



Comisión
Nacional de
**Evaluación y
Productividad**

EXECUTIVE SUMMARY

Annual Productivity Report

2018

Productivity Report 2018

The 2018 Annual Productivity Report is the third from the National Productivity Commission (CNP). Since the first report's publication in 2016, there has been consensus on the need to substantially improve productivity and the relevance of this occurring in all private and public sectors.

This report provides our productivity estimate for 2018, accompanied by a database with the original series used in calculating our figures. It also shows a revision of previous estimates based on new information availability. Additionally, it contains two chapters that explain specific and relevant topics for productivity:

- Productivity and migration, analyzing the link between both aspects focusing on migratory changes from 2012-2018.
- Productivity and market concentration (at the firm level, for the period 2005-2015), analyzing the impact of lack of competition on productivity.

Since the year 2000, productivity has begun a worrying slowdown. During the 1990s, the average annual productivity growth was around 2.3%. In fact, in the last fifteen years, its contribution to yearly average development has been just 0.1%. At this rate, the country would have had an income per capita higher by a third than the current one.

Thus, the need to improve productivity is a fundamental issue. This consensus determined, among other aspects, that the first mandate requested from the CNP was to annually produce a report that monitors the evolution of productivity, based on periods of more than a year, since the factors determining it can be noticed in medium and long-term horizons (several years).

The main messages of this 2018 Annual Productivity Report are as follows:

1. During 2018, it is estimated that the Chilean economy's total factor productivity (TFP) would have risen by 1.3%, regardless of the cyclical adjustment used (either by salaried employment or unemployment). Apart from measuring the TFP, which considers all sectors of the economy, we estimate the so-called non-mining productivity; since mining, investment, and employment dynamics have a slower pace, their results are observed many years later and can hardly be considered within one year. In this regard, for the non-mining economy, productivity would have grown by around 2.3% in 2018.

2. For the years 2016 and 2017, the figures reported in the 2017 Annual Productivity Report were updated. In particular, the estimation of the cyclically adjusted TFP growth by salaried employment was slightly corrected downwards, with negative growth rates of -0.5% and -0.2% for 2016 and 2017, respectively; the non-mining economy suffered a significant correction, showing growth figures of -0.2% and 0.1% for 2016 and 2017, respectively. In 2018, there was a break in the path of reducing productivity growth rates, demonstrated by the positive change in aggregate TFP and TFP without mining. However, it is difficult to determine to what extent this change in trajectory will persist in the coming years, as it is influenced by economic recovery (GDP growth of 4.0% in 2018 compared to 1.4% in 2017). Employment and capital continue to grow at the same rate as in 2017 since, while investment accelerated in 2018, its impact on the product will be reflected from the following year onwards.

3. During 2017, TFP (Total Factor Productivity) had fallen, and the new sectorial figures show that only three sectors (out of eight) increased during that year. These are the industry (0.6%), trade, hotels and restaurants (2.8%), and transport and communications (1.4%). On the other hand, four sectors of the economy showed growth figures higher than the previous year during 2017 (mining, industry, electricity, gas and water, trade, hotels, and restaurants).

4. There is a debate regarding the official employment figures raised by various economic actors. According to Census data and administrative information concerning the labor market (AFP contributors from the Superintendency of Pensions), the employment growth reported by the INE would be underestimating the actual by about 1% annually. This situation is explained, among other reasons, because the INE uses the 2002 Census as a reference, which does not capture some recent demographic changes, such as the increase in the immigrant population in the country, which has doubled over the last five years. Considering the above, the CNP analyzed its productivity measurement, incorporating additional data sources to those used by the INE (employment figures from the 2012 and 2017 Censuses and the number of AFP contributors, according to the information available in the Superintendency of Pensions). The results of the estimates made by the CNP conclude that, although the growth figures of the TFP record a downward correction of around 0.5% annually, the recent trend (TFP slowdown during 2012-17 and the rebound recorded for 2018) does not change when incorporating these additional sources.

5. Regarding the presence of immigrants in the labor market, they have a higher proportion of participation than non-migrants. In particular, while 81% of immigrants are working or looking for employment, only 61% of the local population does so. However, migrants explain between a third and half of the increase in Chile's workforce in recent years. Furthermore, although there is heterogeneity, the educational level of immigrants is, on average, higher than that of the local population.

6. Concerning the sectoral distribution of the migrant population, it is concentrated in sectors with intermediate TFP growth and low labor productivity. When comparing migrants who arrived before and after the year 2010, we find that many of the sectoral gaps between migrants and the local population decreased over time. Also, the mismatch between the education level and the type of job is more significant the higher the human capital level of the migrants. This situation reveals friction in the labor market, which hinders the assimilation of immigrants and negatively affects

productivity. However, there are significant potential thanks to immigration, but there are shortcomings that prevent it from being achieved.

7. One of the possible reasons behind the productivity slowdown in Chile since the 2000s is the lack of competition in local markets. The OECD has highlighted that the competitive environment in Chile is weak compared to the rest of its member countries, translating into lower incentives for entrepreneurship and less resource reassignment to more efficient companies. This situation has arisen partly due to excessive market regulations, which act as a barrier to the development of new companies and potential exporters (for example, restrictions on national maritime cabotage). Recently, however, there have been advances in the right direction, such as a reduction in the costs to start a company, a new bankruptcy law, and reforms to the laws of free competition.

8. It is worth noting that using the Boone competition index (which consists of the elasticity of profits concerning marginal costs in an industry), we found that a higher level of competition positively affects the productivity of firms far from the productivity frontier. In particular, if one sector increases its levels of competition from the 25th percentile to the 75th, the company located at the median of the gap would increase its productivity by 12%. In comparison, a company's productivity situated at the 75th percentile of the gap would increase by 16%.

9. Additionally, we examine whether these effects vary when considering a subsample of companies according to the type of industry they belong to. First, we follow Pavcnik (2002), who classifies industries into three categories: exporters, import substitutes, and non-tradable. The aggregate results suggest that these three types of sectors reflect a similar outcome to the pattern of the aggregate economy in terms of the relationship between competition and productivity, where a higher level of competition increases the efficiency of companies far from the productive frontier of their industry.

10. When observing competition levels according to sectors, particularly those that consistently have a low Boone index, consistent with the previous point, we find that low competition is a problem that affects several sectors of the economy. Among the industries that systematically register low levels of competition are mining and the forestry industry, as well as machinery sales, electricity, and engineering works. Industries such as water supply, waste cleaning, and others linked to manufacturing are also mentioned.

11. Finally, we reiterate the recommendation of the Productivity Agenda Review report, published in 2016, to legislate so that data obtained with public resources are effectively public, thereby contributing to the development of informed technical debates, which enhance research and improve the quality of public policies. In this sense, the willingness of organizations such as the SII (whose data served to construct one of the chapters of this report) is highly valued. However, public services must share data and greatly facilitate access to their databases.

The report is organized into four sections. First, the CNP's productivity estimates updated until 2018 are presented, along with a sensitivity analysis relative to the discrepancies in employment figures. The second, recent immigration in Chile, is characterized, as well as its potential effects on local productivity. In the third, we analyze how competition can impact the productivity of Chilean companies. The last section presents the main findings from recent studies by the Commission.