent of the middle class consists of migrants from rural places beyond the immediate peripheries of China's cities. Those who have remained with rural *hukou* status account for only 9 percent of China's middle class. Salaried work in the formal sector is also a dominant feature of China's middle class, accounting for the income of 70 percent of middle-class individuals.<sup>38</sup>

**C**hina divides its people into two categories from birth: urban and rural

Most of the 900 million people classified as rural in China have been kept out of the middle class largely because the *hukou* system explicitly restricts access to high quality education and healthcare to urban families. And systemic shortfalls in human capital formation have forced rural *hukou* holders to compete with urban peers. Only 10 percent of rural students from poor rural areas pass the college entrance exam and enter college.<sup>39</sup> The numbers for high school are similarly troubling: in 2015, according to census data, only 11 percent of rural adult workers in the 25–64 age bracket had attained at least high school education.<sup>40</sup> Enrollment quotas in high school and college make performance on standardized tests a key gateway to higher schooling, and rural students pass at much lower rates than urban peers. As early as primary school, children from rural areas are more likely to suffer from learning impairments, with nearly 60 percent of China's elementary school children (ages 6 to 12) have at least one health or nutrition problem like anemia, uncorrected vision, or intestinal worms.<sup>41</sup> Education spending in rural areas is much lower on a per capita basis than in urban schools, with implications for school infrastructure and teacher quality.<sup>42</sup> People in rural areas are systemically falling behind.

## The Rural Population and China's Exit from Middle Income

There is evidence that the government is trying to address some of these problems. Among the most obvious efforts over the past 15 years has been the



expansion of secondary school enrollment, mostly in rural areas. Between 2005 and 2015, the overall high school attainment rate increased sharply, from about 1 in 2 children to about 8 in 10.<sup>43</sup> The rise has been most pronounced in rural areas, where in 2005 only 43 percent of children attended high school; today, the rate exceeds 70 percent. Improvements have been made in cities as well: today, virtually 100 percent of children with an urban *hukou* attend high school. Taken together, over the past 15 years China has put tens of millions more children into high school—a remarkable feat.<sup>44</sup>

While the quantitative expansion of high school enrollment is impressive, quality problems have emerged. Much of the expansion, for instance, has been in vocational schools. In the 2010s, China's leadership bet that a large fraction of new high schoolers in rural areas would benefit more from technical rather than general education and expanded vocational high school rather than academic high school. Other middle-income countries have pursued this path, including Brazil, Romania, and Indonesia, for example.<sup>45</sup> Unfortunately, there is little evidence that these investments in vocational schooling have paid off. Cross-national studies using international standardized tests show that students in vocational high school vastly underperform their peers from academic high schools in terms of skills formation.<sup>46</sup> China is no exception: studies have shown that vocational schooling has failed to instill either general learning or specific vocational skills and even induces students to drop out.<sup>47</sup> The promotion of vocational schooling, at least in its current form, as a substitute for academic high school, does not appear to be providing the boost in human capital that will help China's rural students compete. This could change with more investment to teach basic skills like math, science, language, English, and computers, rather than undue attention to narrow vocational skills that may soon be outdated.

Over the past several years, researchers have identified an even deeper problem among rural youth that no amount of school expansion will address: a lack of cognitive skills in early childhood. Almost 3 of 4 infants in China are growing up in rural village and migrant communities. A review of research on infant development in China revealed that as many as 45 percent of rural babies were at risk for cognitive delays, slightly more than the rate in other middle-income countries (the rate in high-income countries is closer to 15 percent).<sup>48</sup> Low cognition in the first three years of life has been shown to lead to low schooling, employment, income, and health outcomes later in life.<sup>49</sup> The problem is rooted in insufficient stimulation of infants from caregivers. Studies in China show that close to half of rural caregivers rarely read, sing, or talk to their babies, either because they are absent working or do not realize how important such engagement is.<sup>50</sup> While other middle-income countries, such as Brazil and Peru, have launched sweeping initiatives in recent years to

address cognitive delay among infants, the issue has yet to find substantive traction among policymakers in China. No amount of school expansion will compensate for poor outcomes in the critical first years of life.

When considering poor socioeconomic outcomes for rural communities in China, many observers wonder whether the leadership's vast anti-poverty campaign of the past few years has made a difference. China's leadership launched the campaign in 2015 with a mandate to eradicate absolute poverty in the country by 2020. Since early 2021, it has been celebrated by official media as a huge and unconditional success. The policy had many components, but it essentially constituted transfers of resources from the state to impoverished citizens. Examples include resettlement schemes for isolated communities, incentives for industrial development in depressed areas, ecological compensation, the abolition of taxes and fees on the vulnerable, subsidies for agriculture production, and cash transfers aimed at poor populations.<sup>51</sup> While there may be questions about how effective, efficient, or sustainable such measures have been, the general idea was desperately needed: there are virtually always groups in society that for various reasons need help from the state to survive. In China, high on this list would be the elderly with no children to care for them, disabled populations, and remote communities in the mountains.

But the fact is that the majority of China's people that have been shut out of the middle class in the past 40 years are not poverty stricken—they are low-income. China's low-income population encompasses close to 900 million people, and is the group that, by dint of its sheer size, could derail China's quest to reach high-income status. Low-income people are the ones who powered China's export machine through the 2010s, who are being squeezed by automation and offshoring, who comprise the growth in employment in the informal sector, whose wages are stagnating, and whose educational outcomes have fallen woefully behind. These are not people living in abject poverty, and China's anti-poverty drive has not addressed the challenge of making them more competitive in an increasingly modern economy.

There are signs that the leadership has begun to shift gears to address this much larger low-income problem. The centerpiece of these efforts is Beijing's high-profile "Rural Vitalization" initiative. While concrete details are sketchy, the program aims to lift up rural people (that is, low-income people) so that they can better contribute to and partake in China's growth. One of the main approaches to reaching this goal is to incorporate more rural people into China's smaller cities, where the government hopes they will be more productive. Because of the nature of China's population control, most rural people will be

**C**hina's 900 million low-income people could derail China's quest to reach high-income status

discouraged from or not allowed to settle in the larger cities. Officials fear overcrowding. They are interested in building clean, modern urban centers that are not burdened by the need for low-cost housing, transportation for the poorer citizen, and the provision of public services for low-income migrants that would divert fiscal resources away from those who are already in the city.

Here is the problem with this plan: the people driving growth in China already live in cities, particularly big, tier one, two, and three cities on the eastern seaboard like Beijing, Shanghai, and Shenzhen, as well as many provincial capitals. These cities are where, as we have seen, high-skill wages are rising because demand for services is growing faster than supply of skilled workers. If China is going to increase the urbanization rate by only allowing most rural families to settle in tier four and five cities, the people who move to cities will be people with low-income. And we know people with low incomes, especially in societies with low levels of social support, don't consume services. What will these people do?

As we have seen, there will not be appreciable growth in the manufacturing sector in these cities. Construction may occur to provide infrastructure for new residents, but this will not last. In a community of low-income, low-skill people without social security, where will growth-sustaining demand come from? At the heart of the problem is that the people who will populate these lower-tier cities have low human capital (education, health) and little social security. The risk is that if a large number of low human capital people are lumped together in low-tier cities and kept separate from the engines of growth in the big cities, they may always be a class apart, dragging on growth instead of contributing to it.

It is possible that China may try to spur demand by expanding social security for low-income people, thereby encouraging them to save less and spend more. This, of course, is a much-needed shift of policy focus. Such an effort would mean providing comparable levels of benefits to the low-income families in rural China as are enjoyed by today's urban dwellers. While laudable, this approach may be expensive and politically difficult. Differential income from public pensions across urban and rural populations reveals the challenges of this approach.<sup>52</sup> Today, the urban elderly earn many times as much from their public pensions as their rural counterparts.<sup>53</sup> To rebalance this and many other rural/urban inequities would require major spending on low-income populations and possibly cuts in urban benefits. In an era of slower growth typical of a wealthier country (which tend to grow more slowly), as well as high debt loads, paying for a huge expansion of entitlements is challenging. And like all redistributive policies, equalizing benefits may also cut into the disproportionate slice of the economic pie currently enjoyed by urbanites, which could make the measures unpopular.

There are no easy answers to the problem of China's increasingly underemployed rural workers. Almost one in nine humans is a rural person in China, and education, health, productivity, and employment outcomes for this group are lower than people realize. Measures to address the problem are complex, expensive, politically fraught, and their payoff will not be felt for years. In the meantime, no analysis of China's growth prospects is complete without considering this rural human capital problem and the degree of success China has in mitigating it. Meeting the challenges of simultaneously raising social benefits and adult retraining for rural adults as well as education, health, and early childhood education for rural children will require a fundamental shift in priorities and massive transfer of resources. However, we believe it may be the best investment that China can make if it is going to reach its goal of becoming a high-income and socially stable nation. Whether they make those investments remains to be seen.

**T**here are no easy answers to the problem of China's increasingly underemployed rural workers

## Notes

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