International Labour Organization

COVID-19 and Employment

Research Brief[1]

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The impact of the pandemic on employment in Turkey: What would have happened without COVID-19?

1- Summary

How many people would have been working in Turkey had not the pandemic arrived is a simple question to ask but a hard one to answer. This research brief proposes the creation of a counterfactual (a hypothetical scenario representing Turkey without COVID19) using an econometric model. This model uses the month of the year as well as historical data on several macroeconomic indicators to predict the prevailing employment level had not the pandemic hit Turkey in 2020. The difference between actual employment levels and the ones forecasted in the scenario without pandemic are then calculated. This type of analysis is carried out for 29 groups of workers a monthly basis from February to August using monthly data from Turkstat.

The idea behind analyzing 29 different groups of workers is to go beyond overall employment levels and find which workers were hit harder by the pandemic. This brief finds that formality (registration with the Social Security Institute) plays a key role in explaining employment losses. On top of that, young people and especially young women seem to be among the ones more at risk of suffering long-term employment losses. Last but not least, economic activities tied to high informality levels or face to face interactions such as the construction sector, hospitality or low skilled personal services have also suffered significant employment losses between February to August.

2- Background

The social distancing, stay at home policies and lockdown measures applied by governments in an attempt to control the COVID-19 pandemic have also brought severe disruptions to most economies throughout the world.[2] Turkey was no exception and soon found itself closing down schools and cafes, restricting the mobility of children and the elderly and even the mobility of entire cities during weekends.

These restrictions as well as the fear to the virus also affected the labour market; lack of demand forced many companies to close down their businesses, informal workers and those under precarious working conditions also faced a higher risk of losing their job and workers in the hospitality sector may take a long time until they can recover their jobs due to the sector's high vulnerability, as pointed out by the research carried out by Şeker (2020).

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[2] See ILO (2020).

However, even though the coronavirus does not distinguish borders, cities, or neighbourhoods not everyone is equally affected. Those in less secured jobs or in sectors where face to face interactions are an integral part of the economic activity, young people and especially young women are at risk of receiving a much more severe and durable impact than other workers. Understanding the extent to which vulnerable groups have been hit by the pandemic is the aim of this research brief.

3- Impact of COVID-19 on employment

Whenever someone says "the impact of COVID-19 on employment" or "the employment losses induced by COVID-19" that person has inevitable and, perhaps even unconsciously built a counterfactual in her mind. In this context a counterfactual is meant to be something along the lines of "what would have happened if COVID-19 had not existed". That is, we are intuitively comparing actual employment levels with the employment levels that would have occurred if the pandemic had never existed.

Counterfactual analysis have already been used in Turkey for the calculation of employment losses due to COVID-19. For instance, the estimations provided by DISK (2020) implicitly assume employment levels would have been as they were back in 2019. A different set of assumptions are followed by UN (2020) with de-seasonalised data; in this case, the author seems to have assumed that employment levels without the pandemic would have behaved as the de-seasonalized employment levels of December 2019.

Even though the results provided by the just-mentioned pieces of research may provide a useful approximation to the number of jobs lost during the pandemic they also face some limitations. First of all neither of them uses recent macroeconomic information to judge whether the economic outlook and, thus, employment levels were going to improve or not during 2020. Indeed, the Turkish economy saw its GDP grow by 6.4% and 4.4% during, respectively, the 4th quarter of 2019 and the first quarter of 2020. This hints an economic recovery could have been on its way after a terrible year in terms of labour market performance. It can, thus, be argued that using pre-pandemic employment levels would underestimate the impact of COVID-19 on employment by creating counterfactual employment levels that fall short of what they would have been in the absence of the pandemic. On top of that, using past employment figures as a counterfactual also incurs the risk of finding worse employment outcomes without COVID-19 than with COVID-19, which is not reasonable. This happens, for instance, across men in industry when we compare the employment levels showcased in March 2019 (4.07 million) and in March 2020 (4.18 million).

3.1 Methodology

In order to create a counterfactual that takes the economic outlook of Turkey into account we rely on autoregressive distributed lag models. This type of econometric model is fed with historical data on the variable that needs to be forecasted (say the number of men in the construction sector), past data on monthly or quarterly macroeconomic indicators[3] as well as the month of the year -to predict potential seasonality patterns. The macroeconomic indicators that are fed into the econometric model are gathered from Turkstat and include the following items:

[3] Macroeconomic indicators are collected up to January 2020. No indicator is used beyond that date since they were affected by the pandemic too.

1. Consumers' confidence index
2. Retail confidence index
3. Construction confidence index
4. Industry output index
5. Inflation rate
6. Exports' index
7. Food exports index
8. Number of construction permits
9. Construction cost index
10. Exchange rate USD/Turkish Lira

All of these indicators are produced on a monthly basis with the exception of the number of building permits, which is released quarterly. Thanks to this information the econometric model is able to relate changes in the macroeconomic indicators from the February 2014-January 2020 period with changes in employment levels occurred during the same time span. These relationships between macroeconomic indicators and employment levels are then used to forecast what would have happened between February 2020 to August 2020 had not the pandemic arrived.

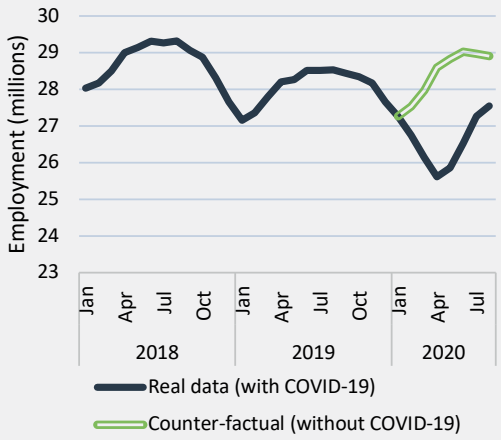
For this brief 25 models are estimated using data from February 2014 to January 2020. Thanks to these models 29[4] employment time-series are forecasted between February 2020 to August 2020. The employment levels forecasted refer to economic activities (11),[5] status in employment[6] by formality[7] in the non-agricultural sector (7), age-group (youth 15-24 and adults 25+) by gender (4), by formality for all activities (2) and for the whole economy (1).

3.2 Overall impact

An example of what forecasted employment levels look like is provided in Figure 1.a for total employment. According to the forecast, without COVID-19 Turkey's total employment was expected to have increased in comparison to what happened in 2019 although it would not have reached 2018 levels.

Figure 1. Impact of COVID-19 on overall employment

a) Forecasted and actual employment levels



b) Employment losses in % (February-August)

Source: Turkstat statistics and ILO's own calculations. **Notes:** The figures provide employment losses caused by COVID-19 as a percentage of the baseline (the counterfactual). Said baseline represents a scenario without COVID-19.

[4] There are more variables forecasted than models estimated because some variables are put together. We forecast the employment level of young women and young men separately, but then we may also create the variable employment for young people as the sum of these two variables. Same goes for adults. Results for each gender are aggregated in a similar fashion.

[5] NACE Rev.2 codes.

[6] Status in employment follows the ICSE-93 classification. Four statuses are identified, employees, own-account workers (self-employed without employees), employers (self-employed with employees) and unpaid family workers.

[7] A worker is deemed as formally employed if he or she is registered with the Social Security Institute.

The average[8] decline in employment for the February-August period is estimated at 7.0 per cent although there is significant variability throughout the period. As it can be seen in Figure 1.b the impact of the pandemic reached its peak in the months of April and May where slightly more than 10 per cent of Turkey's expected employment was lost. Since May employment levels are moving towards their expected levels without pandemic, especially since some of the restrictions were lifted back in June. However, as of August 2020, 4.7 per cent of the jobs are still missing.

3.3 Groups at risk

Even though the COVID-19 disease does not make distinctions in terms of whom to infect the economic effects of the pandemic do not apply equally to everyone. Workers with less secure labour contracts, those who are not registered with the Social Security Institute or those who are particularly attached to economic activities where human interaction and social distance are hard to keep will most likely be more affected by the pandemic.

As such, we can identify informal workers and young people, especially young women, to be some of the groups that endured heavier employment losses since February 2020. There also exist overall gender differences (see Figure 2a) in terms of employment losses, however, as it can be seen in Figure 2d gender differences are mostly due to the heavier impact sustained by younger women. This group of women are not only shouldering one of the greatest employment losses due to the coronavirus crisis (25.5 per cent jobs lost at the peak of the pandemic) but are also more likely than young men not to ever come back to the labour market. For example, male NEETs aged 15-24 have a 50.6 per cent probability of exiting the NEET status within a year[9] while that probability is just 23.5 per cent for young female NEETs.

Major differences in terms of employment losses can also be found between formal and informal workers, see Figure 2.b. The cause behind this formal/informal dichotomy is rooted in the lack of protection and the vulnerability of informal employed workers. This lack of protection have been exacerbated by new regulations that de facto banned the dismissal of formal employees. The scope of these changes in the law is twofold; on the one hand they provide a range of options for employers to keep their workers under different schemes, on the other hand, it bans contract termination altogether. With respect to the former, the government started using mechanisms like the reduced hours support (kısa çalışma desteği) which already existed in the law under a simplified application procedure and by gradually extending its duration. In addition to encouraging applications to the reduced hours support scheme, employers have also been encouraged to implement teleworking whenever feasible using the regulations stated in Article 14 of the Labour Law (amendments added in 2016). And even if these two measures could not be applied due to business closure for COVID-19 related reasons employers still have the option of grating unpaid leave to their employees. With regards to the prohibition of contract termination the government enacted the ban on 17 April 2020 for three months, ban which later was extended.

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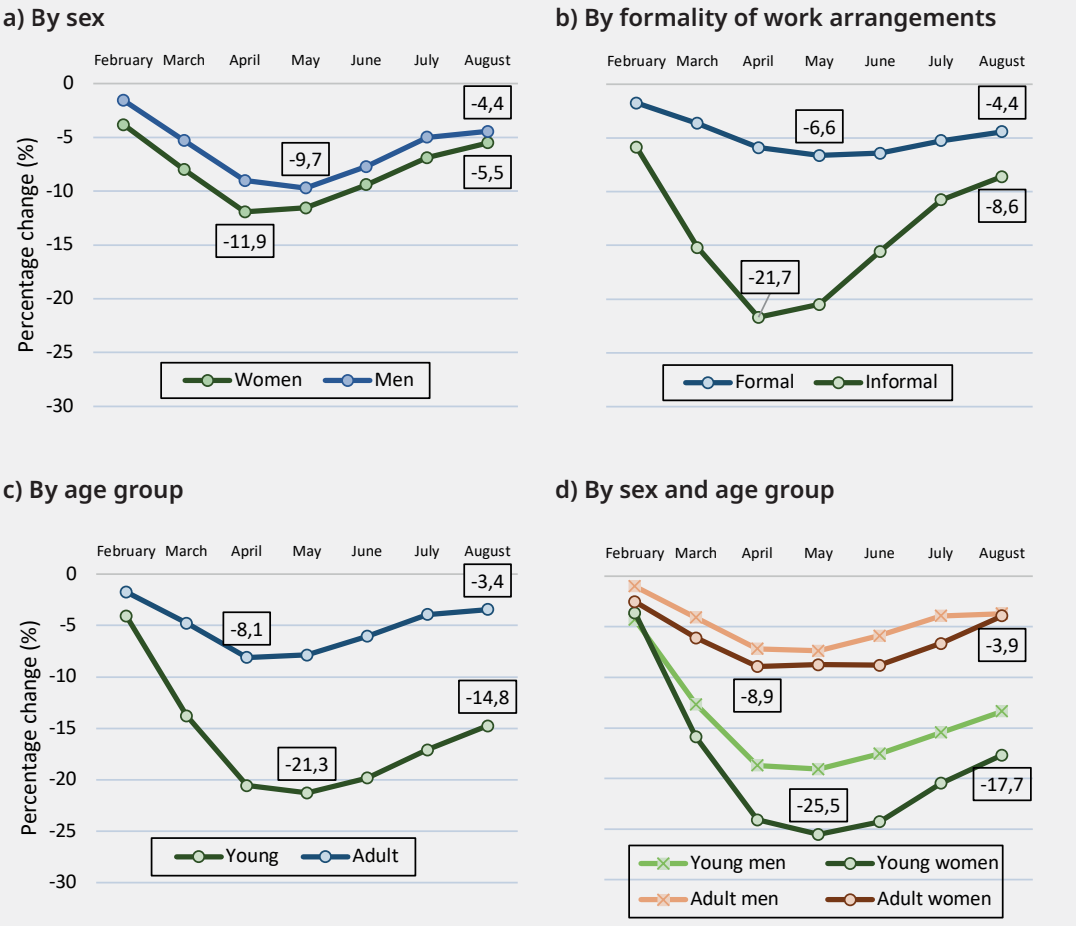
[8] The average impact is defined as $100\ \frac{(\sum_{August}^{February} L^p - \sum_{February}^{August} L^f)}{(\sum_{February}^{August} L^f)}$ where L^p denotes employment levels during the pandemic and L^f denotes forecasted employment levels in the absence of the pandemic.

[9] The probabilities make reference to the recall module of the Household Labour Force Survey 2019. They refer to the share of young people who were a NEET one year before the survey.

[10] With some exceptions.

Figure 2. Employment losses' evolution, February-August



Source: Turkstat statistics and ILO's own calculations. **Notes**: The figures provide employment losses caused by COVID-19 as a percentage of the baseline (the counterfactual). Said baseline represents a scenario without COVID-19.

In sum, the lack of social protection brought by informal work arrangements combined with the measures taken by the government in terms of protecting jobs results in marked differences between the share of jobs lost by formal and informal employees. On the positive side, the damage brought by the pandemic to informal workers seem to be temporary as these workers are recovering jobs at a fast pace.

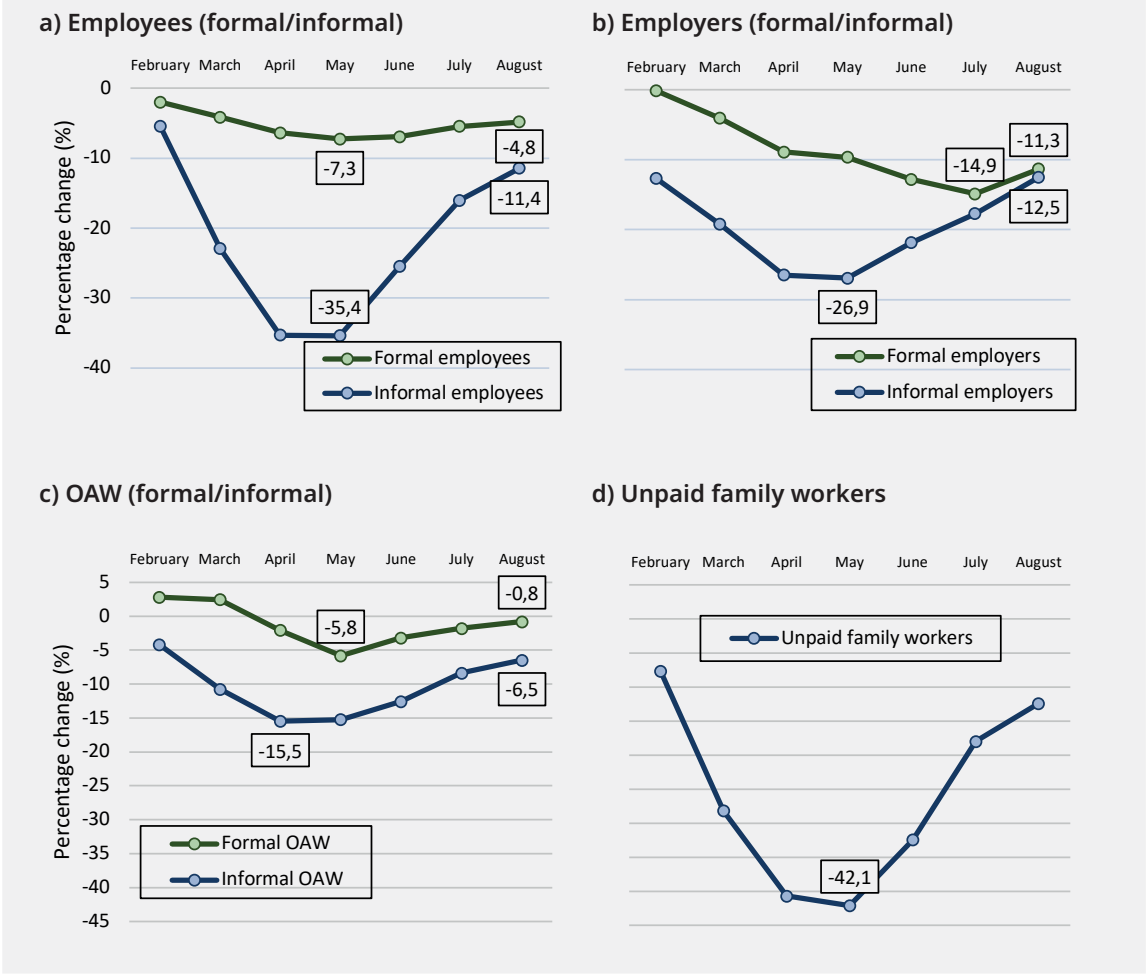
3.4 The role of informality

The regulations that banned dismissals only concern employees, not self-employed workers and thus, differences in the impact of COVID-19 are expected to be larger among salaried workers. Indeed, it can be seen in Figure 3 that at the peak of the pandemic the differences in the share of jobs lost between formal and informal workers are 28.1, 12.0 and 9.7 percentage points for, respectively, employees, employers, and own-account workers.

Even though smaller, the relationship between informality and employment losses is still carried forward to self-employed individuals. An explanation for this phenomenon may be related to the higher costs of closing and re-opening a formal business; they tend to have more structure and a higher number of workers. But it might also be related to the support measures enacted by the government in an attempt to ease the impact of the pandemic. In fact, the 21 points of the economic stability protection package (ekonomik istikrar kalkanı) included loan payment deferrals, the deferral of social security premiums for selected

industries and the cancelation of the accommodation tax until November among other measures which obviously only benefit formal companies.

Figure 3. Employment losses' evolution, February-August



Source: Turkstat statistics and ILO's own calculations. **Notes**: The figures provide employment losses caused by COVID-19 as a percentage of the baseline (the counterfactual). Said baseline represents a scenario without COVID-19.

In spite of the support measures announced by the government, the number of formal employers in the non-agricultural sector (see Figure 3b) kept going down until July, to just then see a timid signal of recovery in August. The decrease in the number of formal employers outside of the agricultural sector is just the continuation of a trend that started in April 2018. At that point there were 1.07 million such employers in Turkey. These employers are the ones with more assets at stake and a pandemic is by far one of the worst scenarios to set up a new company. Yet understanding the motives behind business closures does not make it less painful for the country since formal businesses are both, the ones creating most formal jobs and the ones with showcasing higher levels of productivity.

Last but not least, the pandemic took away up to 42.1 per cent of the jobs held by unpaid family workers -all of whom are considered to be working informally. However, these jobs are being recovered with as much speed as the one with which they were lost, see Figure 3.d. It is not surprising, though, given the fact that they are not registered and the cost of dismissing them is close to nothing.

The dramatic employment losses faced by informal employees and unpaid family workers may also be taken as a better measure of the actual impact of the pandemic on the economic activity. This is because formal employees could hardly be dismissed yet many were not

working or were working less hours than before. In the absence of statistics on hours worked the extent to which dismissible workers are sacked from their companies hints that the impact of the pandemic may be much larger than the mere 7.3 per cent found among formal employees.

3.5 What sectors are in trouble?

Not all economic activities have been equally affected by the pandemic. Some, like education, public administration, and business activities can, to a great extent, be executed online -even if the quality of such services is somewhat compromised. Others like human health activities do not have yet the ability to be carried out online. However the ease with which the new coronavirus is spread, the fact that much of the sector's staff are either civil servants or formally hired employees and the ban imposed by the government not allowing staff to leave their posts during the beginning of the pandemic is translated into a very mild sectoral impact. Some activities like trade or transport have showcased slightly higher employment losses at 6.7 and 6.0 per cent. However the effects of the pandemic has been particularly felt by the construction sector, hospitality activities and the "other" services group, which include activities like repair of computers and personal and household goods, beauty salons and textile washing services among other.

Figure 4. Average impact on employment (February-August) by economic activity

Source: Turkstat statistics and ILO's own calculations. **Notes:** The figures provide the average employment losses caused by COVID-19 between February to August 2020 as a percentage of the baseline (the counterfactual). Said baseline represents a scenario without COVID-19. Activities are defined using NACE rev.2 codes. Agriculture refers to section A, industry to Sections B, C, D and E, construction to section F, trade to section G, transport to section H, hospitality to section I, business activities to sections J, K, L, M and N, government to section O, education to section P, health to section Q and other services to section R, S, T and U.

Factors that explain the strong negative impact experienced by restaurants, bars and hotels are the measures taken by the government in April 2020, the relatively high informality rate showcased by the sector, social distancing as well as the fear induced by the coronavirus. In fact, at the peak of the pandemic (May) employment losses faced by the hospitality sector reached 30.6 per cent of the employment that would have existed without COVID-19. Similar explanations apply for the activities included under the "other services" label, since many of them are face to face activities and some of them even require close contact with customers.

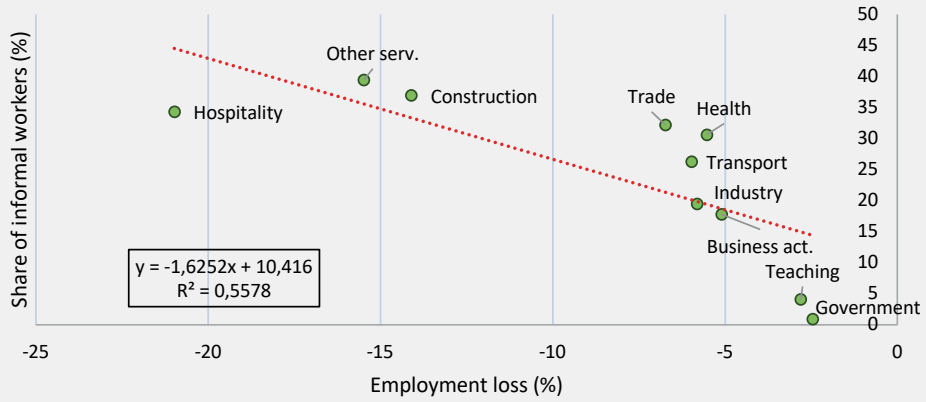
The case of the construction sector is slightly different; even though it ranks third in terms of employment losses, most of them are derived from jobs that were never created. That is, the hypothetical scenario without COVID-19 forecasted by the econometric model was

[11] And the little impact recorded most likely refers to social work services, not to human health.

expecting a significant rise in the number of workers employed in this sector. The positive outlook forecasted for the sector is based on the rising levels of confidence in the sector in December 2019 and January 2020 and on the increase in the number building permits requested during the 4th quarter of 2019. Both measures seem to, and can be argued to, lead and predict changes in future employment levels in the sector.

Leaving individual cases aside, informality can explain a great deal of variation in employment destruction across sectors. Figure 5 offers a visualization of this phenomenon putting together the sectors' losses of employment (%) with their respective shares of informal workers. The existing relationship has been approximated with a linear regression line; according to this simple approximation the share of informal workers explains 55 per cent of the variation in employment losses. Individual characteristics still matter, though. It can be seen in the graph that the hospitality sector faced higher employment losses than it would have been expected by its share of informal workers. In other words, if were to only consider informality we would have forecasted employment losses to be at 15 per cent instead of at 21 per cent. This difference may be explained by the lockdown measures and the businesses' closures that were imposed at the beginning of the pandemic.

Figure 5. Informal employment and employment losses, by economic activity



Source: Source: HLFS 2019 4th quarter, Turkstat statistics and ILO's own calculations. **Notes:** The figure shows economic activity-specific pairs of employment losses due to COVID-19 and pre-pandemic informality rates. The red dotted line refers to the results from a linear regression, the equation and the R2 are also provided. The agricultural sector has been excluded; it is regarded as an outlier.

The existence of other factors behind employment losses other than informality can be attested in Table 1. In principle, all disfavoured groups showcase a higher informality rate, for example 41.2 per cent of young workers are informally hired in comparison with only 33.3 per cent of adults. A similar story can be extracted for men (30.6 per cent) and women (42.2 per cent). However, this empirical regularity is broken when we compare young (15-24) and adult (25+) women, with respectively 36.0 per cent and 43.3 per cent informality rates. That is, young women experienced stronger employment losses in spite of their contractual arrangements being, on average, more secure.

[12] Turkstat Construction Sector Confidence Index.

Table 1. Share of informal workers by gender and age-group, 4th quarter 2019

Group	Informal (%)	Group	Informal (%)
Young people	41.2	Young women	36.0
Adults	33.3	Adult women	43.3
Women	42.3	Young men	43.6
Men	30.6	Adult men	28.7

Source: HLFS 2019 and ILO's own calculations. **Notes:** Age-group and gender-specific rates of informality for workers. Young refers to those aged 15-24 while adults are 25+ individuals.

In the case on younger vs. adult women we need to look at other factors such as tenure, permanency of contracts and the type of economic activities to explain the observed differences in employment losses. According to the 4th quarter of the HLFS 2019, it can be seen that young women tend to be more involved in the hospitality sector (highly impacted) while adult women work more often in the agricultural sector (mild impact). Moreover, young female employees hold more temporary contracts (23.8 per cent) than the adult ones (8.2 per cent). At last, it is also the case that adult women have more tenure than younger workers in the sense of having spent more time at the same workplace; this is also associated to higher job security levels.

4- Concluding remarks

The pandemic brought by COVID-19 has caused a significant disruption of the economic activity in Turkey and has subsequently affected its labour market. Some of the effects on the labour market include employment losses, reductions in hours worked and potentially reduced wages. This research brief focuses on the former by measuring the impact of the pandemic on overall employment as well as on the employment levels of several subgroups. This exercise is carried out with the help of an econometric model that predicts what these employment levels would have looked like had not the pandemic arrived in early 2020. The comparison between the forecasts and the actual employment figures allows us to calculate the causal impact of COVID-19 on the different groups of workers that are present in the Turkish labour market.

According to the results the pandemic destroyed, at its peak back in May, nearly 3 million jobs. However, job destruction was not shared equally among all types of workers. The measures taken by the government with the intention of protecting employment worked well in preventing massive lay-offs among formal workers. The same cannot be said about those working without registration in the SSI; more than 1 in 5 informal jobs were lost in May although the recovery process was fast once the lockdown measures were eased. In fact, informality can be said to have shaped the impact of COVID-19 on employment. In general, all areas of the labour market associated with high informality rates took a greater impact. As such, women, young people, and those working in hospitality, construction and low-skilled services lost a significant portion of their respective jobs.

In spite of the great importance behind the registration of workers in terms of employment protection there exists other precarious forms of work that increase workers' vulnerability. This can be seen among young women (15-24) who have experienced heavier job losses than

adult women (25+) even though their formality rate is higher. In this case, other elements such as temporary contracts seem to also be playing a role in reducing their protection. Moreover, the very partial jobs' recovery experienced by young women calls for a close monitoring of their situation. Young women who are not in employment nor in education (NEET) have a slim chance of finding a job in the near future and these chances keep decreasing the longer they are away from the labour market.

Last but not least, the crisis brought by the novel coronavirus has delivered yet another setback to Turkish formal employers. This group was totalling 1.074 million in April 2018, went down to 0.832 million by October 2019 and when it started to recover (0.905 million February 2020) the pandemic brought its number further down to 0.808 million in June 2020. In light of the importance of formal employers in the creation of decent work further support measures are due; otherwise there is a risk for an incomplete recovery both in qualitative (contract quality) and quantitative terms (lower employment levels).

Even though this research brief sheds some light on the effects of the pandemic on the Turkish labour market it only offers a partial view. Many workers have seen their hours worked reduced or have been sent on unpaid leave. This analysis should also be carried out in the future so as to have a more complete picture of the full impact of the pandemic.

References

United Nations, 2020. Economic update, Office of the Resident Coordinator in Turkey.

DISK 2020. İşsizlik ve istihdamın görünümü raporu.

Şeker, S.D. & Özen, E.N. & Erdoğan, A.A. (2020). Jobs at risk in Turkey: Identifying the impact of COVID-19. Social protection and jobs, discussion paper, No. 2004, July 2020.

ILO (2020). ILO monitor: COVID-19 and the world of work. Sixth edition.

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