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Employment situation in Argentina

Productivity and wages: a long-term look

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For more information, visit www.ilo.org/buenosaires, or write to us at biblioteca_bue@ilo.org.

Edition: Ruth Solero
Design and layout: Ingrid Recchia

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TABLE OF CONTENTS

LIST OF GRAPHS, TABLES AND BOXES

EXECUTIVE SUMMARY

Two years after the beginning of the post-pandemic recovery, the labour market in Argentina continues to create employment at a high pace, albeit at a slower rate than in 2021. During the first half of 2022, the year-to-year variation of the number of employed persons was 6.7 per cent, lower than the 7 per cent variation recorded by the GDP, and it was 4.3 percentage points (pp) lower than the number of employed persons for the preceding year. Meanwhile, unemployment recorded a continuous drop after having jumped in the second quarter of 2020, and towards the fourth quarter of 2021 it reached minimums that hadn't been seen since 2015: close to 7 per cent. Its level in the third quarter of 2022 was 7.1 per cent.

The first half of 2022 showed that the labour market was recovering vigorously, reflected in the rates of participation, employment and unemployment. The drop in unemployment was more intense among young people, for both men and women, while the employment rate reached record levels in the second quarter of 2022 for both adults and youths, especially young women. Yet even though the registered working population continued to expand after having returned to pre-pandemic levels since the fourth quarter of 2021, the informality rate is higher than it was at that time.

Coinciding with the increase in informality, a deterioration of other decent work indicators could be seen in the first half of 2022. The proportion of employed persons who had simultaneous access to labour rights (health insurance coverage, paid holidays, paid sick days and bonuses) decreased between 2021 and 2022, especially for young people, and more so among men.

Since 2021, the behaviour of self-employment has varied, but the population employed in wage-earning positions continued to recover without interruption. In the second quarter of 2022, self-employment was 10 per cent higher than it was in the second quarter of 2019, while wage-earning employment was 7 per cent higher. Towards the second quarter of 2022, the contribution to the growth in wage-earning employment came mainly from the increase in the number of unregistered private wage earners and wage earners of the public sector: with respect to the second quarter of 2019, the increase in unregistered private employment, in absolute values, was 20.6 per cent and the increase in public employment was 15.7 per cent. There was nascent recovery by employment in the domestic services sector in 2022, but it is one of the few sectors that has yet to reach its pre-pandemic figures: in the second quarter of 2022 it was still 10 per cent below its level in the same period of 2019.

Also compared to 2019, the sectors that led the growth of job positions were trade (28 per cent), industry (22.5 per cent) and social and health services (13 per cent). In turn, construction, hotels and restaurants, and transportation showed drops in the number of registered wage-earning positions and growth in the number of unregistered wage-earning positions, thereby indicating greater employment informality. Focusing on the sectors where the creation of wage-earning job positions in the registered private sector was greatest with respect to the pre-pandemic period, the manufacturing industry is notable, as well as the real estate, business and leasing services sector. These two sectors represent 70 percent of the increase in wage-earning positions in the private sector since 2019.

The characteristics of career tracks illustrate the dynamic of the labour market recovery. Transitions from unemployment to employment varied according to age and gender: unemployed adults had more opportunities than young people to get a job, and in both groups, unemployed men transitioned to employment to a greater extent than women. In the case of young women, during the last period the increase in employment was due to a transition from inactivity.

The level of education is also relevant with respect to finding and keeping a job: in the second quarter of 2022, people who had completed secondary education or higher had more dynamic transitions to employment than people who had not completed secondary education. Likewise, permanence in employment was higher for people who had completed secondary education or higher (93 versus 88 per cent), which shows that integration in more stable positions is higher to the extent that education is higher.

During the second quarter of 2022, the transitions to an occupation, whether from unemployment, from inactivity or from another job, were to informal occupations in 62 per cent of the cases, with a net positive variation of 6.5 pp, which is associated with an increase in entries into informal positions and a reduction of exits. Thus, while the job positions that have been created are mainly informal, the rates of entry into formal employment continue to be higher than the exits, and there is a positive transition from informality to formality.

Regarding real labour income, after a relative recovery in 2021, it dropped by 1.9 per cent and 10.4 per cent in the first and second quarters of 2022 with respect to the last quarter of the preceding year. The acceleration of inflation in the second quarter of 2022, above levels that were already high, had a major impact on the real income of employed persons, affecting those working in both the formal and informal economies.

This recent trend in wages is framed within an evolution by this variable that fluctuates considerably over time, but without significant changes that persist in the long term. Indeed, the average real wage of the entire economy in recent years reached levels similar to those of 1970 and 1971. This is linked to the difficulties in reversing the effects of the regressive changes to the production structure that took place in the mid-1970s, with these effects becoming more profound in the 1990s after a shift by workers from sectors of high productivity (and high wages) to sectors with low productivity (and low wages).

According to the estimates prepared for this bulletin, the productivity of the Argentinian economy remained essentially at a standstill in the period from 1970 to 2021 due to the effect of those regressive changes in the production structure – with an ever-increasing weight in low-productivity sectors, such as domestic work, construction and social services – and, above all, due to the reduced productivity increases within firms and sectors, which is confirmed when they are compared to the increases shown by their peers in other countries of the world. Within the framework of nearly stagnant labour productivity, the increases and decreases in real wages have tended to be quite directly reflected in changes in wage-earning participation in income, as it has been in fact observed in recent years, in detriment to both.

Specifically regarding the manufacturing industry, a sector in which certain international comparisons can be made, productivity in Argentina grew by approximately 30 per cent between 1970 and 2020, while in the United States this industry multiplied by a factor of between two and three. Therefore, the productivity gap in that sector between both economies has widened from 1970 up to now. Argentinian productivity, which was at 48 per cent of US productivity in 1970, had dropped to 17 per cent by 2020. The widening of those gaps was more noticeable in the categories with the greatest technological complexity, such as the chemical sector and the machinery and equipment sector (including the automotive sector), although it also extended to all industrial branches, even those that are resource-intensive.

These “external” productivity gaps tended to affect the international competitiveness of the Argentinian economy, and therefore its exports, thereby weakening the external sector and creating a favourable environment for recurring balance-of-payments crises, which, through adjustments in the exchange rate, have a negative impact on real labour income. Therefore, improving the income levels of the population requires a more diversified and complex production matrix that continuously expands the participation of sectors that are the most productive and that can better reward work, while at the same time contributing to lower exposure to external crises. Both objectives – better wages and lower external fragility – must be coordinated with the intention of being able to sustain eventual wage improvements over time, based on narrowing the external productivity gaps.

I.
The employment situation

I.1. Post-pandemic opportunities and challenges

In the majority of countries in the region, most of the mobility restrictions on the population have, for the most part, been lifted since the third quarter of 2021. The vaccination process allowed a gradual return to normal, with a recovery of employment and activity that advanced at different paces according to various stages (ILO 2021; ECLAC/ILO 2022b and 2022c). Latin America and the Caribbean, after having been the region affected the most by the pandemic in 2020 in terms of GDP (-7.0 per cent), has recovered notably (6.9 per cent), apart from the verified heterogeneity between countries of the region (ILO 2023).

The war between Russia and Ukraine has brought difficulties to economies of the region, with direct impacts associated with rising food and energy prices and indirect impacts related to general deterioration of the global economy (Maurizio 2022; ECLAC 2022a). The restrictive monetary policy of the United States has also hurt debt reduction strategies. At the beginning of 2022, central governments of the region were expected to reduce the public expenditure associated with the subsidies and transfers that had been granted during the pandemic. However, the conflict caused fiscal pressures due to the increase in interest payments and the measures implemented to counteract the effects of inflation on the most vulnerable groups, which limited the scope of that expenditure reduction (Maurizio 2022; ECLAC 2022b).

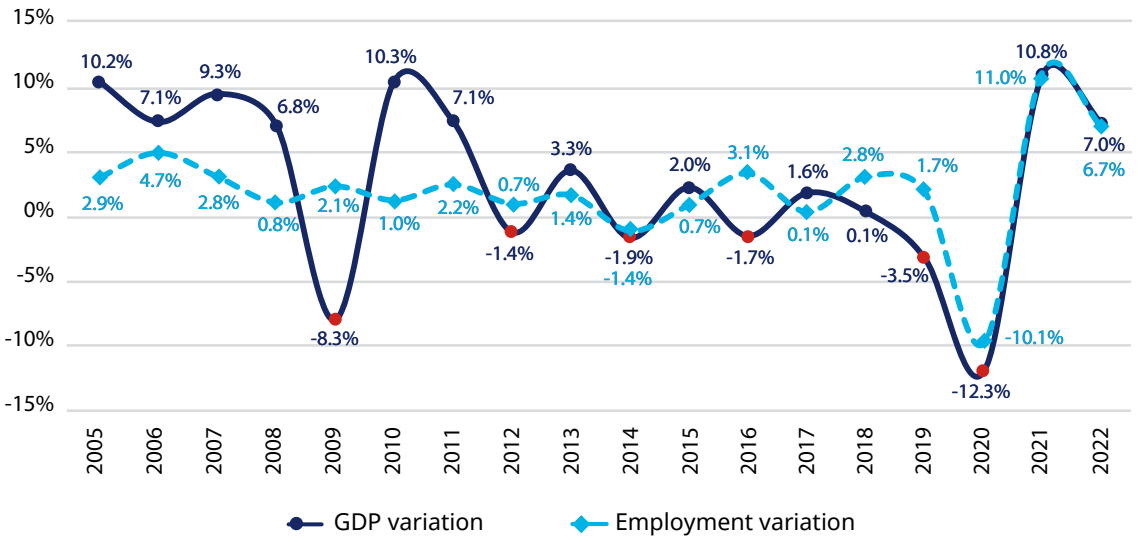
In Argentina's case, the post-pandemic dynamic brought other novelties. For the first time in a decade, the country managed to break the cycle of growth in odd years and a drop in even years. The two-year period from 2021 to 2022, at least when comparing the first semesters, will be the first period when two consecutive years of significant growth are recorded since the 2010–2011 period, which came right after the international financial crisis of 2009. Unlike then, in 2022 the country was passing through a higher inflationary cycle, it was facing a tight schedule of external debt payments and it was exposed to an international context characterized by uncertainty. For 2023, the forecasts indicate a deceleration of economic growth, which will reach 1.3 per cent annually according to ECLAC estimates, representing an additional challenge to the situation.

In terms of employment, while the 2009 crisis did not translate into major changes in the number of employed persons due to policies that contained the impact, the extent of the crisis stemming from the pandemic was especially notable among people with informal jobs because it affected the mobility of working persons. **Two years after the beginning of the recovery and as the rebound period is left behind, the labour market continues to maintain a high pace of job creation, albeit at a slower rate than in 2021**. During the first half of 2022, the number employed persons showed

a year-to-year variation of 6.7 per cent, less than the 7 per cent variation recorded by the GDP and 4.3 percentage points (pp) below the variation in the number of employed persons for the preceding year. The coming challenge consists in sustaining economic growth through the creation of employment in quality positions, especially for those groups affected the most by the crisis.

GRAPH I.1

Year-to-year, first-semester variations of the deseasonalized monthly GDP in Argentina and of the number of employed persons, 2005–2022



Source: ECLAC/ILO based on the Permanent Household Survey (EPH) and National Accounts – INDEC.

I.2. Greater participation in the labour market did not translate into higher unemployment rates, due to the growth of employment

The participation rate has grown at different paces since the peak of the COVID-19 crisis, consequently showing notable increases towards the end of 2020 and a more variable dynamic in 2021. By the third quarter of 2022 (with the participation rate at 47.6 per cent), full recovery at pre-pandemic participation levels could be seen (the rate in the third quarter of 2019 was 47.2 percent) (Graph I.2).

GRAPH I.2

Participation, employment and unemployment rates, Q4 2018 – Q3 2022

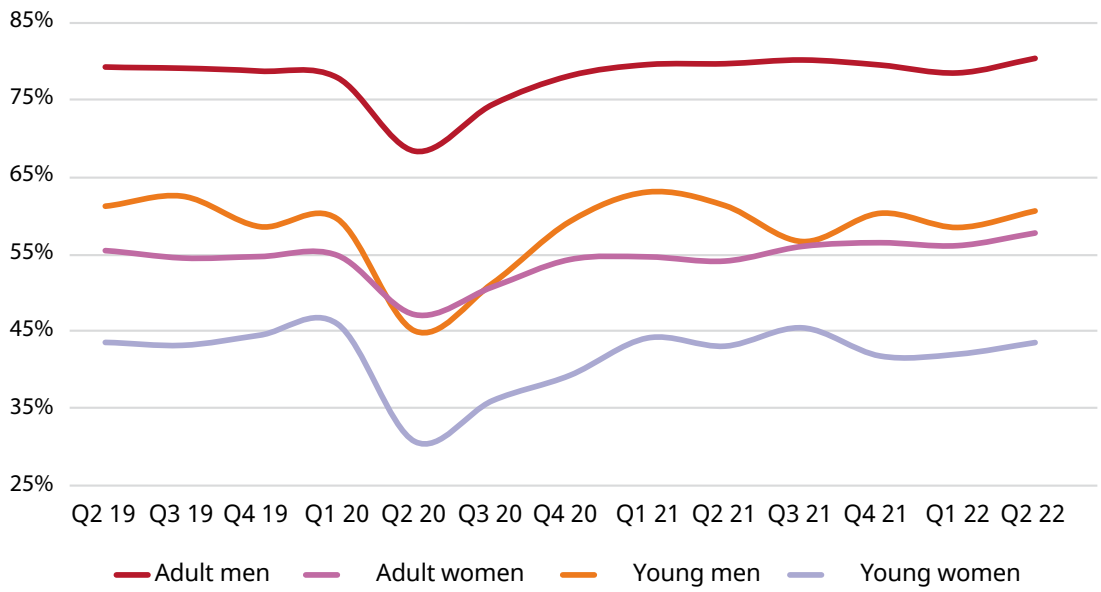
Source: ECLAC/ILO based on INDEC.

One of the best pieces of news from the period is that, with the participation rate at record levels[1]**, the unemployment rate is remaining stable**. Notably, unemployment has recorded a continuous drop since having jumped in the second quarter of 2020, and towards the fourth quarter of 2021 it reached minimums that had not been recorded since 2015: close to 7 per cent. In the third quarter of 2022, compared to the preceding three years, unemployment dropped by 2.6 pp. Furthermore, it is the first time since 1992 that the unemployment rate has remained around 7 per cent for four consecutive quarters. The simultaneous growth of the participation and employment rates during the same period is evidence of greater labour force absorption capacity by the production structure.

The intensity of the drop in unemployment is greater among young people (both men and women). While the unemployment rate among adult men was 4.6 per cent towards the second quarter of 2022 (3.2 pp less than in the second quarter of 2019), the rate for adult women was 6.5 per cent (a drop of 2.2 pp for the same period). Towards the second quarter of 2019, approximately 24.7 per cent of young men and 30.3 per cent of young women were actively searching for employment. In the second quarter of 2022, these rates dropped to 16.5 per cent and 18.5 per cent, respectively, meaning reductions of 8.5 pp and 11.8 pp. **In the case of young women, it should be noted that this drop took place within the framework of an increase in participation by this group**.

[1] Ever since the methodology of the Permanent Household Survey (EPH) was changed in 2003, the highest point reached by the participation rate was in the second quarter of 2019.

GRAPH I.3
Participation rate by gender and age, Q2 2019 – Q2 2022



Source: ECLAC/ILO based on the EPH-INDEC.

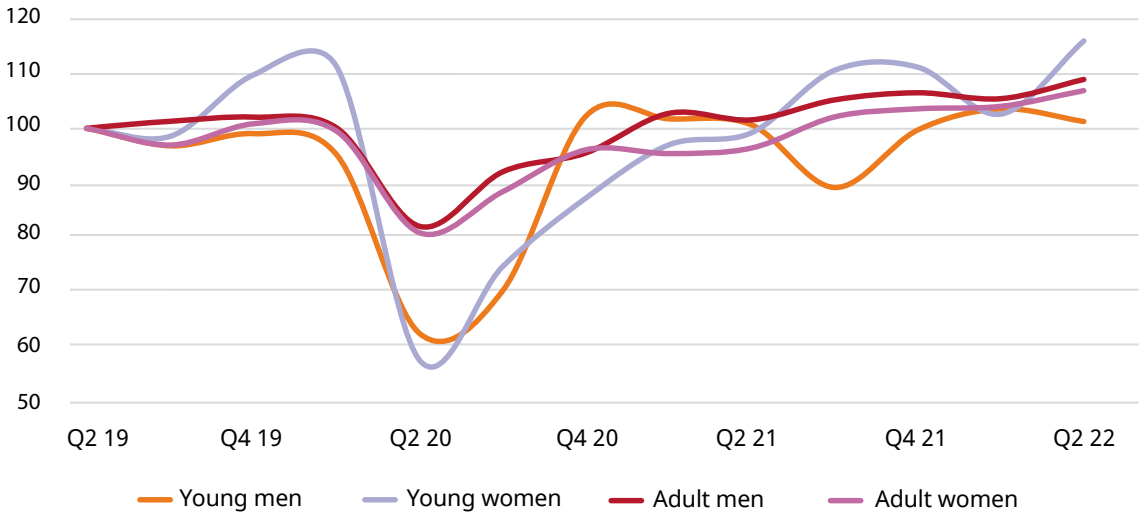
Just as the impact of the pandemic was more severe for young people than for adults in terms of participation, the recovery was also more gradual and irregular for young people, especially young women. Moreover, while there was a growth trend in participation among both young women and adult women as from the fourth quarter of 2021, the figure for young men for the second quarter of 2022 was below the figure of the preceding year.

The counterpart to a lower unemployment rate and growing participation rates was **the existence of record levels of employment rates for both adults and youths in the second quarter of 2022, especially for young women (Graph I.4)**. The employment level for women in the second quarter of 2022 was the highest it has been since 2003. Moreover, it has been growing continuously since the third quarter of 2020, and in the last year it grew by 12 per cent. However, this evolution was not linear, with a dynamic that was lower in the first half of 2021, associated with the gradual opening of schools and day-care services. While the total number of employed men had already reached pre-pandemic levels by the first quarter of 2021, women did not reach full re-integration until the third quarter. **This is in line with what has been observed in the region as a whole, where the recovery of female employment was more intense than male employment as from the third quarter of 2021** (Maurizio 2022).

GRAPH I.4

Evolution of the number of employed persons by gender and age, Q2 2019 – Q2 2022

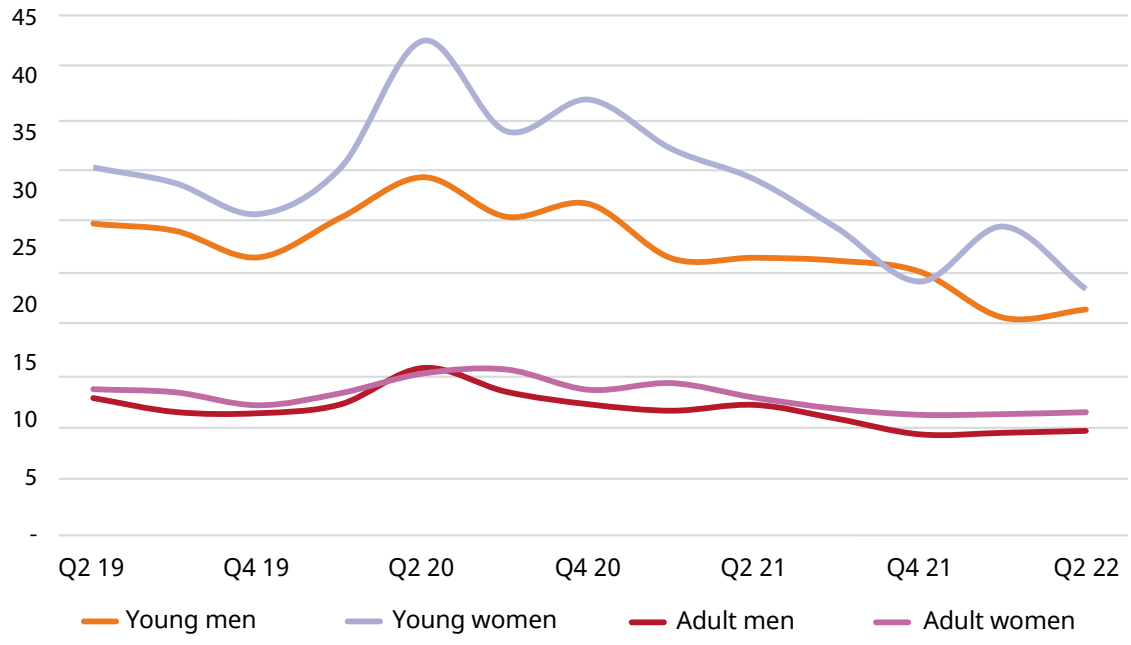
Index, Q2 2019 = 100



Source: ECLAC/ILO based on the EPH-INDEC.

GRAPH I.5

Unemployment rate by gender and age, as a percentage, Q2 2019 – Q2 2022



Source: ECLAC/ILO based on the EPH-INDEC.

In view of the post-pandemic evolution of the main indicators, the labour market is passing through an encouraging period. **With high employment rates and historically low unemployment rates, the youth population is achieving greater labour integration**. The main challenge ahead lies in translating that greater activity into quality jobs, especially among women and young people. The risk is that the increased activity and employment are being driven by a drop in real income, which will be looked at below. In this regard, the "additional worker" effect could represent a situational response to a period of falling family income.

I.3. In 2022, the growth of the employment rate was driven by unregistered wage-earning employment and public employment

The employed population grew in all occupational categories as from the beginning of the recovery, but following dissimilar tracks according to the moment of the cycle. During the initial exit from the pandemic, self-employment was much more dynamic than wage-earning employment (ECLAC/ILO 2022b). **Since 2021, the behaviour of self-employment has varied, while the population employed in wage-earning positions has continued to recover without interruption**. In the second quarter of 2022, self-employment was 10 per cent higher than it was in the second quarter of 2019, while wage-earning employment was 7 per cent higher (Graph I.6).

Full recovery of wage-earning employment with respect to pre-pandemic figures was observed in the third quarter of 2021. During 2022, the growth trend continued: in the second quarter of that year, it was 3.4 per cent above the preceding quarter. **Wage earners represented 76 per cent of the increase in the number of employed persons between the first and second quarters of 2022.**

Towards the second quarter of 2022, the contribution to the growth of wage-earning employment came mainly from the increase in the number of unregistered private wage earners and of wage earners in the public sector. Both grew 6 per cent with respect to the preceding quarter, while private wage-earning employment dropped by 1 per cent. These increases are even more significant when they are compared to pre-pandemic figures: unregistered private wage-earning employment increased by 20.6 pp in absolute values, and public wage-earning employment increased by 15.7 pp in comparison with the second quarter of 2019 (Graph I.7).

Regarding the evolution of domestic services, during the recovery a shift towards unregistered wage-earning occupations had been observed (ECLAC/ILO 2022b). However, a noticeable reversal in the employment level of domestic services was verified in this last period, which grew 14 per cent in the second quarter of 2022 with respect to the preceding quarter, representing nascent recovery of employment in the sector. Yet this is still one of the few sectors that has not yet reached pre-pandemic levels. In the second quarter of 2022, it was still 10 per cent below the level of the same period in 2019. Recovery of the sector was especially driven by unregistered employment. **The increased insertion of unregistered domestic work that followed the recovery from the pandemic could be observed in the greater weight of unregistered domestic work, which went from 72.6 to 75.3 per cent of total domestic work between the second quarter of 2019 and the second quarter of 2022**.

An increase in unregistered wage-earning employment can be seen in terms of both jobs and the duration of the working day. The hours worked by unregistered wage earners continued to grow after having hit pre-pandemic levels, subsequently reaching a peak in the first quarter

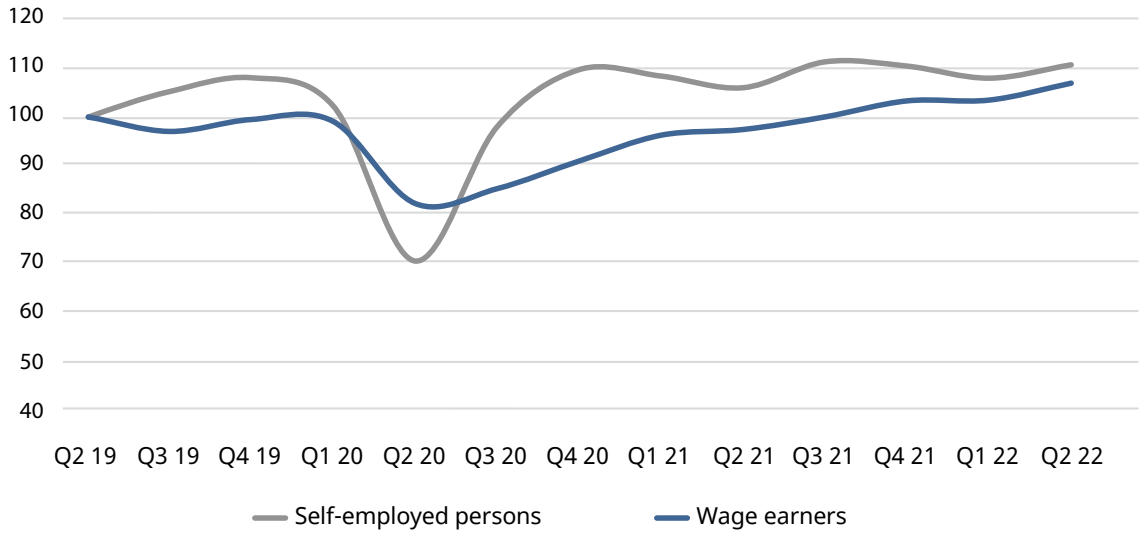
of 2022. Even though a major drop in the number of hours worked was recoded for this category in the second quarter of 2022, it was still 4 per cent above pre-pandemic levels (Graph I.8). **This increase was sustained by a greater number of hours worked by women in unregistered wage-earning positions, thereby showing the potential need to offset income within a context of falling real income**. The "additional worker" effect would therefore be correlated to the increase in both the participation rate and the hourly component.

In brief, while the exit from the pandemic was marked by the growth of self-employment, which had been more affected during the health crisis, the subsequent growth in the employment rate was marked by the creation of public employment and unregistered wage-earning employment. And not only was an increase in the level of employment recorded, those who were working were also working longer hours. With respect to pre-pandemic figures, registered wage-earning work lost weight in the composition of employment in favour of all other categories.

GRAPH I.6

Evolution of the number of employed persons who are self-employed or wage earners, Q2 2019 – Q2 2022

Index, Q2 2019 = 100

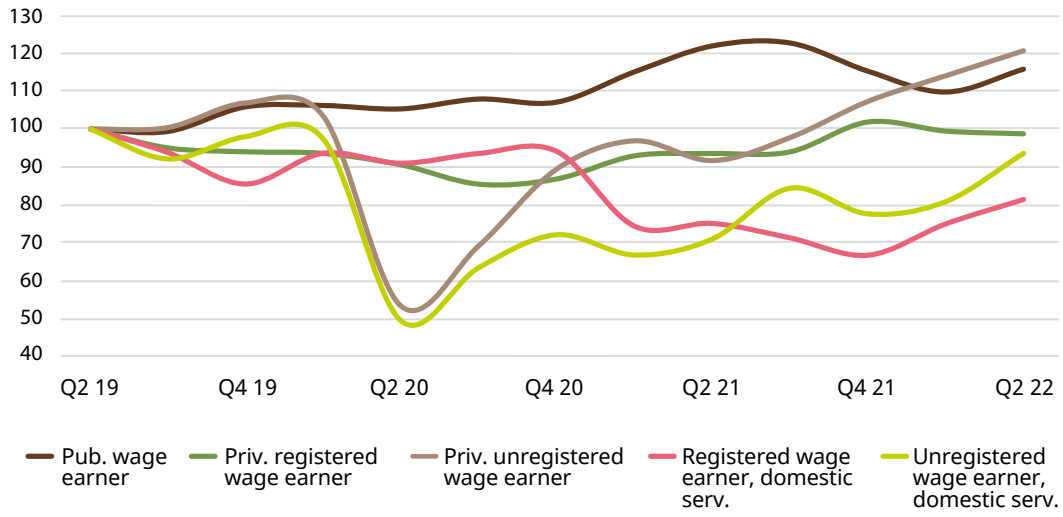


Source: ECLAC/ILO based on the EPH-INDEC.

GRAPH I.7

Evolution of number of wage earners according tooccupational category, Q2 2019 – Q2 2022

Index, Q2 2019 = 100



Source: ECLAC/ILO based on the EPH-INDEC.

GRAPH I.8

Evolution of weekly hours worked according to occupational category and registration, Q2 2019 – Q2 2022

Index, Q2 2019 = 100

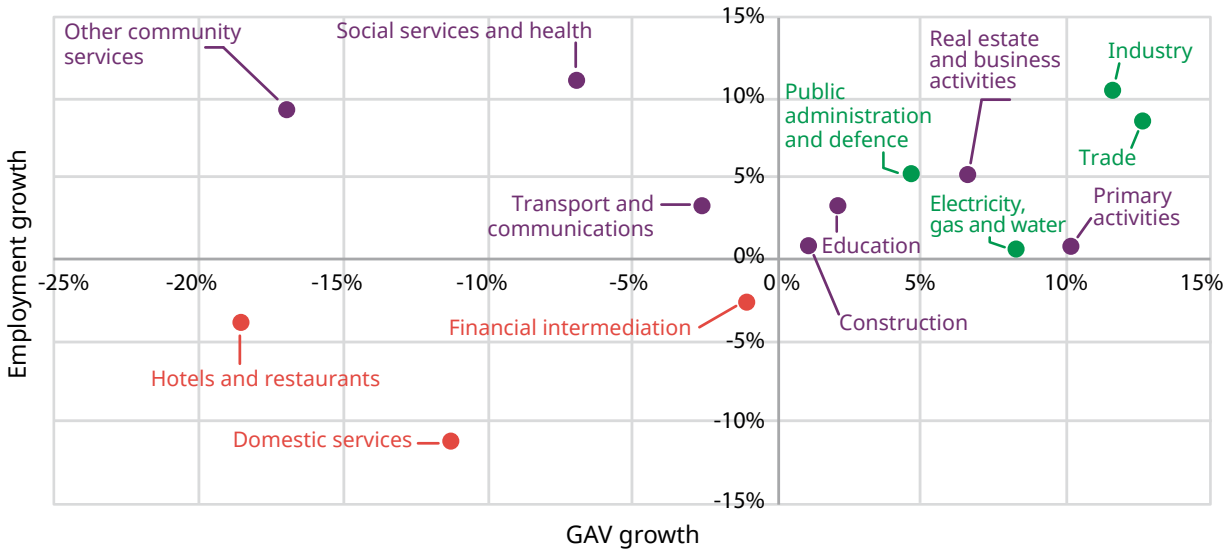
Source: ECLAC/ILO based on the EPH-INDEC.

I.4. Trade, industry, and social and health services led the recovery of employment, but the majority of people who began working were integrated in unregistered wage-earning and non-wage-earning positions

Compared to the first half of 2019, during the first half of 2022 the number of job positions increased by 4.2 per cent. **The sectors that led the growth of job positions were trade (contributing 28 per cent), industry (22.5 per cent), and social and health services (13 per cent)**. Moreover, industry and trade also led the growth in Gross Aggregate Value (GAV), thereby showing how dynamic the recovery from the pandemic was in terms of the level of both employment and production (Graph I.9).

GRAPH I.9

Growth of job positions and of aggregate value by sector between the first semesters of 2019 and 2022



Source: ECLAC/ILO based on the Generation of Income Account (National Directorate of National Accounts – INDEC).

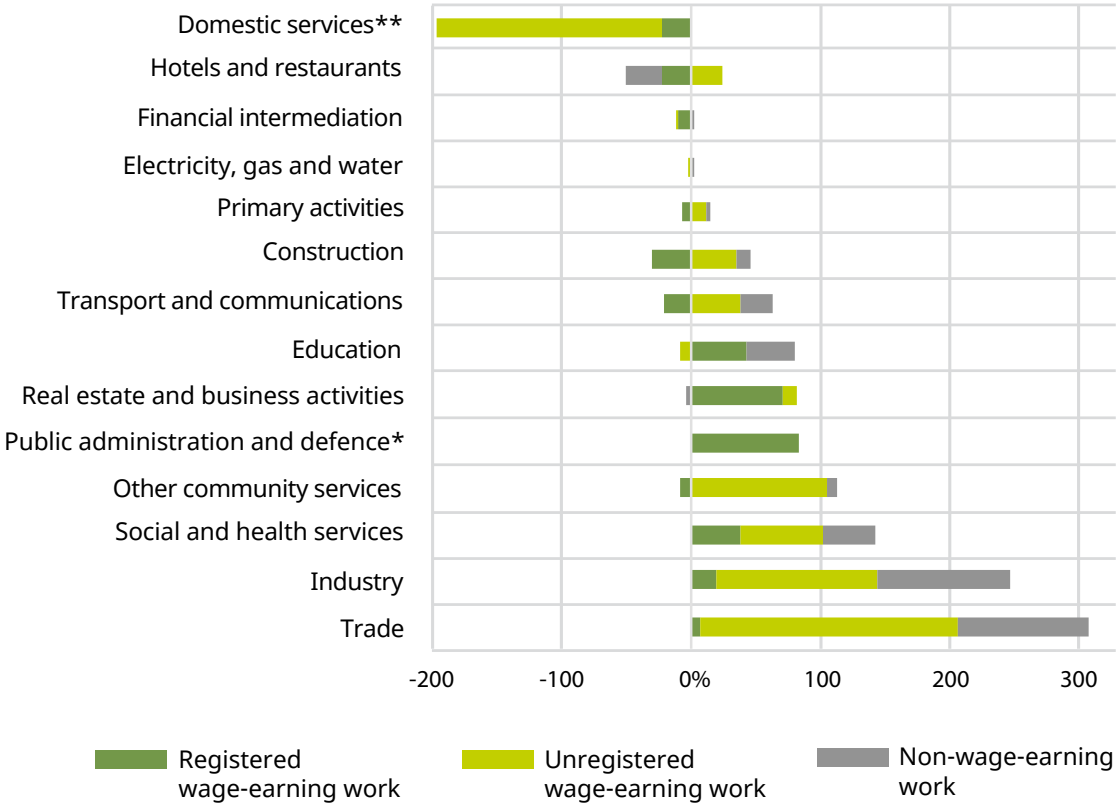
In turn, **domestic services, the hotel and restaurant sector and financial intermediation recorded fewer employed persons in the first half of 2022 with respect to 2019, as well as less aggregate value**. The greater loss of employment is explained by the drop in domestic services, representing 85 per cent of the total positions lost. In other sectors, despite showing growth in the number of job positions, a reduction in the GAV was recorded, which could be evidence of a contraction of real wages or of employment growth where the insertions are concentrated in jobs with lower pay. The situation of the social and health

services sector is notable, which led sectoral growth in job positions (11 per cent), but it shrunk by 7 per cent in GAV. The situation was similar in other community services, although with a greater drop in GAV.

This dynamic is somewhat heterogeneous in terms of the evolution of the quality of the job positions that were created (Graph I.10). **Trade, industry, and social and health services, which led the recovery of job positions, recorded increases not only in terms of registered wage-earning employment, but also in unregistered and non-wage-earning employment. However, the number of unregistered wage-earning positions and non-wage-earning positions represented** 92, 97 and 73 per cent of the new positions in those sectors, respectively. The construction, hotel and restaurant, and transport sectors, on the other hand, showed evident drops in the number of registered wage-earning positions and growth in unregistered wage-earning positions, clearly showing greater informalization of employment. The other community services sector is a surprising case, where the growth in the number of unregistered wage earners by far exceeded the drop in the number of registered wage earners. Given the characteristics of the sector and its high level of feminization, this could be evidence that the sector is serving as a refuge for workers belonging to other sectors, such as domestic services, which recorded a substantial drop in the number of unregistered wage-earning positions. Finally, the dynamic of real estate and business activities should be mentioned, which are more linked to the production of goods, where 86 per cent of the positions created were for registered wage earners.

GRAPH I.10

Variation, by thousands of job positions according to occupational category, between the first semester of 2019 and the first semester of 2022



Note: ** No data on non-wage earners. * No data on unregistered wage earners.
Source: ECLAC/ILO based on the Generation of Income Account (National Directorate of National Accounts – INDEC).

I.5. The increase in employment of young women was driven by transitions from inactivity

The improvement in net employment levels could be associated either with greater entries by women into employment or with lower exit rates to unemployment or inactivity. An analysis of the entries into and exits from employment can shed some light on these dynamics.

The beginning of 2022 brought considerable changes in this regard. The net variation between entries and exits between the first and second quarters of 2022 for all employed persons was positive by 2 pp, thereby reflecting greater entries into an occupation than exits towards inactivity or unemployment. This dynamic was recorded for both adult men and adult women (with net variations of 2.2 pp and 2 pp, respectively), as well as for young women (with a notable net positive variation of 3.9 pp). Conversely, young men notably had greater exits from employment than entries into it, showing a negative balance (a net variation of -0.9 pp).

In comparison with young people, adults are characterized by greater stability and permanence in employment: 93 per cent of adults remained employed between the first and second quarters of 2022, compared to 80 per cent of young persons (Annex 1). For both groups, permanence in employment was similarly higher in the second quarter of 2022 than in the second quarter of 2019.

It should also be noted that there were novelties and changes in the dynamics of youth employment according to gender. Net negative variations between the first and second quarters have continued for young men for the third consecutive year (-12, -3 and -0.9 per cent, respectively, for 2020, 2021 and 2022) (Graph I.11). On the other hand, there was a positive net variation of 3.9 per cent for young women in the last period, **driven by a high inflow** into the labour market, **versus a negative variation of -3.4 per cent in 2021**.

The inflows into employment that occurred, whether from unemployment (44.3 per cent of unemployed persons found employment between the first and second quarters of 2022) or from inactivity (13.6 per cent), were higher than those recorded one year before (Annex 1). **In turn, transitions from unemployment to employment varied according to age and gender. Unemployed adults had more opportunities to get a job than young people, and in both groups, unemployed men transitioned to employment to a greater extent than women**. In the case of young women, in the last period **the increase in employment came from a transition from inactivity**.

The level of education is also relevant with respect to the possibilities of finding and keeping a job: in the second quarter of 2022, people who had completed secondary education or higher had more dynamic transitions to employment than people who had not completed secondary education (and the net variation was higher: 1.9 pp versus 1.1 pp). Finally, **permanence in employment was higher for people who had completed secondary education or higher (93 versus 88 per cent), also showing that integration into more stable positions is higher to the extent that education is highe**r.

In brief, while young men, adult men and adult women had greater transitions to employment from unemployment, the transitions to employment by young women were through entries from inactivity. Education also has an influence on greater permanence in a job.

GRAPH I.11

Rates of entry into and exit from employment, and net variation, Q1 – Q2, 2019 to 2022

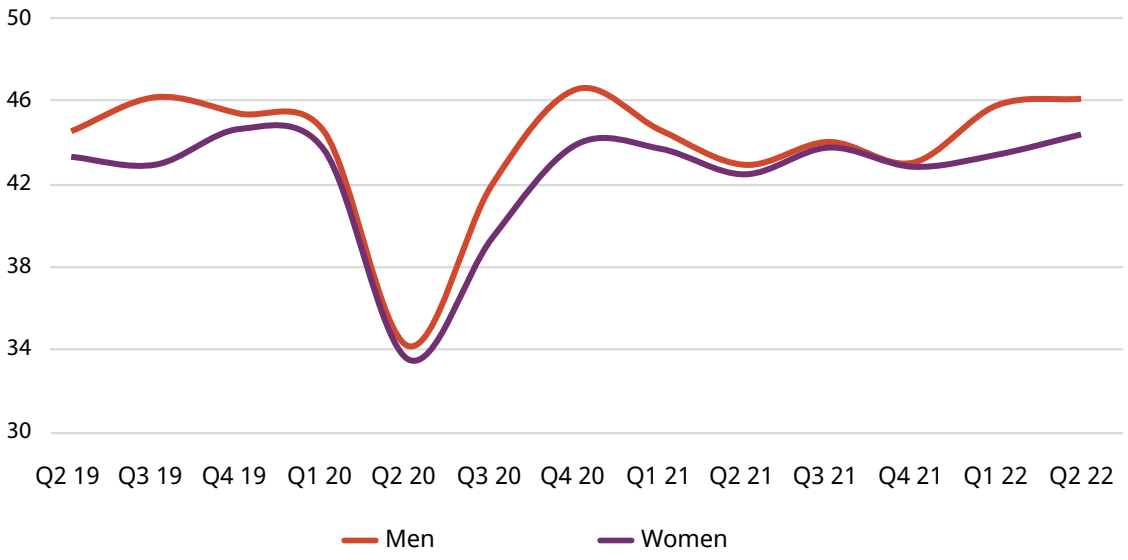
Source: ECLAC/ILO based on the EPH-INDEC.

I.6. Despite the increase in informality, there were more entries into formality than exits

Together with recovery of the volume of jobs, labour informality[2] increased by 1.4 pp between the second quarters of 2019 and 2022. The informality rate increased during the first two quarters of 2022 for both men and women, going from 43 to 46 per cent for men and from 43 to 44 per cent for women between the fourth quarter of 2021 and the second quarter of 2022 (Graph I.12). This growth above the creation of formal jobs is causing alarm bells to sound with respect to greater informalization in the labour market. These problems are not new, but there is the risk that the foundations for this unequal labour integration could have worsened during the course of the pandemic.

2 The ILO's methodology was followed to estimate labour informality in the different occupational categories and in the production units where the working population is integrated

GRAPH I.12
Informality rate, Q2 2019 – Q2 2022



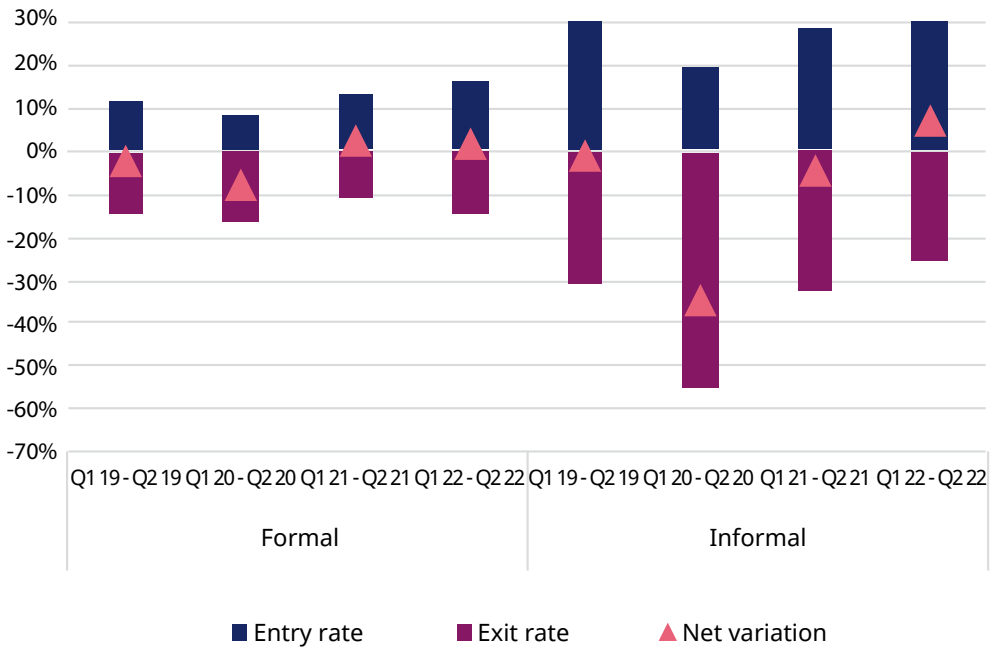
Source: ECLAC/ILO based on the EPH-INDEC.

An analysis of the flows into and from informality allow a better characterization of the increase in informality. **During the second quarter of 2022, approximately 62 per cent of the transitions to an occupation, whether from unemployment, from inactivity or from another job, were to informal occupations**. If just the transitions from unemployment or from inactivity to an occupation are analysed, this figure increases to 75 per cent. Conversely, if only employed persons and transitions between formal and informal job positions are considered, a change of trend is observed: while during the second quarters of 2019 and 2020 a net variation in favour of informal positions was recorded, the opposite occurred in 2021 and 2022, when a greater transition towards formality was recorded.

After two years of negative net variations in informal employment that reflected greater exits from informality than entries into informality, in the second quarter of 2022 a net positive variation of 6.5 pp is observed, associated with an increase in entries into an informal position and a reduction of exits. In turn, formal positions maintained a positive trend over the last two years, reflecting more entries into formality than exits. These entries and exits are evidenced by net positive variations in both 2021 (2.2 pp) and 2022 (1.2 pp). In this last year, there was a notable increase in mobility in the formal market, with higher entry and exit rates with respect to preceding years.

GRAPH I.13

Rates of entry into and exit from formal and informal employment and net variation, Q1–Q2, 2019–2022

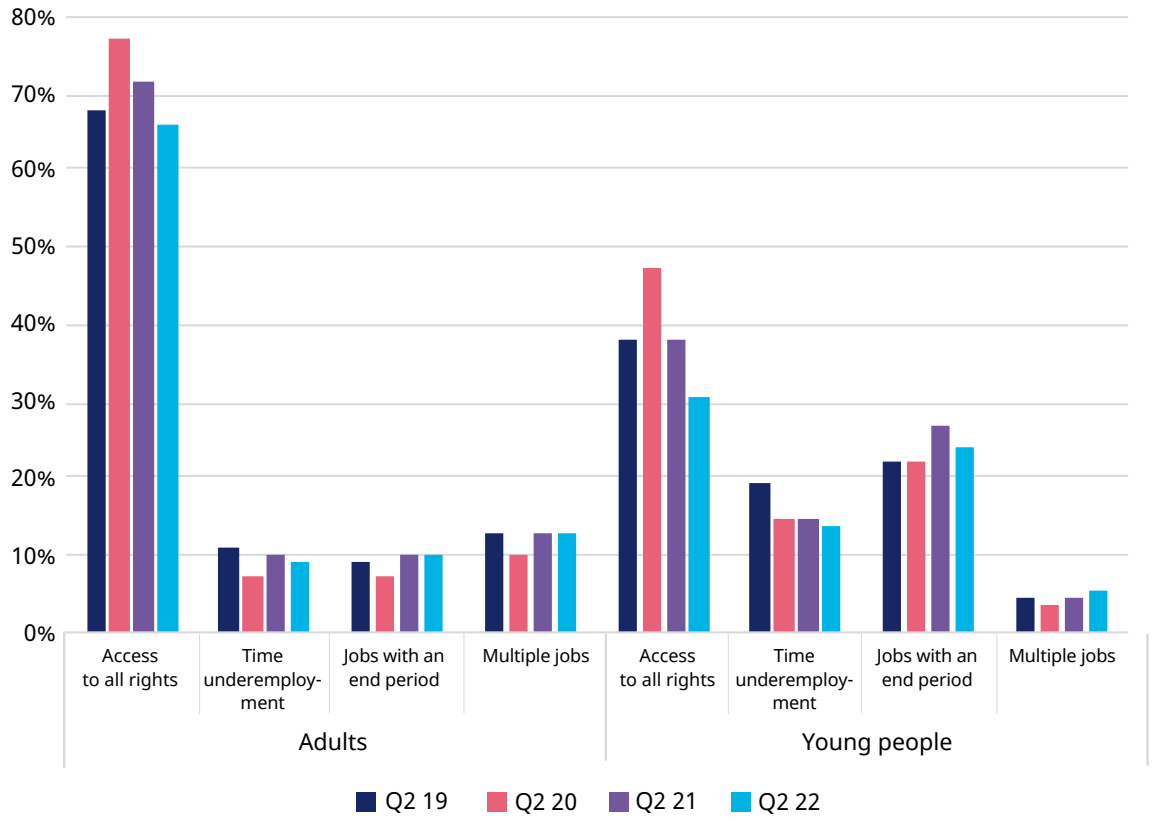


Source: ECLAC/ILO based on the EPH-INDEC.

Coinciding with the increase in informality, **a deterioration of other decent work indicators could be seen in the first half of 2022**. This trend was already being noticed towards the end of 2021 (ECLAC/ILO 2022b). Between the first and second quarters of 2022, quarterly drops of 3 pp and 1.6 pp were recorded regarding the number of employed persons who had simultaneous access to labour rights such as health insurance coverage, paid holidays, paid sick days and bonuses. This drop was particularly acute between 2021 and and 2022, especially for young people (Graph I.13). However, when the intra-group dynamic is observed, a greater drop in access to these rights is identified among young men (12.1 pp). Among young women, not only was the drop less (1.2 pp), but strong improvement could be seen in indicators of time underemployment and temporary employment, with drops of 6.3 pp and 6.6 pp, respectively. For the adult population, the drop in access to labour rights was 5.7 per cent and was nearly equal between men and women.

GRAPH I.14

Indicators of decent work in the adult and youth wage-earning populations, Q2 2019 – Q2 2022



Source: ECLAC/ILO based on the EPH-INDEC.

In brief, even though the new job positions that have been created are mainly informal, the rates of entry into formal employment continue to be higher than the exits, and there is a positive transition from informality to formality.

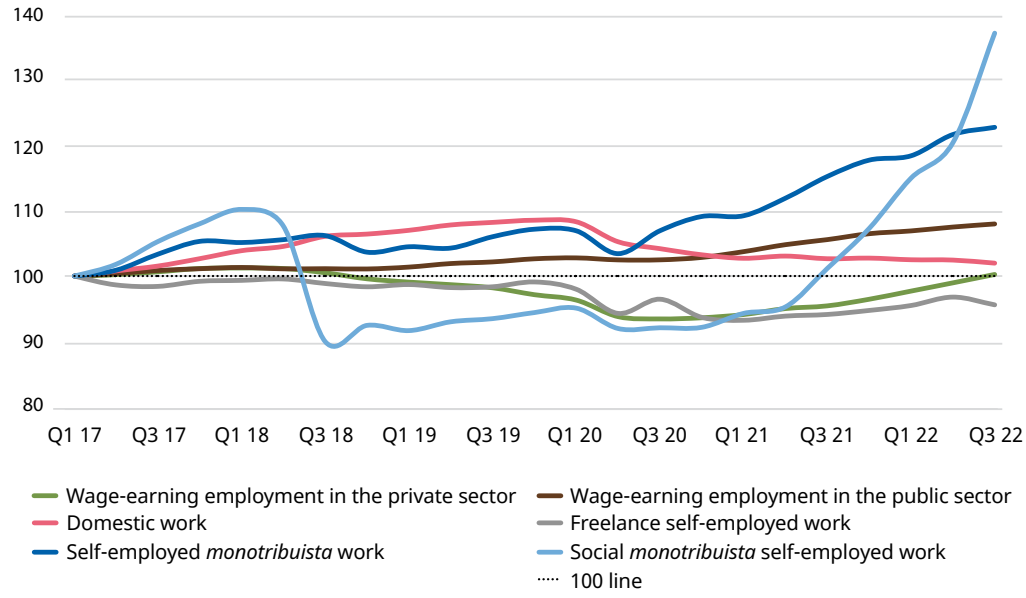
I.7. Registered wage-earning employment in the private sector recovered, and the growth in self-employment was driven by the social *monotributo* scheme

The analysis based on administrative records shows that registered work continued to recover, and it reached pre-pandemic levels beginning in the fourth quarter of 2021. By the third quarter of 2022, it surpassed pre-pandemic levels by 5 per cent with respect to the same period of 2019. This recovery was led by the growth of self-employment of both *monotributista* workers and "social" *monotributista* workers (*monotributistas*: small contributors under a simplified tax scheme). The latter grew at a rate of 6 per cent as from the third quarter of 2021. Despite this dynamic, in recent quarters registered wage-earning employment in the private sector has been more dynamic, and it exceeded the figure recorded in 2017.

GRAPH I.15

Evolution of registered employment according to SIPA category*, Q1 2017 – Q3 2022

Index, Q2 2017 = 100



Note: * Argentinian Integrated Social Insurance System.

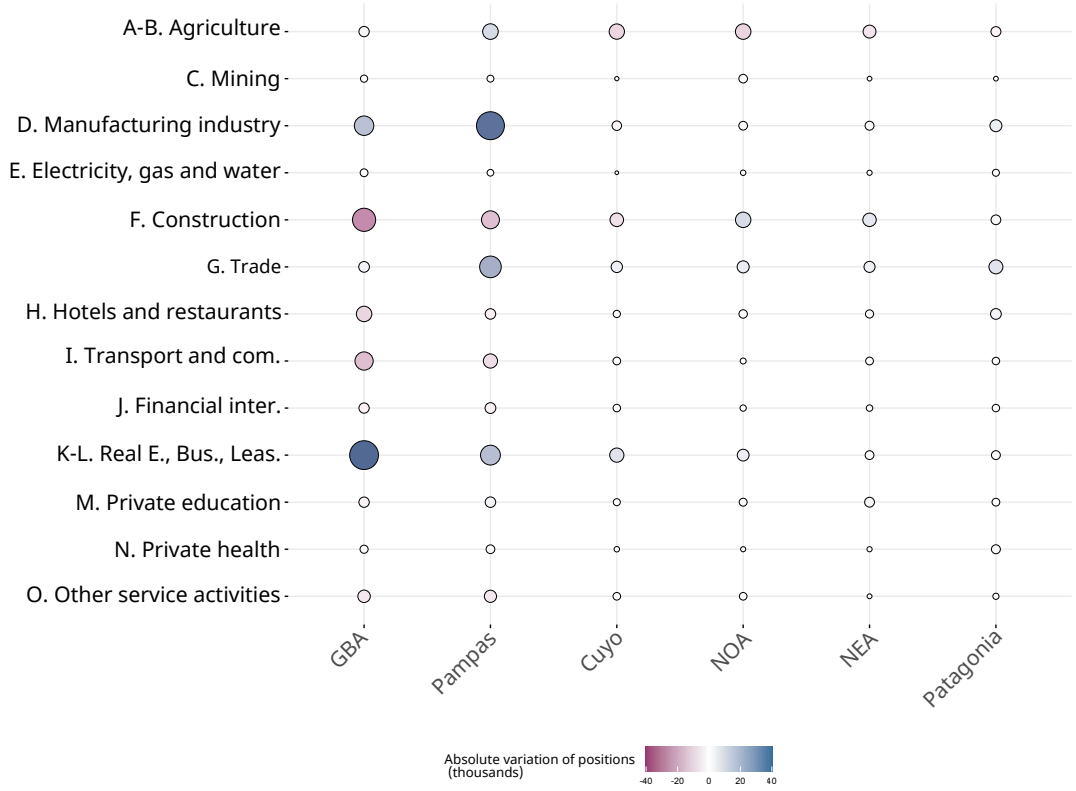
Source: ECLAC/ILO based on the Employment and Business Dynamics Observatory (OEDE). The number of persons with registered work are used according to the main occupation mode, deseasonalized series

Regarding specific sectors, the greatest number of wage-earning job positions created in the registered private sector, with respect to the pre-pandemic period, was in the manufacturing industry and in the real estate, business and leasing services sector. These two sectors, among those that recorded positive variations, represent 70 percent of the increase in wage-earning positions in the private sector. Moreover, this growth in the manufacturing industry occurred in all regions of the country, except for Cuyo, and the increase in the real estate, business and leasing services sector occurred in all regions.

Construction and transport are notable among the sectors in which reductions are observed, and the dynamics are quite different between regions. For transport, while private registered wage-earning employment fell in nearly all regions, for construction, employment fell in Greater Buenos Aires and in the Pampas region and grew in the North-west and North-east regions of Argentina.

GRAPH I.16

Change in the number of registered wage-earning positions in the private sector with respect to the pre-pandemic period (Q3 2022 compared to Q3 2019)



Note: The size and colour of the circles represent the absolute change of registered private wage-earning positions in the reference period. The location of a job position corresponds to the region where a person works.

Source: ECLAC/ILO based on the Ministry of Labour, Employment and Social Security.

I.8. The downward trend of real labour income continued in 2022, after a relative recovery in 2021

Consistent with the behaviour recorded for the region as a whole, the recovery of real labour income was interrupted during the second half of 2021 (Maurizio 2022). In year-to-year terms, growth of 11 per cent could be seen towards the end of 2021. During 2022, especially beginning in the second quarter, the inflation rate accelerated. This was reflected in a drop in real wages, which had not yet been affected by the re-opening of collective bargaining negotiations[3]. Along this line, real labour income (considering wage earners and self-employed persons) sustained drops of 1.9 and 10.4 per cent in the first and second quarters of 2022 with

3 The drop could lessen towards the end of 2022, depending on the impact of the opening of collective bargaining negotiations and the wage re-adjustment.

respect to the last quarter of the preceding year. In the second quarterof 2022, real income was 26 per cent below the income recorded during the second quarter of 2017.

The difference between men and women with respect to real labour income from the main occupation was already considerable before the pandemic, with men earning an average of 26 per cent more towards the second quarter of 2019. However, a slow but progressive and accumulated reduction of the wage gap amounting to 1 pp could be seen between the second quarter of 2017 and the second quarter of 2019. The drop in purchasing power during the pandemic affected employed men in greater number, but their subsequent recovery was more intense. A worrisome widening of the gap began in 2021, when lower income recovery by women could be seen.. The drop in purchasing power observed in 2022 reduced the gap somewhat, but it remained at a higher level than in the pre-pandemic period: 28.1 per cent (Graph I.16).

Towards the second quarter of 2022, the real labour income of those who were working in the informal economy was approximately 52 per cent of the income of those who had formal jobs. Despite the fact that both categories had lost part of their purchasing power as from 2017, people with informal jobs suffered the consequences of the pandemic to a greater extent: their real income had dropped by 30 per cent by the second quarter of 2020 in comparison with the second quarter of 2017. And despite the accelerated turnaround, in the second quarter of 2022 average income was 26 per cent less than in 2017. The outdating of income as a result of spiralling inflation also affected those who had formal jobs, whose purchasing power dipped to below the minimums recorded during the pandemic, representing a drop of 23 per cent with respect to 2017 (Graph I.17).

GRAPH I.17

Evolution of real labour income by gender, Q2 2017 – Q2 2022

Index, Q2 2017 = 100

Source: ECLAC/ILO based on the EPH-INDEC.

GRAPH I.18

Evolution of real labour income from formal and informal employment, Q1 2017 – Q1 2022

Index, Q2 2017 = 100

Source: ECLAC/ILO based on the EPH-INDEC.

I.9. After the real wage of people with registered private jobs had turned around towards the end of 2021, it once again fell to 2020 levels

Regarding the wage of registered workers in the private sector, the wage drop they sustained during the pandemic was less acute than the drop by non-wage-earners and wage earners of the public sector. However, the trend is similar to that of the rest of the working population: after a nascent rebound in the second half of 2021, a drop in wages is observed during the first three quarters of 2022.

By September 2022, the average real wage was 14 per cent below that of January 2017 and was at the same level as in September 2020. The spiralling inflation that has occurred since 2018 accounts for a new phenomenon in which the average income of those with a longer length of service has dropped more than the average wage (Graph I.19). In this regard, the gap between those who had a length of service exceeding five years and the average wage shrunk by 6 pp between the second quarter of 2017 and the second quarter of 2022. Likewise, since 2019, the median wage of those who had registered jobs in the private sector was lower than the average wage, thereby reflecting a worsening of distribution (ECLAC/ILO 2022b).

Nevertheless, after the gap between the average wage and the median wage reached a peak of 23 per cent at the end of 2021, it gradually shrank during 2022, thereby accounting for a slight distribution improvement.

GRAPH I.19

Evolution of average wage, median wage and the average wage of people with more than five years of service, Q1 2017 – Q3 2022

Note: Deseasonalized, normal and permanent pay is used (adjusted, excluding bonuses and other seasonal concepts).
Source: ECLAC/ILO based on the Employment and Business Dynamics Observatory (OEDE).

II.

Productivity and wages: a long-term look

This section focuses on the evolution of labour productivity and of real wages in Argentina in recent decades. The dynamic of the functional distribution of income is also presented, which summarizes the relationship between both variables. A long-term analysis required the generation of consistent estimates for the last seventy years (1950–2021).

Productivity has been the object of several recent studies of the economies of Latin America and the Caribbean (ECLAC/ILO 2022a; ILO 2022). Regarding those studies, whether they were based on an analysis of the total productivity of factors or on labour productivity, and from either a dynamic perspective or a transversal perspective (international comparison), they all coincide in noting the stagnation of productivity as a stylized fact throughout the region.

In Argentina, the low growth of aggregate productivity and the widening of gaps with respect to the most advanced countries have gained increasing attention among specialists and public bodies[4]. The subject returned to the centre of debate at the beginning of the 2010s, after real wages had recovered their levels prior to the 2001–2002 crisis and labour productivity went from growing (moderately) to stalling in absolute terms.

The growth of the Argentinian economy in the 2000s did not generate enough labour productivity increases to reduce the gap with respect to the productivity of advanced countries (growing since the mid 1970s), and in fact, the gap continued to widen. Partially as a consequence of those deficits in international competitiveness, exports from the country tended to stall, and the economy tended to encounter difficulties in its external sector, which have not failed to affect trends in employment and wages. This is the reason for the interest in looking at Argentina's labour productivity from the international perspective.

The existence of a link between productivity, external competitiveness and wages is not new in Argentina's economy. If, as it will be seen, every external crisis has a negative impact on employment and real wages, then the productivity agenda (counterpart to the competitiveness agenda) must be a priority for sustaining or even improving labour income. This is not only because more productive activities are able to generate quality job positions that are better paid, but also because they can offer higher value goods and services, enhance exports and contribute to preventing external crises that can result in sudden drops in real wages.

The historical difficulty of sustaining growth processes over time without becoming subject to external imbalances tended to become more acute in recent decades due to the country's growing exposure to international financial markets[5], as well as the competitive pressure exercised by the growth of productivity and the stagnation of wages taking place internationally[6].

4 An example of this would be the initiatives implemented by the *Red de Investigaciones Socioeconómicas Públicas de la Argentina* (Red ISPA, "Network of Public Socio-economic Research of Argentina"), which encompasses various public bodies and research centres and has turned the problem of productivity and its determinant factors into a main area of study. The objective of Red ISPA is to contribute to defining short- and long-term public policies, and it is embodied by the *Study on the dynamic of productivity in Argentina* (Britto and Bernat, forthcoming).

5 The subject exceeds the scope of this bulletin, but Frenkel (2003) and Médici (2020) can be consulted in this regard.

6 In this regard, Chan and Ross (2003), Karabarbounis and Neiman (2014), and a series of subsequent works can be consulted (such as ILO 2013), which covered the consolidation of this trend in the 2000s.

Some stylized facts about the relationship between global labour productivity and wages are presented below. They confirm the relevance of studying the link between both variables in order to understand the wage dynamic in Argentina. Section II.2 presents the productivity estimates for Argentina for the period from 1950 to 2021, and it includes an analysis of the link between the production structure and wage levels, on the one hand, and an analysis of the dynamic of productivity and wages in the long term, on the other. The section also presents the dynamic of Argentina's productivity from the international perspective, meaning an estimate of the evolution of the "external productivity gap" (the productivity "deficit") with respect to more advanced countries. The section ends with a brief analysis of the relationship between productivity, wages and the functional distribution of income.

II.1. Global labour productivity and wages

The wage structure of a country and its evolution over time at the macroeconomic level is associated with the level and evolution of the productivity of a country's economy. Activities with higher productivity, which are understood as those that generate greater aggregate value per unit of work[7], tend to pay higher wages, given that they generate a greater surplus per employed person. The greater the participation of activities with high productivity in the economy[8], the higher the average wage of the economy. This can be confirmed globally by looking at the productivity levels and the average wage of the production sectors of a broad set of countries. Graph II.1 shows the aggregate value per employed person and the average wage globally for each economic activity, calculated as the weighted average of the sector among countries in the sample. It clearly shows that activities with greater labour productivity manage to pay higher wages to their workers. The graph also provides a view of the relative location of each activity within the global structure of productivity and wages[9].

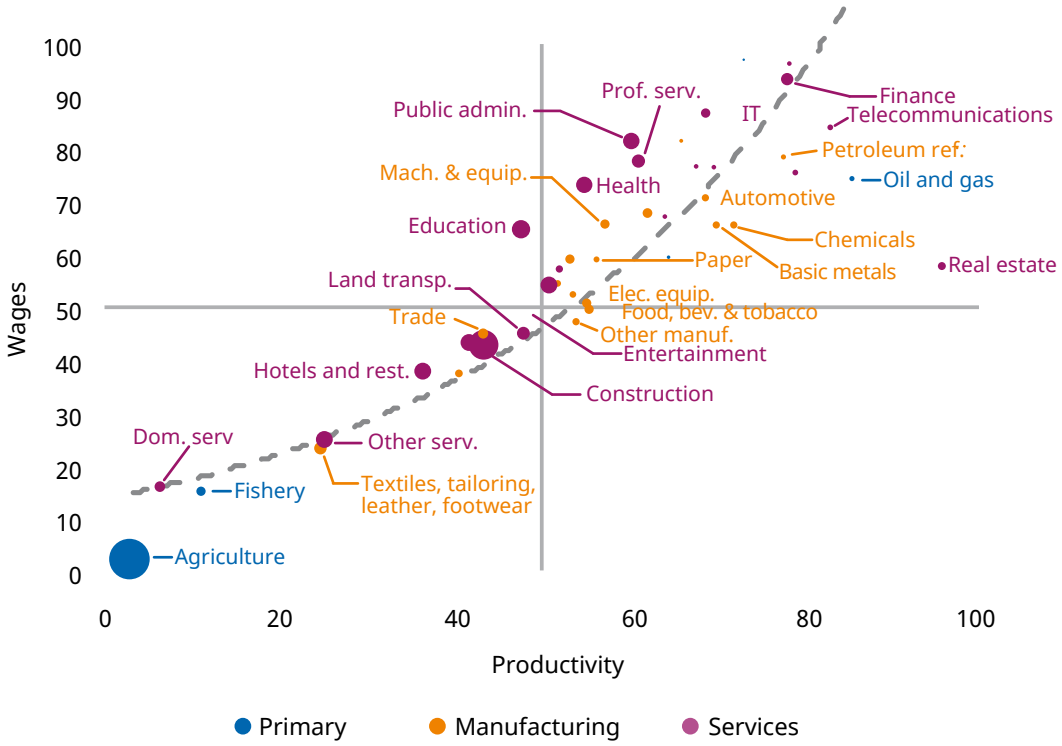
7 The work factor is typically measured as hours worked or, in default thereof, the number of job positions or the number of people employed. Depending on the availability of information, the second alternative is used in this section.

8 It should be noted that the quotient between output (aggregate value) and employment is used as a proxy of sector productivity due to the absence of superior alternatives, but it must be considered with caution, to the extent that this relationship is influenced by the intensity of use of production factors other than the work factor in each sector. Keeping this in mind, Molina et al. (2021) compare the labour productivity indicators calculated under this "traditional" notion and those that are obtained using "total work productivity" (Wirkierman 2010), in which aggregate value and employment correspond to the indicators of vertically integrated sectors (all the production and employment required by each production subsystem), and they find a positive relationship between the standard measurement of productivity and vertically integrated productivity.

9 The measurement, due to being in current dollars, also reflects the current relative price structure, and it could change from one period to the next.

GRAPH II.1
Productivity and wages

Selected countries, 2018



Note: The size of the spheres represents the weight of the sector in total employment. Both variables were normalized such that the sector with the most reduced value would take 0 and the one with the highest value is represented by 100. A total of 51 countries and 45 activities for which the database has information were considered.

Source: ECLAC based on OECD-ICIO (2021).

II.2. Labour productivity and wages in Argentina

This section analyses, at the sector level, the importance of the relationship between productivity and wages for Argentina, especially the evolution of these variables over time and the factors that are associated with this dynamic.

The main challenge in building a historical series of labour productivity for the Argentinian economy stems from the fact that there are no long-term series of aggregate value and job positions. The estimate prepared by ECLAC for this bulletin uses various sources of information, including data from the national accounts prepared by the National Institute of Statistics and Censuses (INDEC), data from the Permanent Household Survey (EPH) prepared by that same institute and the estimates of aggregate value and job positions for the period from 1950 to 2007 calculated by Kidyba and Vega (2015) to cover periods with missing information. The estimates were calculated for the economy as a whole and per sector of activity according to the methodology presented in Annex 2. The data are provided in Annex 3[10].

10 Given the source of information used, the analysis is focused on wage earners (whether formal or informal), unless otherwise explicitly stated. For more information about the estimates, see Annex 1.

II.2.1. Production structure and wages

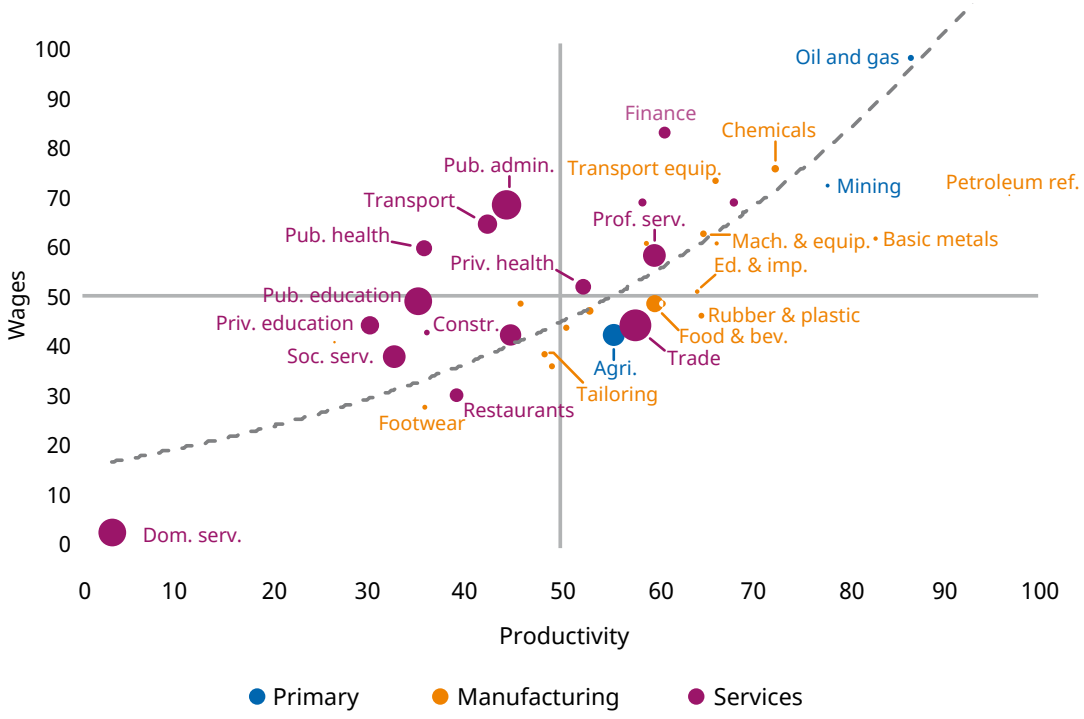
The estimate of productivity and wages prepared for the country confirms that the positive relationship observed between both variables globally is also met in Argentina's case, albeit with a few specifics. As it can be seen in Graph II.2, the sectors with a higher level of productivity – generally those that are the most capital-intensive and/or natural resource-intensive – tend to offer higher pay. Manufacturing sectors generally show higher-than-average levels for productivity, as well as higher pay. However, their weight in total employment (represented by the size of the spheres) is limited. This occurs similarly in some primary activities, such as mining or oil and gas extraction. In the agricultural sector, the output/employment ratio is greater than average, but the wage level is not. Finally, while some services show high levels for that ratio, and for wages as well (such as finance or professional services), the majority of employment is concentrated in low-productivity and low-wage services, such as domestic services, construction or social services.

This association between productivity and wages, even though a stylized fact, is also mediated by the existence of labour institutions (whether minimum wage or collective bargaining), which reduce the wage differences between sectors (Palomino and Dalle 2016). In this regard, in activities such as transport, education or health (for example), whose labour productivity in Argentina is below that of the natural resources sector and/or capital-intensive sectors, the pay is not necessarily observed to be lower.

GRAPH II.2

Wages and labour productivity

Argentina, 2021



Note: The size of the spheres represents the weight of the sector in total wage-earning employment. Both variables were normalized such that the sector with the most reduced value would take 0 and the one with the highest value is represented by 100.
Wages were calculated based on the sector data sheets of CEP XXI, prepared according to information from the SIPA and the EPH, which was harmonized with the income generation account (INDEC) according to the published methodology (CEP XXI 2022), which turns out to be compatible with the methodology applied by ECLAC to prepare the long-term real wage series that is used in this section.

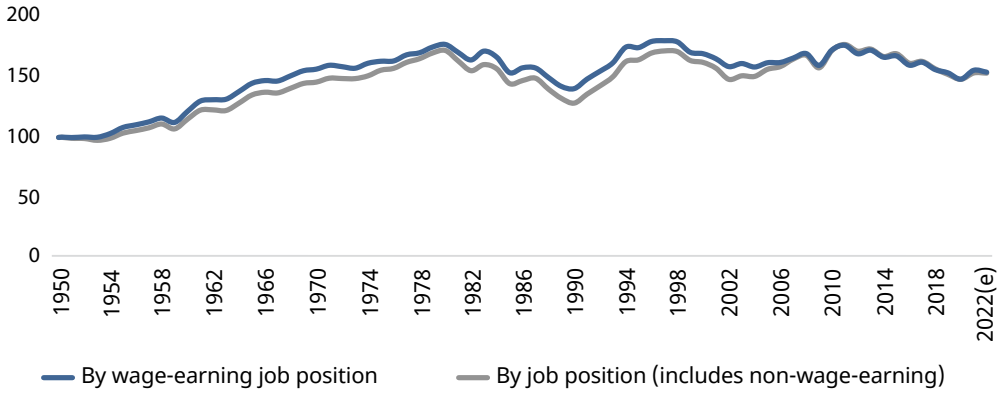
Source: ECLAC/ILO based on the EPH.

II.2.2. Long-term trend in labour productivity

The resulting estimate shows that aggregate labour productivity in the Argentinian economy has remained virtually constant over the last 50 years, other than the fluctuations shown in Graph II.3. The causes for this performance, observed for both Argentina and the region as a whole (ECLAC/ILO 2022a), stem from the low growth of productivity within firms and, in line with what has been previously presented, from the difficulties of expanding the participation by more productive activities in production and employment. This is related to the existence of heterogeneous production structures, as it was recently posed by the ILO (2022) (also see Katz 2000).

GRAPH II.3
Labour productivity

Argentina, 1950–2021 (1950 = 100)



Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

Specifically regarding countries of South America, including Argentina, a set of factors have been identified, which, over the last three decades, have inhibited changes to the composition of the production structure that would have been favourable to the growth of aggregate productivity – meaning, progressive structural change. Furthermore, processes of premature deindustrialization have been verified, thereby resulting in a shift of persons occupied in manufacturing to low-productivity service sectors. Meanwhile, the production matrix continued to be primarily based on activities of low complexity and less technological dynamism, and the already weak local coordination and integration in supply chains became even more acute. Box 1 (pp. 40 and 41) presents evidence of these transformations in the case of Argentina.

In addition to the aforementioned, there has been the impact stemming from a series of meso- and microeconomic dimensions, which also affect productivity trends in the medium and long term and affect the depth and persistence of the productivity gaps between companies (Correa, Leiva and Stumpo 2018). Some of the dimensions that are mentioned include size and the competitive environment; technology absorption and adoption capacity; training, skills and labour competencies; innovation; work organization; and the institutional context (ILO 2022). Several of these dimensions, despite the joint efforts of union organizations, firms and

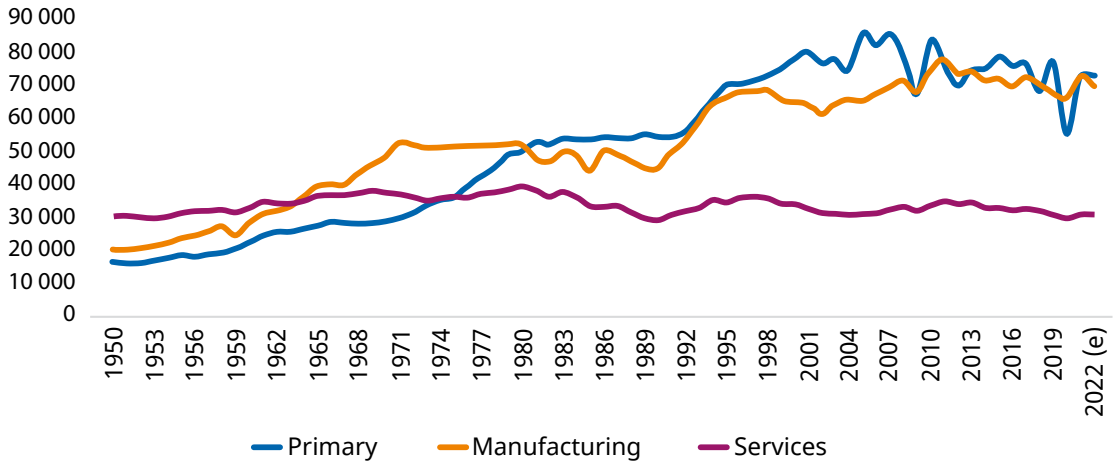
the State, have not advanced enough to give rise to significant and generalized increases in productivity within firms.

A look at the productivity trends in Argentina by sector of activity confirms that there are differentiated trajectories, with greater dynamism in manufacturing and the primary sector versus services, even though the greatest proportion of employment is captured in services[11] (83 per cent of wage-earning job positions in 2021).

GRAPH II.4

Labour productivity by sector

Argentina, 1950–2021 (in 2004 pesos)



Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

II.2.2.1. Breakdown of the changes in labour productivity

Even though the productivity trend of an economy is determined by a number of factors, these factors can nevertheless be summed up by two components: 1) the dynamic of labour productivity of each one of the sectors comprised in that productivity, and 2) the participation of each sector in total employment. Given that the levels of labour productivity tend to be notably different between production activities, above all in developing economies, a shift by employed persons between economic activities affects aggregate productivity. If activities of lower relative productivity gain ground, such as what has happened globally in recent decades, with growing participation in output and employment coming from low-productivity services (such as trade, construction or domestic work), then the aggregate productivity of the economy tends to shrink (Pagés 2010). Conversely, greater weight

11 Services do not necessarily have lower productivity than that of manufacturing, given that there are several "knowledge-based" segments, such as software development or professional services, which have productivity levels that are equal to or greater than that of manufacturing. However, as Robert, Obaya and Cassini (2018) argue, the development of these services is associated with the existence of prior manufacturing capacities, while the expenditure on research and development continues to be concentrated in manufacturing.

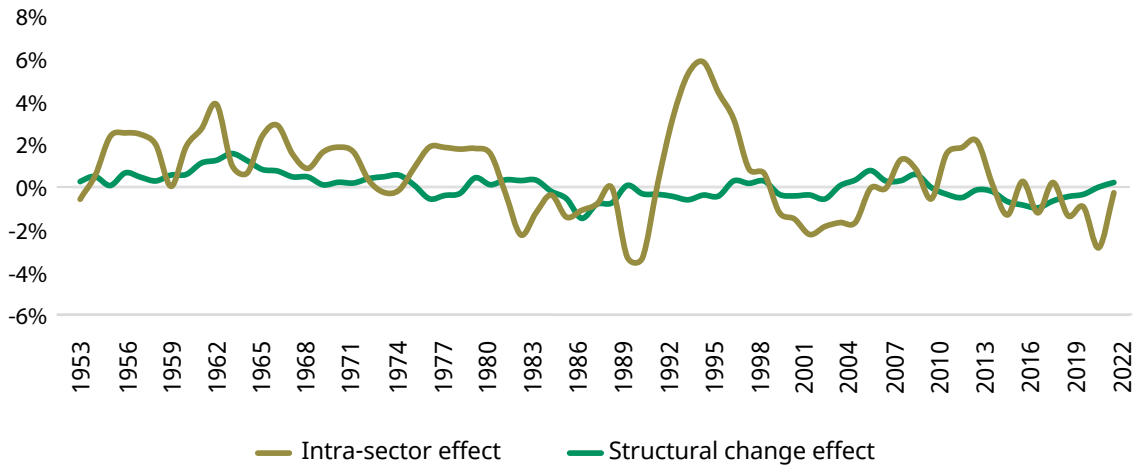
by employment in high-productivity sectors generates a growth trajectory of aggregate productivity for the economy.

McMillan and Rodrik (2011), in line with previous studies[12], break down the changes in productivity that occur for a group of countries according to whether they occur because of changes within each sector – what they call the "intra-sector effect" or the "within effect" – or because of the movement of employed persons between sectors with different levels of productivity, what they call "structural change"[13]. Graph II.5 shows the results of applying this breakdown to the case of Argentina's economy, with the two curves representing the contribution that each one of these components has made to the percentage variation of productivity in each year. The sum of both effects encompasses the totality of the change in productivity.

GRAPH II.5

Breakdown of the annual growth rate of labour productivity

Argentina, 1953–2021, 3-year moving average



Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

In Argentina's case, the main component of the dynamic of productivity has historically been the change in productivity within branches of activity (intra-sector effect), which is consistent with what has been shown in case studies in the majority of developed and developing economies (Lavopa 2015; ECLAC/ILO 2022a)[14]. Among these changes, the increases in the

12 For example, see Fagerberg (2000).

13 Defining l_t^i as the participation of activity i in total employment in period t, and y^i as the productivity of sector i in period t, where n is the number of sectors. The percentage change in productivity can be broken down as follows:

$$\frac{y_{t+1} - y_t}{y_t} = \frac{\sum_{i=0}^{n} l_t^i \, (y_{t+1}^i - y_t^i)}{y_t} + \frac{\sum_{i=0}^{n} y_{t+1}^i \, (l_{t+1}^i - l_t^i)}{y_t}$$

The first summation term is the intra-sector effect, which includes the changes in productivity of each branch, and the second is the structural change effect, given that it describes the effects on aggregate productivity of the economy caused by movements of working people between different branches of activity.

14 Other works that conduct this exercise include those of Timmer and De Vries (2009); Harchaoui and Üngör (2016); Diao, McMillan and Rodrik (2017); IMF (2018); Dieppe (2021) and ECLAC/ILO (2022a). It should be kept in mind that, as pointed out by De Vries et al. (2012), the greater the disaggregation of information, the more the relative importance of the structural change tends to grow. The low level of sector disaggregation that has been considered could be underestimating the effect of the structural change on labour productivity.

manufacturing sector and in some modern services during productivity improvement phases are notable. In this regard, and as Graph II.5 shows, it must be kept in mind that intra-sector productivity is highly sensitive to the economic cycle and that, within this framework, the dynamic of that productivity could reflect different combinations and intensities of relative expansion or contraction of production and employment. The behaviour of this component fluctuates in the entire series, but particularly significant growth is observed in the first half of the 1990s, which reflects, on the one hand, the recovery phase of the economic cycle (based on labour productivity levels that were highly affected by the low growth of the preceding decade), and, on the other, the growth of productivity of firms resulting from a greater introduction of technology, combined with the expulsion of workers.

According to the same graph, structural change can be seen to have played a less significant role in explaining the changes in productivity over time. Yet the productivity trend did change, as it is reflected by the sign changes throughout the series. The phases during which the series is located in positive terrain indicate "progressive" changes in the composition of the production structure, thereby reflecting a shift by workers from low-productivity sectors towards other sectors with higher productivity. Conversely, when the series shows negative values, this indicates that there was a "regressive" structural change due to employment having gained ground in sectors of low relative productivity. Structural change was favourable to the growth of productivity until the mid 1970s due to the growing weight of the manufacturing industry (with greater relative productivity) in output and employment. The subsequent backslide, as well as the progressive increase of participation by low-productivity services in total employment, had a negative impact on aggregate labour productivity.

Thus, the verified transformations due to Argentina's production structure, including the backslide in local integration between activities and between firms, which are detailed in Box 1 (pp. 40 and 41), tended to modify the association between economic growth and the expansion of employment, the growth of productivity or a combination of the behaviour of both variables (Graph II.6)[15]. While the growth phases between 1950 and 1974 were associated with the simultaneous expansion of both employment and productivity, in subsequent decades growth was increasingly verified to be linked to changes in the level of employment – again with a growing presence of low-productivity services – and relatively constant labour productivity. Even in the period from 2003 to 2011, when Argentina's economic activity had one of the highest average growth rates in its history, expansion was associated with the growth of employment – which contributed 4.7 per cent annually to economic growth, recovering from a very significant contraction – rather than being associated with increases in labour productivity (with a contribution of 1 per cent annually).

15 The breakdown of economic growth in Graph II.6 is calculated based on the accounting identity, which indicates that output (Y_t) is the sum of total employment in period t (l_t) multiplied by aggregate labour productivity in the same period (y_t). Therefore, the variation in output in period t can be broken down as follows:

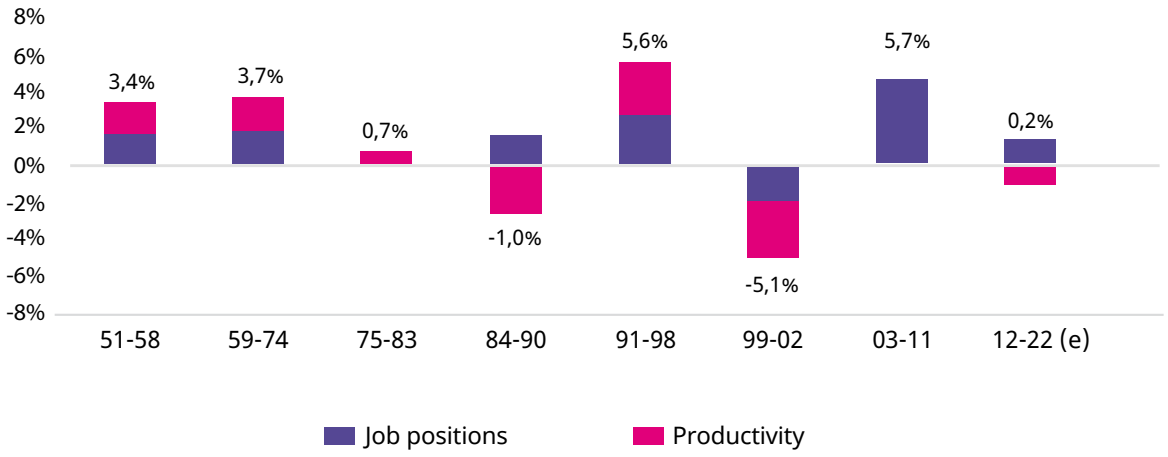
$$\frac{Y_{t+1} - Y_t}{Y_t} = \frac{l_{t-1}\,(y_{t+1} - y_{t-1})}{Y_t} + \frac{y_t\,(l_t - l_{t-1})}{Y_t}$$

Where the first component is the effect of productivity on output and the second component is the effect of employment.

GRAPH II.6

Breakdown of year-to-year GDP growth

Argentina, 1950–2022



Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

BOX 1

Deindustrialization and reverse diversification of the Argentinian production structure

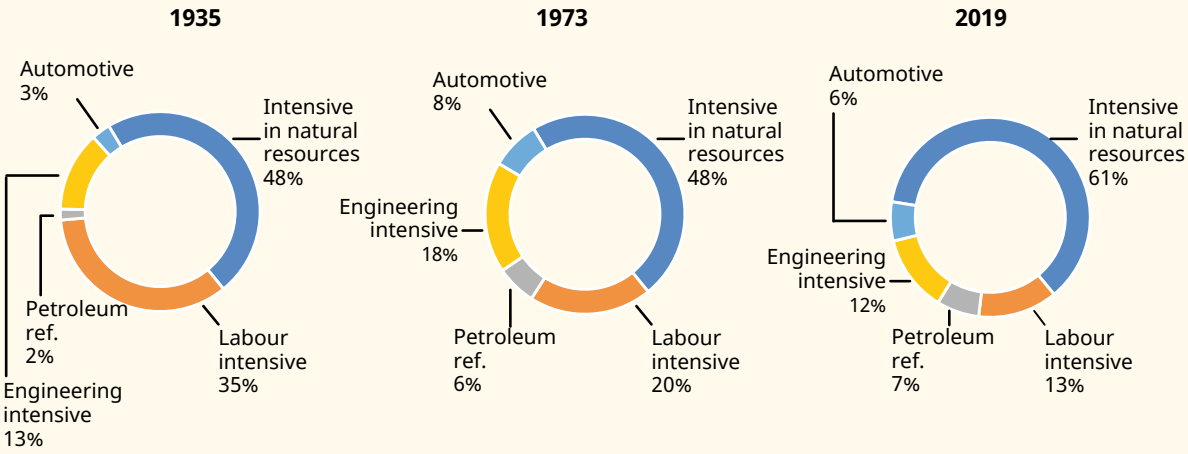
The stagnation of labour productivity in Argentina as from the mid-1970s was the result of a series of structural transformations beginning with the last military dictatorship. One determining factor was the drop in the weight of the manufacturing industry in total aggregate value, which went from 27 per cent in 1973 to 16.8 per cent in 2021. The manufacturing industry is one of the most relevant sectors in technical progress because it has increasing returns to scale, because it is where the expenditure on research and development is concentrated and because its interaction with the rest of the production apparatus is high, thereby allowing it to disseminate innovations and bolster productivity improvements.

Within the framework of what some authors characterize as a process of "premature deindustrialization" (Tregenna 2016), as from the aforementioned period, the Argentinian manufacturing fabric became more concentrated at large firms and more oriented towards activities linked to the processing of natural resources and the production of basic industrial inputs. "Engineering-intensive" industries, especially the production of capital goods, went from explaining 18 per cent of the aggregate manufacturing value in 1973 to 12 per cent in 2019, while activities that are intensive in natural resources gained weight, going from representing 48 per cent to 61 per cent of the total (Graph II.7). This meant a lower degree of generation and dissemination of capacities within the local production apparatus, given the particular capacity of these activities to generate and disseminate innovations in all other sectors of the economy, therefore having a negative impact on the dynamic of productivity.

GRAPH II.7

Sector participation in aggregate value in the manufacturing industry

Argentina, 1935–2019



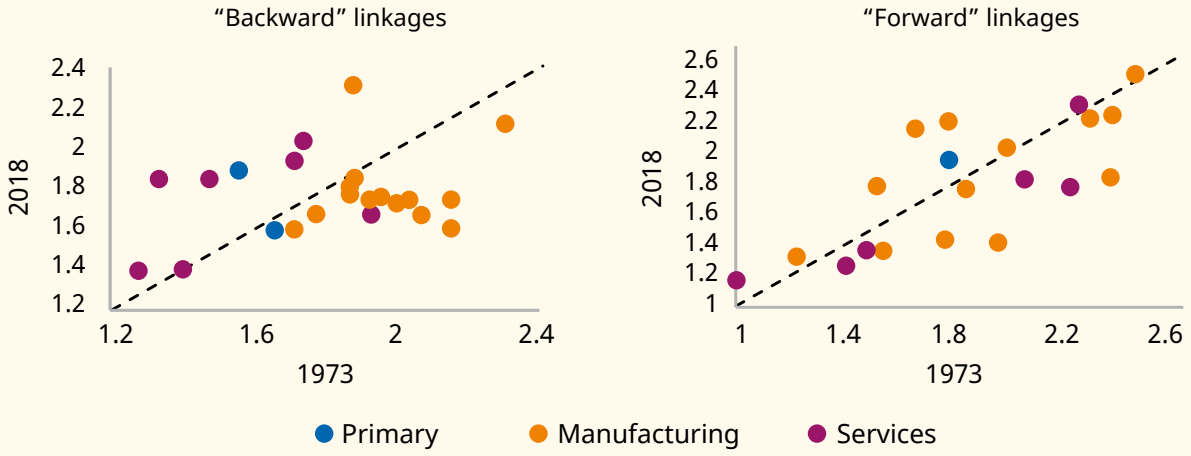
Source: ECLAC based on INDEC and Kulfas and Salles (2018).

As a consequence of the preceding, the Argentinian production matrix, historically more diverse than other countries of Latin America, finds itself increasingly disjointed and showing ever-more dependence on imported products, as shown by the decrease in production linkages (Graph II.8). The decrease in backward production linkages in nearly all activities (except for some services) is the counterpart to the increase in imported requirements. In the case of forward linkages, their decrease is indicative of shorter production processes in the interior of the economy and of increasingly less interaction with local production activities located "downstream", which also has a negative impact on the long-term dynamic of productivity.

GRAPH II.8

Production linkages

Argentina, 1973-2018



Note: Linkages reflect the intensity of interactions within a sector and between sectors. "Backward" linkages reflect the demand for inputs from sectors located "upstream", while "forward" linkages show the supply of products to sectors located "downstream".

Source: ECLAC based on INDEC and ECLAC (1983).

II.3. External productivity gaps

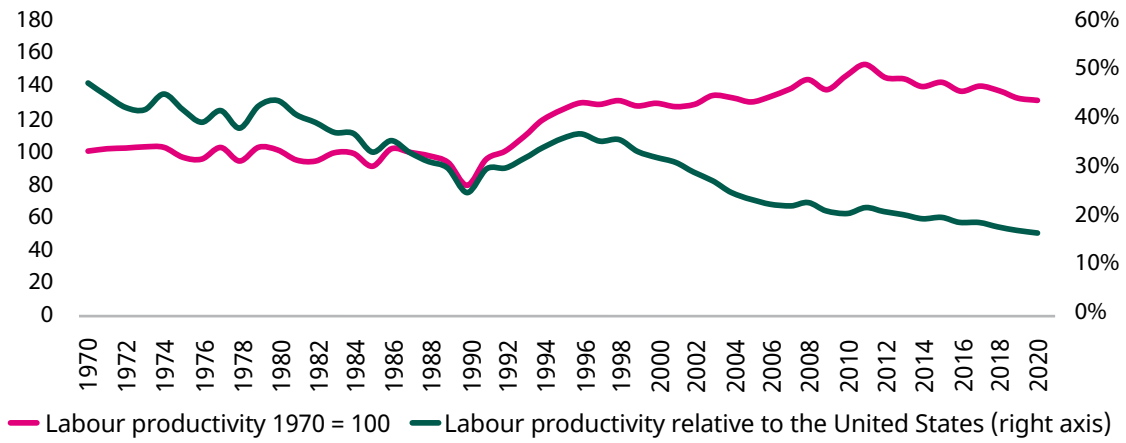
The stagnation of productivity can affect external competitiveness, to the extent that productivity continues to increase in other countries of the world. In order to measure the external productivity gap, this section focuses on the relative productivity between Argentina and the United States, considered here as the benchmark country of production techniques that prevail internationally. Given the availability of information, the exercise focuses exclusively on the manufacturing industry and its sub-sectors.

Graph II.9 clearly shows that, in general, not only did the labour productivity of Argentina's industry advance at a slow pace but also that the labour productivity of the United States was highly dynamic, thereby resulting in a reduction of local relative productivity, which in 2020 ended up 20 per cent below that of the United States. Even though labour productivity is observed to be lower in Argentina than in the United States as from the beginning of the series (1970), this difference tended to deepen even further during the 1980s within the context of the debt crisis that affected the Argentinian economy. Relative productivity improved during the first stage of the currency board system (1991–1995), based on greater labour productivity in Argentina. On the one hand, this increase was associated with an increase in the weight of the highly productive agricultural sector – through greater modernization and expansion of the production frontier – and on the other, it was associated with the increased modernization of actories and with organizational changes, growing participation from imported inputs and the rationalization of employment, including the closure of firms that were mostly in the manufacturing industry. All of this took place within a context of market reforms that tended to reduce the different mechanisms for supporting and promoting that industry, in addition to opening up the economy to international competition. After these transformations, relative productivity once again worsened during the economic and social crisis at the end of the 20th century, and it continued to drop, even within the framework of the high growth Argentina's economic activity in the first decade of the 21st century, due to the aforementioned dynamic of productivity in the country.

GRAPH II.9

Labour productivity and external competitiveness

Argentina, manufacturing industry, 1970–2020



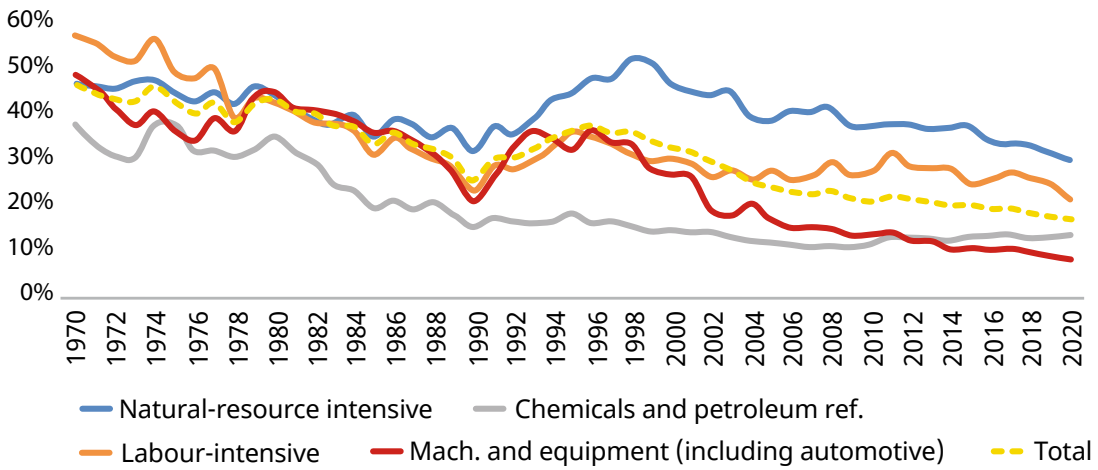
Source: ECLAC based on the Industrial Performance Analysis Programme, Terranova (2022) and the Bureau of Economic Analysis.

Given the great heterogeneity of productivity in the different sectors of the Argentinian economy, productivity relative to that of the United States is notably different between activities, as it is shown in Graph II.10. The productivity of manufacturing based on natural resources is closer to that of this activity in the United States, but it coexists with a broad set of industries with notably lower productivity levels than their US peers. Even though the deceleration of labour productivity was transversal and affected the external competitiveness of all industrial sectors, the drop in some of them was more acute. Examples include the production of machinery and equipment, transport vehicles, chemicals and petroleum derivatives. Conversely, industries based on natural resources (especially the food industry, but also other branches, such as iron and steel) experienced lower drops.

GRAPH II.10

Relative manufacturing productivity compared to the United States

Argentina, 1970–2020. United States = 100%. 3-year moving average



Source: ECLAC based on the Industrial Performance Analysis Programme, INDEC, Terranova (2022) and the Bureau of Economic Analysis.

As a result of this deteriorating trend in relative productivity, the majority of Argentina's manufacturing sector has major difficulties finding a place for its production abroad, in addition to having high import requirements. Certain regional agreements, particularly the Mercosur agreement, allow segments of firms from some sectors, such as the automotive or chemical sectors, to continue performing well in exports, although this competitive position has become increasingly more threatened since the beginning of the 2000s (Durán Lima and Pellandra 2017; ECLAC 2021). The progressive deterioration of Argentinian competitiveness because of the drop in relative productivity with competing countries means not only that it is more and more difficult for export firms to expand (or sustain) exports beyond primary staples[16] but also that imported inputs are being increasingly incorporated into production.

16 Álvarez and García Díaz (2023) identify losses of participation by Argentina in foreign markets between 2011 and 2019 for a series of products, explained by a gradual loss of export competitiveness.

II.4. Wages and wage-earning participation in income in the long term

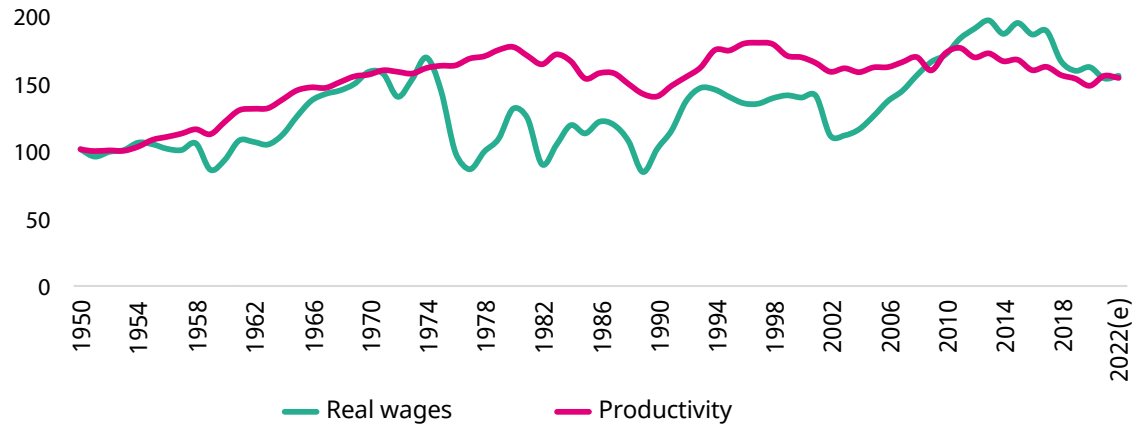
Just as labour productivity has been stalled since approximately the 1950s, real wages have suffered a similar fate, although the behaviour has been much more variable (Graph II.11). Between the 1950s and the mid-1970s, the average wage and productivity grew at a similar pace, within a context in which the manufacturing industry – with higher productivity levels and wages – was gaining participation in aggregate value. That dynamic changed in 1975, and in subsequent decades wages were subject to oscillations, although at levels that were significantly below those that had been previously reached.

In developed countries as well, the evolution of productivity and wages also decoupled between the mid-1970s and the beginning of the 1980s (ILO 2013), thereby exercising additional deflationary pressure on wages in the country. More recently, in the first decade of the 2000s and after a major drop due to the 2001–2002 crisis, the average wage went through a period of sustained growth – bolstered by the strengthening of labour institutions such as minimum age and collective bargaining – even at a higher pace than the growth of productivity and eventually even exceeding its historical maximum. That wage growth halted during the last decade, within a context of virtual stagnation of productivity.

GRAPH II.11

Real wages and labour productivity

Argentina, 1950–2021 (1950 = 100)



Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

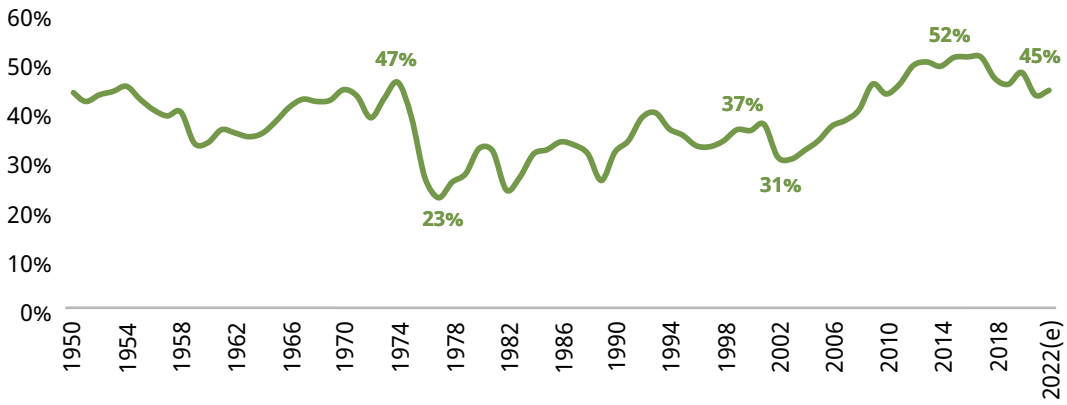
The relationship between the real-wage dynamic and productivity gave rise to significant changes in the participation of the remuneration of wage-earning persons (hereinafter, "wage-earning participation) in total income[17-18]. Wage-earning participation in income can expand based on an expansion of wage-earning employment and/or of wages, as long as this expansion is greater than the growth of the aggregate value of the economy. When productivity expands, wages can do so in the same proportion, thereby leaving the distribution of income unaltered. Conversely, if productivity does not grow (or if it decreases), any increases in wages (or in employment) are necessarily expressed by greater wage-earning participation in income, and vice versa.

With labour productivity practically at a standstill as from the 1980s, increases and decreases in real wages tended to be reflected fairly directly in changes in wage-earning participation in income, as it is shown in Graph II.12. Indeed, during the periods when real wages dropped, the wage-earning participation in income contracted considerably (as it happened between 1974 and 1977, when wage-earning participation went from 46.6 per cent to 22.7 per cent), and the same thing happened in the periods when real wages tended to increase (such as in the period from 2003 to 2017, when wage-earning participation went from 30.7 per cent to 51.8 per cent).

GRAPH II.12

Participation of remuneration for wage-earning work in income

Argentina, 1950–2022



Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

17 In Argentina, the distribution of income between production factors (the "functional distribution") is measured with information from the INDEC on the Income Generation Account. That account measures the distribution of the gross aggregate value among wage earners, non-wage earners, owners of capital (which includes land and other natural resources whose rent is acquired by the private sector) and the State. In general, remuneration for wage-earning work (RTA) is estimated via the wage bill estimate, and the balancing item, with respect to the net aggregate value of taxes and production subsidies, is called the "gross operating surplus". Gross mixed income is also differentiated, which reflects the income that is received by non-wage earners. It implicitly contains an element of remuneration for work and an element of remuneration for the capital involved in the production activity being analysed.

18 If the aggregate value Y is equal to the product of employment (L) times productivity (y), and the wage bill W is equal to the product of employment times wages (w), then wage-earning participation in income can be defined as $\frac{W}{Y} = \frac{w}{y}$, meaning the quotient between real wage and labour productivity.

The periods during which real wages improved, because they occurred at the same time as expansion of the external productivity gaps, were not always sustainable from the perspective of the external sector of the economy. Indeed, the lack of improvements in local productivity with respect to the productivity growth in the rest of the world – a world in which real wages were stalled or backsliding – tended to affect external competitiveness and therefore exports, thereby weakening the external sector of the economy, if not generating a crisis in the balance of payments. In general, as a result of these crises – such as the one that the country has been going through since the second quarter of 2018 – increases in exchange rates occur, which, due to their inflationary effect, cause downward adjustments in wages, thereby reversing the previous improvements in real wages and in wage-earning participation in income.

The change recorded in the dynamic of both of those variables since 2018 (Graph II.12) shows the rate of those adjustments and represents one of the main challenges of the current stage.

The participation of wage-earning remuneration in income shrank from its maximum of 51.8 per cent to a value of barely above 44 per cent. The contraction was more relevant in the years prior to 2020, marked by a major contraction of average real wages (-14 per cent), in conjunction with a drop in productivity (-4 per cent). In the years following 2020, after having overcome the crisis due to the pandemic[19], the participation by wages in income continued to fall, although at a slower pace. In this stage, real wages have declined more slowly than before, within a context of stagnant average productivity – although with sectors that had considerable growth, such as industry, agriculture and trade. Thus, in addition to the structural challenge of achieving sustained growth in average productivity levels – and consequently, greater growth of the more productive sectors, including those that could ease the historical external restriction on growth faced by the Argentinian economy – it is also necessary to achieve the recovery and growth of real wages.

19 In general, economic crises tend to take place with an increase in participation of the wage bill in total income, which is associated with a greater adjustment speed of economic activity with respect to employment and labour remuneration. The adjustment in the level of employment, especially registered wage-earning employment, takes place with a certain lag, which is associated with the effects of "labour hoarding", wherefore productivity usually falls at a greater pace than wages.

III.

Final considerations

The first semester of 2022 showed that the labour market was recovering dynamically, which was reflected not only by indicators of participation in the labour market but also by an increase in the level of employment and a drop in unemployment. The employment rate managed to exceed pre-pandemic levels by the third quarter of 2021, and the participation rate in the labour market succeeded in reaching that objective during the second quarter of 2022. This shows the production structure's capacity to absorb the labour force within a context of economic growth that is subject to considerable strain.

The main challenges are in the quality of the employment that has been created, which is at risk of being associated with the growth of informal employment in recent quarters. While registered work continued to recover, having already reached pre-pandemic levels as from the fourth quarter of 2021, the figures for the informality rate are higher than those before the pandemic.

One of the other aspects to highlight is that the recovery of activity and employment of women continues to strengthen, especially among young women, which has surpassed historical levels since the end of 2021. As it occurs for the indicators overall, this phenomenon also has challenges associated with the quality of the positions and the sectors where women are integrated.

The inflationary context and the acceleration of inflation in the second quarter of 2022 had a major impact on the real income of employed persons, affecting both those who worked in the formal economy and those working in the informal economy. Despite the role played by labour institutions, such as minimum wage and collective bargaining, during the first half of 2022 a drop was recorded in the real labour income of the working population. The outdating of income as a result of spiralling inflation affected not only those who worked in the informal economy but also those who had formal jobs, whose purchasing power fell below the minimums recorded during the pandemic.

An in-depth discussion about the challenges involved in the recovery of employment within this context is therefore important, not only with respect to creating and sustaining formal employment but also from the perspective of the challenges posed by the transition to formalization and retaining real income in Argentina. This is especially true within the framework of the economic deceleration that is forecast for 2023, in both Argentina and the rest of the region (ECLAC 2022c; ILO 2023).

In this regard, there must be in-depth, tripartite dialogue about the challenges posed for increasing productivity in Argentina as a strategy for not only economic growth and job creation, but also for labour formalization. This should be in line with the ILO's Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204), while considering sectoral heterogeneity and the size heterogeneity of companies in the Argentinian fabric of production.

This discussion must also take place in conjunction with considering the education and training requirements posed by the current context of the future of work. And there must be continuous work so that the efforts that have been made in public policy – such as the creation of the Employment Portal, the launch

of the Promote Employment Programme and the workplace learning programmes, among others – translate into formal integration into the labour market.

From a macroeconomic perspective, the evolution of productivity is decisive, due to both its relationship with the wage and distribution dynamic and its impact on the external sector of the economy. The stagnation of productivity that has been confirmed in the preceding sections can only continue to have a negative impact on the external competitiveness of the economy, especially if productivity in all other economies of the world continues to increase, albeit at a moderate pace. This could be seen in the widening of the external productivity gaps of Argentina (section II.3), calculated for the manufacturing sector as a whole – which, while not uniform, widened in all the analysed groups of sectors – and it is one of the factors that explains the country's recurring external crises.

The trend of declining competitiveness can only be reversed progressively with industrial and technological policy actions that enable a transformation of the production matrix and a sustained increase in productivity, while promoting the expansion and diversification of export products and markets. This means combined efforts for promoting a change in the production structure that favours the creation of employment in sectors of greater productivity, as well as the search for productivity improvements within firms.

The need to transform the production structure is not merely a question of searching for greater external competitiveness. As it was set out in section II.2, regressive changes in the production structure (reflected by an ever-increasing weight of sectors with low productivity in production and employment) result in a greater incidence of employment with low productivity and remuneration, in comparison with what could be derived from a production structure that progressively incorporates more complex sectors.

Improving the income levels of the population requires a more diversified and complex production matrix that continuously expands the participation of the most productively dynamic sectors and that can better reward work, while at the same time contributing to less exposure to the external crises faced by the economy. This is intensified within an international context in which wages tend to lag behind productivity in the most developed countries, which can condition the internal wage growth of countries such as Argentina.

Both objectives – better wages and lower external fragility – must be coordinated with the intention of being able to sustain eventual wage improvements over time, based on narrowing the external productivity gaps.

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Annexes

ANNEX 1

Transition and permanence matrices between various labour statuses by age group, Q1 and Q2 2020, 2021 and 2022

	Q1 2020 - Q2 2020				Q1 2021 - Q2 2021				Q1 2022 - Q2 2022				Difference (pp) 2021 vs. 2022			
	Employed	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total
18 TO 24 YEARS																
Employed	19.7%	5.3%	12.3%	37.2%	31.0%	31.0%	5.7%	41.2%	32.1%	2.6%	5.0%	39.8%	1.2	-2.0	-0.7	-1.4
Unemployed	2.2%	4.3%	7.8%	14.4%	2.0%	2.0%	4.3%	11.9%	2.8%	2.9%	2.9%	8.7%	0.9	-2.8	-1.3	-3.2
Inactive	2.6%	4.3%	41.4%	48.4%	5.0%	5.0%	38.0%	46.8%	6.3%	2.7%	42.5%	51.5%	1.3	-1.1	4.4	4.6
Total	24.6%	13.9%	61.5%	100.0%	37.9%	37.9%	48.0%	100.0%	41.3%	8.3%	50.5%	100.0%	3.4	-5.9	2.5	0.0
Permanence according to labour status																
Employed	52.9%	14.2%	32.9%	100.0%	75.1%	11.2%	13.8%	100.0%	80.7%	6.7%	5.0%	100.0%	5.7	-4.5	-1.1	0.0
Unemployed	15.6%	30.0%	54.4%	100.0%	16.7%	47.7%	35.7%	100.0%	32.7%	33.5%	2.9%	100.0%	16.1	-14.2	-1.9	0.0
Inactive	5.5%	8.9%	85.6%	100.0%	10.6%	8.2%	81.2%	100.0%	12.2%	5.3%	42.5%	100.0%	1.6	-2.9	1.3	0.0
Total	24.6%	13.9%	61.5%	100.0%	37.9%	14.1%	48.0%	100.0%	41.3%	8.3%	50.5%	100.0%	3.4	-5.9	2.5	0.0
25 YEARS AND ABOVE																
Employed	47.5%	3.1%	10.8%	61.5%	55.8%	1.3%	4.3%	61.4%	58.3%	1.4%	3.2%	62.8%	2.5	0.0	-1.1	1.4
Unemployed	0.9%	1.5%	2.6%	5.0%	1.8%	1.6%	1.4%	4.7%	1.9%	1.2%	0.8%	4.0%	0.2	-0.4	-0.6	-0.8
Inactive	2.0%	0.7%	30.8%	33.5%	3.9%	1.0%	28.9%	33.8%	4.7%	0.8%	27.7%	33.2%	0.7	-0.1	-1.2	-0.7
Total	50.5%	5.3%	44.2%	100.0%	61.5%	3.8%	34.6%	100.0%	64.9%	3.4%	31.7%	100.0%	3.4	-0.5	-2.9	0.0
Permanence according to labour status																
Employed	77.3%	5.0%	17.6%	100.0%	90.8%	2.2%	7.0%	100.0%	92.8%	2.2%	5.1%	100.0%	1.9	0.0	-1.9	0.0
Unemployed	17.5%	30.5%	52.0%	100.0%	37.5%	32.9%	29.6%	100.0%	48.7%	30.0%	21.3%	100.0%	11.2	-2.8	-8.3	0.0
Inactive	6.1%	2.0%	91.9%	100.0%	11.6%	2.8%	85.5%	100.0%	14.0%	2.5%	83.5%	100.0%	2.4	-0.4	-2.0	0.0
Total	50.5%	5.3%	44.2%	100.0%	61.5%	3.8%	34.6%	100.0%	64.9%	3.4%	31.7%	100.0%	3.4	-0.5	-2.9	0.0

	Q1 2020 - Q2 2020				Q1 2021 - Q2 2021				Q1 2022 - Q2 2022				Difference (pp) 2021 vs. 2022			
	Employed	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total
ALL																
Employed	43.3%	3.4%	11.1%	57.8%	51.9%	1.8%	4.5%	58.2%	54.4%	1.5%	3.5%	59.4%	2.5	-0.3	-1.1	1.2
Unemployed	1.1%	2.0%	3.4%	6.5%	1.8%	2.2%	1.9%	5.9%	2.1%	1.5%	1.2%	4.7%	0.3	-0.8	-0.7	-1.2
Inactive	2.1%	1.2%	32.4%	35.8%	4.1%	1.4%	30.4%	35.9%	4.9%	1.1%	29.9%	35.9%	0.8	-0.3	-0.5	0.0
Total	46.5%	6.6%	46.9%	100.0%	57.8%	5.5%	36.8%	100.0%	61.4%	4.1%	34.5%	100.0%	3.6	-1.4	-2.2	0.0
Permanence according to labour status																
Employed	74.9%	5.9%	19.1%	100.0%	89.1%	3.2%	7.8%	100.0%	91.6%	2.6%	5.8%	100.0%	2.5	-0.6	-1.9	0.0
Unemployed	16.9%	30.3%	52.8%	100.0%	30.8%	37.6%	31.5%	100.0%	44.3%	31.0%	24.7%	100.0%	13.4	-6.6	-6.8	0.0
Inactive	6.0%	3.4%	90.6%	100.0%	11.4%	3.9%	84.6%	100.0%	13.6%	3.1%	83.3%	100.0%	2.2	-0.9	-1.3	0.0
Total	46.5%	6.6%	46.9%	100.0%	57.8%	5.5%	36.8%	100.0%	61.4%	4.1%	34.5%	100.0%	3.6	-1.4	-2.2	0.0

Source: Needed.

ANNEX 2
Methodological strategy

The strategy used to estimate the series of aggregate value, employment and labour productivity for Argentina is detailed below, according to the sectoral classification presented in table A.1.

A.2.1 Aggregate value

The total and sector aggregate value was estimated at constant 2004 prices, consistent with the estimates of national accounts prepared by the INDEC[20]. The series corresponding to the period from 1950 to 2004 was spliced linearly with the aggregate value estimates made by Kidyba and Vega (2015). For the subsequent period (2004–2021), official information from the national accounts was once again used.

TABLE A.1
Sectors of activity

Section	Description
AB	Agriculture, livestock farming, hunting, forestry and fishery
C	Mining and quarrying
D	Manufacturing industries
E	Electricity, gas and water supply
F	Construction
GH	Trade, hotels and restaurants
I	Transport, warehousing and communications
J	Financial intermediation
K	Real estate, business and leasing activities
LMNOPQ	Other services

Source: ECLAC.

A.2.2 Job positions

The estimate of job positions over the long term for Argentina presented greater challenges. The current series from the Income Generation Account (CGI) of the INDEC cover 2004 and the period from 2016 to 2021. To cover the missing data, splicing by linear interpolation was carried out based on different sources of information, while distinguishing between registered and unregistered wage earners, such that the most appropriate alternative series could be used for each type of labour integration. The strategies used for each period are detailed below:

- 1950-1992: the data from Kidyba and Vega (2015) were used, which are compatible with the national accounts based on 1993.
- 1993: the CGI of the national accounts was used, base year 1993[21].

20 Available at https://www.indec.gob.ar/indec/web/Nivel4-Tema-3-9-47.

21 Available at https://www.indec.gob.ar/indec/web/Institucional-Indec-InformacionDeArchivo-5.

- 1994-2003: linear interpolation was performed between 1993 and 2004 based on variations of the CGI series of the national accounts, base year 1993.
- 2004: the CGI of the national accounts was used, base year 2004.
- 2005-2007: linear interpolation was applied based on the variations over time of the CGI of the national accounts, base year 1993 for those years, with convergence of the series to the official CGI values of 2016.
- 2008-2015: linear interpolation was performed, also with convergence of the series to official 2016 values, with time variations coming from different sources according to the type of labour integration:
  - Private registered wage earners: data from the Employment and Business Dynamics Observatory (OEDE) of the Ministry of Labour were used.
  - Unregistered wage earners and wage earners of the public sector: data from the Permanent Household Survey (EPH) of the INDEC were used, except for the AB branch (agriculture, livestock farming, hunting, silviculture and fishery), for which variations of registered employment are taken due to the low representativity for these activities in the survey (taken in urban environments) and the variability in the resulting employment.
- 2016-2021: the CGI series of the national accounts beginning in 2016, base year 2004[22].

To guarantee the comparability of the employment estimates with those of wages and remuneration for wage-earning work, the estimate excludes non-wage earners. In any event, the dynamic of the considered variables does not significantly change with the inclusion of this last universe, as shown in Graph II.3, which presents, as a comparison, not only productivity calculated considering only wage-earning positions but also the productivity that results from contemplating the total of all job positions.

A.2.3 Labour productivity

Based on the series constructed for Argentina according to the grouping of sectors presented in Table A.1, labour productivity is calculated as the quotient between the aggregate value of each sector and the respective wage-earning job positions (Annex 3 presents the estimates of productivity by sector of activity).

A.2.4 Remuneration for wage-earning work (wage bill)

Just as for job positions, estimating this variable in the long term presents greater challenges, given that the INDEC does not publish a uniform series for the Generation of Income Account. Therefore, splicing was done from different sources, always preserving compatibility with the data published by the INDEC for years for which information was available:

- 1950-2003: a linear splice was done with the variations of the total wage bill coming from the data of Kidyba and Vega (2015), for which the wage bill of 2004 from the CGI published by the INDEC was used as the base.
- 2004: the CGI of the national accounts was used, base year 2004.
- 2005-2015: linear interpolation was performed, also with convergence of the series to official 2016 values, based on a series of remuneration for wage-earning work estimated using different sources according to the type of employment:
  - Private registered wage earners: data on job positions and remuneration of the OEDE of the Ministry of Labour were used.
  - Unregistered wage earners and wage earners of the public sector: data on job positions and income from the EPH of the INDEC were used.
- 2016-2021: the CGI series of the national accounts beginning in 2016, base year 2004[23].

22 Available at https://www.argentina.gob.ar/trabajo/estadisticas/empleo-y-dinamica-empresarial/estadisticas-e-indicadores.
23 Available at https://www.indec.gob.ar/indec/web/Nivel4-Tema-3-9-49.

A.2.5 Real wages

Nominal wages are estimated by calculating the quotient between the remuneration for wage-earning work and job positions. They were deflated using the GDP's implicit price index (IPI), which is calculated by splicing the data of Kidyba and Vega (2015) with the national accounts published by the INDEC. The IPI was used, and not the consumer price index (CPI), due to the need to make the data compatible with the national accounts, thereby allowing the corresponding breakdowns to be made. In the long term, there are no significant differences between the real wage using one price indicator or another, although there occasionally could be in some periods.

A.2.6 Wage-earning participation in income

It is calculated as the quotient between the remuneration for wage-earning work and the gross aggregate value at basic prices, both at current prices. Because 2004 is used as the base year, in accordance with the data published in the CGI prepared by the INDEC, the resulting levels can differ from the estimates whose base year is 1993, which include those prepared by Kidyba and Vega (2015).

A.2.7 External productivity gaps

For the purpose of analysing the international productivity gaps, the focus was placed on manufacturing activities. This required greater disaggregation than what was used to calculate productivity in relation to sectors of activity. The groupings were constructed so that they could be compared with groups of activities that are equivalent to those of another country in the world that would operate as the benchmark. The United States was the country used as the production standard for making this comparison.

For Argentina, information from the Industrial Performance Analysis Programme (PADI, ECLAC) and estimates from Terranova (2022) were used. In the case of the United States, information from the Bureau of Economic Analysis was used. The sector classification that allowed comparing the estimates of both countries is inspired in the sector taxonomy by technological intensity proposed by Katz and Stumpo (2001).

Regarding aggregate value, a common base in constant dollars for Argentina and the United States was contemplated, which consisted in estimates from the PADI (ECLAC) for 1970, grouped according to the taxonomy presented in Table A.2. The series for Argentina was updated from there forward with variations of the series published by Terranova (2022). In the case of the United States, it was done with the series published by the Bureau of Economic Analysis[24].

Regarding employment in Argentina, the data estimated within the framework of the PADI for 1970 were used, and they were updated from there forward using linear splicing with the estimates made by Terranova (2022)[25]. Employment in the United States was estimated similarly, taking the values of the PADI for 1970 and splicing from there forward with the variations coming from the sector information published by the Bureau of Economic Analysis[26], grouped according to the taxonomy of Table A.2.

24 Available at https://www.bea.gov/itable/gdp-by-industry.

25 The PADI was originally developed based on industrial censuses and surveys of industrial establishments. It is used only as the base for the year 1970, given that it has comparable information in constant dollars for a set of countries. The values are subsequently updated based on the national accounts of Argentina and the United States.

26 Available at https://www.bea.gov/data/employment/employment-by-industry.

TABLE A.2
Industrial groupings

CIIU Rev. 3	Terranova Classification	Grouping
15-16	Foods, beverages and tobacco	Intensive in natural resources
17-19	Textiles, clothing and leather	Labour-intensive
20-36,37	Wood, furniture and other industries	Intensive in natural resources
21-22	Paper, printing and publishing houses	Labour-intensive
23-25	Chemicals and others (inc. petroleum derivatives)	Chemicals and petroleum
26	Non-metallic minerals	Intensive in natural resources
27	Basic metals	Intensive in natural resources
28-35	Machinery and equipment	Machinery and equipment

Source: ECLAC based on Katz and Stumpo (2001) and Terranova (2022).

The productivity gap was estimated as the ratio between the labour productivity of Argentina and the United States, both measured in constant dollars. The quotient between the series of aggregate value and job positions classified according to the taxonomy of table A.2 was calculated for each country, thereby obtaining the labour productivity in constant dollars for both. Dividing the productivity of Argentina for each sector by its equivalent calculated for the United States, the labour productivity of Argentina was obtained, measured as a percentage of the productivity of the United States.

ANNEX 3

Labour productivity by sector (thousands of 2004 Argentine pesos)

Year	AB	C	D	E	F	GH	I	JK	LMNOPQ	Total
1950	15	54	20	6	18	41	16	291	17	24
1951	14	57	20	6	18	40	16	282	18	24
1952	14	54	20	7	18	37	15	287	18	24
1953	15	57	21	7	17	35	14	285	18	24
1954	16	63	22	8	17	36	15	282	18	25
1955	17	62	23	8	17	38	16	287	19	26
1956	16	62	24	8	18	40	16	281	19	27
1957	17	66	25	8	17	41	16	274	19	27
1958	17	65	27	8	17	43	16	267	20	28
1959	18	82	24	8	17	38	15	257	20	27
1960	18	106	28	8	16	43	16	263	20	29
1961	19	132	31	10	16	46	17	249	21	31
1962	20	140	32	11	16	43	17	222	22	32
1963	20	141	33	12	16	39	17	217	22	32
1964	21	146	36	12	16	42	18	205	23	33
1965	22	135	39	13	15	46	18	197	24	35
1966	22	138	40	13	15	45	17	196	24	35
1967	21	155	39	14	15	44	17	193	25	35
1968	20	159	43	15	15	45	18	182	26	36
1969	20	177	45	17	15	49	18	170	27	37
1970	20	182	48	19	15	50	18	147	28	38
1971	21	181	52	21	17	50	18	138	27	38
1972	22	190	52	23	16	49	19	130	25	38
1973	25	190	51	24	15	49	19	126	24	38
1974	26	197	51	25	16	49	21	130	23	39
1975	26	204	51	26	21	51	22	131	22	39
1976	29	212	51	26	22	52	24	134	22	39
1977	31	219	51	27	23	52	26	140	21	41
1978	33	227	51	28	24	53	28	147	21	41
1979	36	235	52	29	25	54	30	150	20	42
1980	35	243	52	30	26	55	32	155	19	43
1981	38	269	48	30	24	46	30	162	20	41
1982	38	252	46	31	25	45	31	140	19	40
1983	39	311	49	32	26	51	31	130	19	41
1984	39	345	48	33	23	50	34	129	18	40
1985	39	375	44	31	21	44	31	121	17	37
1986	40	392	50	32	26	43	32	129	16	38
1987	39	394	49	33	28	45	34	123	16	38

Year	AB	C	D	E	F	GH	I	JK	LMNOPQ	Total
1988	39	416	47	30	23	39	32	118	16	36
1989	39	440	45	31	21	38	27	104	16	34
1990	39	465	44	23	18	38	29	104	16	34
1991	39	492	49	24	20	41	33	107	15	36
1992	39	520	52	31	22	44	37	111	15	37
1993	41	549	58	53	26	45	33	116	15	39
1994	44	522	64	63	27	50	35	129	16	42
1995	45	585	66	74	25	47	36	126	16	42
1996	44	599	68	75	27	49	38	126	16	44
1997	45	540	68	84	24	53	40	124	16	44
1998	49	499	68	87	24	50	41	126	15	43
1999	51	511	65	88	23	46	38	119	15	41
2000	51	518	65	108	24	43	39	118	15	41
2001	52	520	64	97	25	40	40	108	15	40
2002	51	505	61	116	24	38	40	106	15	38
2003	51	473	64	117	28	38	42	97	15	39
2004	50	398	65	109	27	39	46	87	14	38
2005	61	367	65	115	25	41	50	82	14	39
2006	58	339	67	120	24	41	55	80	14	39
2007	63	297	69	117	25	43	56	77	15	40
2008	59	262	71	129	26	44	57	78	15	41
2009	44	296	68	119	25	41	57	79	15	39
2010	62	301	74	115	27	45	61	80	15	42
2011	57	257	77	123	28	49	63	81	15	43
2012	51	241	73	133	27	47	60	82	15	41
2013	56	244	74	114	26	48	63	83	16	42
2014	58	208	71	120	25	44	65	84	15	40
2015	61	220	71	121	25	47	64	83	15	40
2016	59	223	69	109	23	43	66	83	15	39
2017	60	225	72	107	24	44	66	84	15	39
2018	51	221	70	105	23	42	64	85	15	38
2019	61	215	67	102	22	39	64	82	15	37
2020	57	200	66	105	21	39	60	80	14	36
2021	57	216	72	102	24	42	60	81	14	38

Source: ECLAC based on INDEC and on Kidyba and Vega (2015).

ECLAC Office in Buenos Aires
www.cepal.org/es/acerca/sedes-subregionales-oficinas/cepal-buenos-aires

ILO Country Office for Argentina
www.ilo.org/buenosaires