



## BACKGROUND NOTE

# Chaebols and Firm Dynamics in the Republic of Korea

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## CHAEBOLS AND FIRM DYNAMICS IN THE REPUBLIC OF KOREA

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In recent decades, several countries have demonstrated that it is possible to move from low-income to high-income levels just within one human lifetime. Most of these development success stories are in East Asia. Understanding their successes is crucial not just for poor countries around the world but also for the socioeconomic outcomes in the world's largest country, the People's Republic of China (PRC).

So far, the PRC has also been developing at the rates similar to its neighbors. In particular, it only took four decades for the PRC to move from very low to upper middle-income. However, it is not clear whether the PRC's growth model is sustainable: growth rates are slowing down and many structural problems accumulate. Economists shift their focus from understanding "growing like China" (Song et al. 2011) to analyzing "slowing down like China" (Zilibotti 2017).<sup>2</sup> There is a growing consensus that the structures and institutions built to help the economy of PRC to industrialize may not be well-suited to promote innovation and productivity growth. Indeed, Wei et al. (2017) show that in recent years PRC's growth has been driven by factor accumulation, while the evolution of total factor productivity (TFP) has made no (or even negative) contribution to gross domestic product (GDP) growth.

The PRC's problems are not unexpected. Already in 2007, the World Bank's report warned that Asia's developing economies may end up in the "middle-income trap" (Gill and Kharas 2007). The idea behind the concept of the middle-income trap is that, moving from middle income to high income may be qualitatively different from the shift from low income to middle income. Some countries that have accomplished transition to middle income status successfully (and even rapidly) may lose steam and stop converging to high-income levels if they fail to transform their institutions, structures, and policies.

The idea that different types of policies or institutions appear to be growth-enhancing at different stages of development was first developed by Acemoglu, Aghion, and Zilibotti (2006), building on the Schumpeterian growth framework (Aghion and Howitt 1992; and Aghion, Akcigit, and Howitt 2014). Economies that are far from the productivity frontier can catch up with advanced economies through investment-based model adopting technologies developed elsewhere. This growth model requires substantial capital investments and often involves centralized coordination of investments by the state or by large business groups. As the economy gets closer to the frontier, growth comes from inventing new technologies rather than from importing those invented elsewhere. The economy needs to shift to the "innovation-based" growth model that requires high-skilled workforce, investment in advanced research and development, as well as dynamic competitive environment: competition between decentralized firms, their entry and exit.

The large-scale institutional change is always hard; so is the transformation of the investment-based growth model's institutions into the innovation-based ones. Investment-based model creates powerful interest groups that are keen to preserve status quo, in particular preferential access to capital and protection from competition in factor and product markets. In this case, the investment-based model may overstay its

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<sup>2</sup> ADB officially refers to "China" as the "People's Republic of China".

welcome with adverse implications for productivity growth and economic development. This is a typical scenario of an economy ending up in a “middle-income trap”.

How can such a deadlock be resolved? The quintessential example of transition from investment-based to innovation-based model is the Republic of Korea (ROK). The ROK has successfully leveraged the investment-based model up until the 1997/98 Asian crisis. In 1963–1997, Korean GDP per capita has been growing at an average rate of 7% per year, making it one of the most successful economic growth episodes in history. The pre-crisis model was structured around large conglomerates (chaebols). The government supported chaebols via various means, through providing de facto preferential access to credit, explicit and implicit bailout guarantees, and limiting competition from independent domestic and foreign direct investors (Chang 2003).

While this model has delivered impressive results for more than three decades, the 1997/98 crisis undermined the legitimacy of the model, and thus opened a window of opportunity for reform. The pro-competitive reform proposals had already been discussed in the ROK before the crisis, but it was the crisis that provided political support for the reforms because of the pressure by the International Monetary Fund and the broadly shared feeling of humiliation that a fast-growing country had to rely on external support. The ROK undertook sweeping reforms, restructuring inefficient chaebols, and removing entry barriers for non-chaebol firms and for foreign investors. The antitrust agency strengthened enforcement: the number of corrective orders increased threefold, and the financial penalties for anticompetitive behavior increased by the factor of 25 (Shin 2003). Foreign direct investment grew from 0.5% to 2% of GDP (Yun 2003). The removal of explicit and implicit support for chaebol members opened up the Korean economy for competition. This helped renewing economic growth after the crisis, based on innovation rather than factor accumulation. In early 1990s, the ROK filed eight times fewer patents applications to the United States Patent and Trademark Office than Germany. Since 2012, the ROK has overtaken Germany in terms of United States patents applications; in 2015, it has filed 30% more patent applications to the United States Patent and Trademark Office than Germany (despite having roughly half the population of Germany and less than half of German GDP).

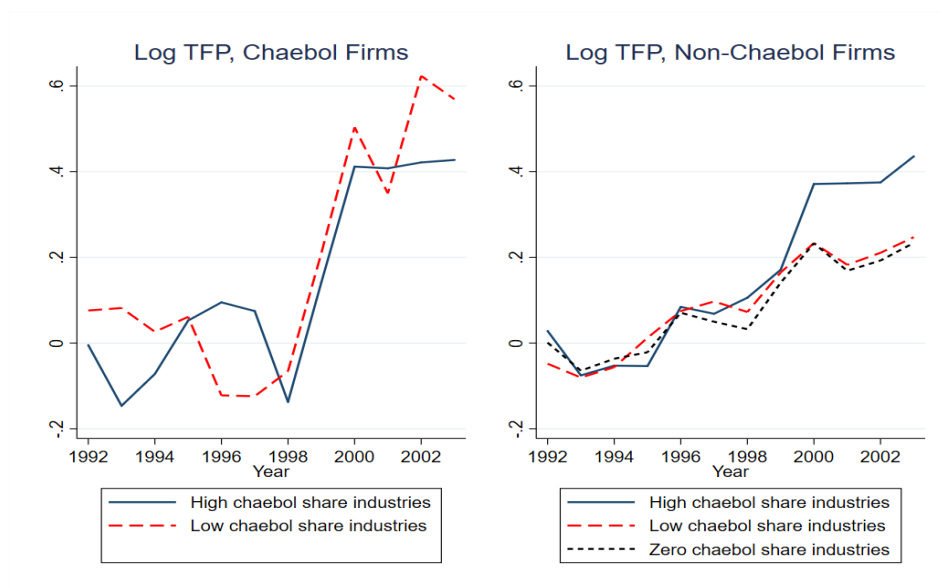
How did this transformation take place during and right after the crisis? In our recent paper (Aghion et al. 2019), we undertake a granular analysis of firm-level data. We use the census of Korean manufacturing firms before and after the 1998 reforms (namely, in 1992–2003) and analyze firm dynamics in industries that used to be dominated by chaebols relative to other industries.

Our results are consistent with the predictions of the Schumpeterian growth paradigm. While before the crisis, TFP was stagnating or even falling, especially among the chaebol firms, after the reforms, rapid TFP growth resumed both in chaebol firms and independent firms (figure). The TFP growth was especially impressive in the industries previously dominated by chaebols, which have been most affected by the reforms. These were the industries where the non-chaebol firms demonstrated particularly fast productivity growth. Further, entry of non-chaebol firms increased significantly in all industries after the reform.

The firm-level data on patenting activity also confirm that the reforms helped promote innovation, and the growth came mostly from non-chaebol firms. Before the crisis, chaebol firms had slightly faster growth of patents per year relative to their non-chaebol counterparts. However, after the crisis, annual number of patents by chaebol firms stopped growing, while patenting by non-chaebol firms accelerated.

While these results confirm the success of the 1998 reforms in the ROK, they also deliver important lessons for the PRC. There are striking similarities between 1990s ROK and the PRC today where the role similar to Korean chaebols' is played by large state-owned banks and state-owned enterprises that control commanding heights of the economy. In the ROK, it was a crisis that paved the road for pro-competitive reforms. Whether and when the PRC will restructure its state-owned banks and state-owned enterprises remains an open question.

### Logarithm of Total Factor Productivity (Relative to Average in 1992–1997) in Chaebol and Non-chaebol Firms in Industries with High, Low, and Zero Chaebol Share



Notes: The figures are logarithms of averages of each industry's total factor productivity for chaebol and non-chaebol firms, after winsorizing top and bottom 1% for the whole sample period in each industry categories. Industries are classified by the average 1992–1997 chaebol share: high (above 1992–1997 median, 20%), low (below median), and zero. Industry-level log total factor productivities are normalized by 1992–1997 average = 0.

Source: Authors.

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