

A GENDER ANALYSIS OF COVID-19 IMPACTS ON THE HUNGARIAN LABOUR MARKET

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Abstract

Ending of all forms of inequality both within and across nations is a central objective in the Sustainable Development Goals (SDGs) adopted by world leaders in 2005. The aim of SDG 5 is achieved gender equality and empower all women and girls by 2030. Whereas SDG 10.2 has the aim to empower and promote the social, economic and political inclusion of all, irrespective sex or other demographic characteristics. After a century of impressive progress in women's political and economic empowerment at the global level, overall economic opportunities for women still lag behind men. Empirical evidence indicates that women are more disadvantaged than men in labour markets across the world in terms of unemployment rates, labour force participation, employment vulnerability as well as segregation in jobs and economic sectors. The objective of this study was to investigate whether the COVID-19 pandemic significantly impacted men and women in the labour market different using Hungary as a case study. Based on a gender analysis of monthly labour market data before and during the first year of the pandemic (2015-2020), the study finds that females were more adversely affected in terms of labour market outcomes such as employment rates and unemployment rates. For instance, in all age brackets males had higher employment rates than males. Also, the employment rates for females during the first year of the pandemic was lower than the previous year.

Keywords

COVID-19, Gender inequality, Labour market outcomes, Segmented Labour Market Theory, Hungary

1. Introduction

The global recession caused by the COVID-19 pandemic in the year 2020 has been described as the worse since the time of the Great Depression in the 1930s. [1] Globally, it has been estimated that economic growth contracted by -3.5 percent during the first year of the COVID-19 pandemic. [2] Every aspect of the global and local economies including labour markets were affected by the pandemic in one way or another. According to the International Labour Organisation (ILO), labour markets around the world were disrupted in 2020 on a historically unprecedented scale. For instance, the most recent ILO report on COVID-19 and the world of work suggest that working-hour losses in 2020 were approximately four times greater than the losses witnessed during the global financial crisis in 2009. [3] Furthermore, the report indicates that globally, the decline in working hours in 2020 translated into both employment losses (unemployment) and a reduction in the working hours of even those who remained employed although the magnitude varied across different regions of the world.

Besides the asymmetrical impacts of COVID-19 on the labour market across different geographical regions, there was also disparities in the impacts for men and women. This same trend persisted at the global level during the first year of the pandemic. For instance, ILO report points out that in 2020 there was an unprecedented global employment loss of 114 million jobs relative to 2019; however, in relative terms, employment losses were higher for women (5.0 per cent) compared to men, and for young workers (8.7 per cent) compared to older workers. Even before the onset of the COVID-19 pandemic, disparities in labour market outcomes had persisted for decades particularly with groups such as women and youths being the most adversely affected. [4] While this trend persisted at the global level during the first year of the pandemic; it is still unclear if the same trend in terms of the disparity in the impact of COVID-19 pandemic on men and women in the labour market persisted in various countries.

It has been over a year and a half since the COVID-19 pandemic. Several studies have investigated the impacts and socio-economic consequences of the pandemic on various aspects of the economy; however, country level gender analysis of the impact of the pandemic has received little attention in literature. The objective of this study is therefore to shed light on gender dynamics of labour market outcomes during the first year of the pandemic by answering the following question: Was there a significant difference in how the COVID-19 pandemic impacted men and women in the labour market? If there was, what was the magnitude? Which sectors were mostly affected?

To answer these research questions, the study utilises quantitative statistical techniques to comparatively analyse employment and unemployment data for men and women before and during the first year of the pandemic. The next section discusses the theoretical and conceptual issues that explain disparities in labour market outcomes for males and females. This is followed by an overview the methodology. The key results are then presented before the paper concludes with policy recommendations and recommendations for further research.

2. Theoretical and conceptual issues

The need for gender equality in the labour market is based on the concept of equality of opportunity and theory of social justice. Whereas the concept of equality of opportunity is concerned with people getting the same, or being treated the same, in some; [5] social justice deals with questions relating to the distribution of income and wealth, the distribution of opportunities for work and employment, and the distribution of opportunities for access to social services. [6] Furthermore, social justice is essentially concerned about ensuring that the actions of a society are carried out in a way that is fair to those within the society in order to promote their well-being and equality of citizens. [7]

2.1 Labour market theories

Dating back to at least to the 1800s, several labour market theories have been proposed to explain, to predict, and to prescribe solutions for the prevention and containment of unemployment as well as for the attainment of full employment. [8] These labour market theories have sought to answer relating to the three widely recognized categories of labor-market status of individuals, which includes employment, unemployment but actively seeking a job, and neither working nor searching for a job. [9] Some of the questions that labour market theories have sought to answer include the following: (1) Why is there unemployment and underemployment in terms people being unable to work as many hours per week or as many weeks per year as they choose? (2) How can full employment and equitable labour

market outcomes be achieved? and (3) Why are some categories of people such as women, youths, and other vulnerable groups more likely to end up unemployed or in low-wage jobs?

Currently two major sets of conflicting theoretical perspectives are used in labour market analyses. On the one hand, the neoclassical theory argues that labour markets are basically efficient and fundamentally fair with full employment as the norm. On the other hand, critics of the neoclassical theory – the ‘critical view’ – which has been linked to radical and institutionalist theories such as Marxists, Post Keynesian, Feminists and the Segmented Labour market Theory argue that the market system is inherently unfair with unemployment as the norm. [4] [10]

The new classical model for analysing unemployment was developed in the mid-1970s by a group of economists including Robert Lucas, Thomas Sargent, and Robert Barro who revived the arguments of “classical economists” such as Adams Smith and David Ricardo whose ideas for explaining the labour market and unemployment were accepted as the standard before the Great Depression of the 1930s. [11] There are variants of the neoclassical theory; however, all neoclassical models are composed of the Continuous Market Clearing Mechanism (Say’s Law), the Rational Expectations Hypothesis, and the Aggregate Supply Hypothesis. [4]

In the neoclassical model, labour markets are treated as a continuous auction, with equilibrium given by the intersection of labour demand with labour supply at a particular wage rate. [12] At the equilibrium wage rate, the quantity of labour required by employers is equal to the number of hours individuals are willing to work at that wage. Therefore, if the economy diverges from its full employment output, internal mechanisms within the economy will automatically move the demand and supply of labour back to its full-employment output and its natural rate of unemployment. [13] This market clearing hypothesis of the neoclassical theory is derived from Say’s Law posits that supply creates its own demand. [14]

The self-correcting mechanism of the labour market as postulated by the neoclassical model is based on the ‘rational expectations’ hypothesis proposed by Muth in 1961.[4] The rational expectations hypothesis posits that both workers and employers behave rationally, gathering and intelligently processing information about things that are economically important to them in the labour market because they have perfect information about market variables. [8] [11] According to the ‘rational expectations’ hypothesis, since employers and workers are able to gather perfect information about the labour market, it enables them to anticipate and adjust to future economic outcomes including changes in demand and supply of labour.

Another major tenet of the neoclassical model is the aggregate supply hypothesis derived from the work of Lucas and Rapping who in 1969 posited that any changes in employment levels are determined by the ‘voluntary’ choices of workers who change their supply of labour in response to perceived temporary changes in the real wage. [8] The aggregate supply hypothesis argues that workers prefer to work more if the current real wage is below the norm, and work less (take more leisure) in the current period in the anticipation of working more (taking less leisure) in the future, when the real wage is expected to be higher. The implication of this hypothesis is that unemployment is as a result of decisions made by individuals. However, the aggregate supply hypothesis and other tenets of the neoclassical theory has been contested by several authors particularly proponents of the ‘critical view’ of the labour market. For instance, Paul Krugman noted in his introduction to *The General Theory of Employment, Interest, and Money* by John Maynard Keynes that one of the major

conclusions of Keynes was that economies can and often do suffer from an overall lack of demand, which leads to involuntary unemployment contrary to the neoclassical theory. [15]

2.2 Segmented Labour Market Theory

The critical theories including the segmented labour market theory reject the mainstream analyses of the labour market. The core argument of the critical view is that capitalism is a system that is inherently unfair with unemployment the normal state of affairs and is therefore incapable of achieving social justice and equitable labour market outcomes for all. [16] Grimshaw et al. (2017) have recently consolidated the various critical perspectives into what they describe as ‘a new labour market segmentation approach’. The term segmentation which was popularised by Peter Doeringer and Michael Piore in 1971 based on the idea of segmented labour markets which was eventually picked up by Institutionalists economists for theorising poverty and inequity in the labour market. [17]

The core argument of the Labour Market Segmentation theory is that some groups of people are concentrated in certain occupations based on personal characteristics such as sex and ethnicity due to societal stereotypes and discrimination. [18] This position is contrary to the neoclassical assumption that labour markets are fundamentally fair. The segmented labour market theory, further posits that the labour market can be divided into two segments drawing qualitative distinctions between good and bad jobs. [17] The “primary” sector refers to well-paid and steady jobs; whereas, the “secondary” segment refers jobs marked by low wages, high turnover, arbitrary supervision, and often unpleasant working conditions. According to the segmented labour market thesis, due to the segmentation of the labour market, groups such as women, youth, and persons disability are more likely to be unemployed, engaged in risky work, or work in lower paid jobs. [19]

Empirical studies suggest that economic shocks impact the dynamics of labour market in various ways. For instance, it has been found that since the global financial crisis of 2007–2008, problems of precarious employment, which is associated with low pay, insufficient and variable hours, short-term contracts and limited social protection rights, [20] seem to have become increasingly widespread, affecting a wider range of workers’ labour market experiences in Europe. [21] Similarly, people suffered from involuntary unemployment during the first year of the COVID-19 pandemic while many of those who remained employed also suffered from reductions in working hours. [3]. The impact of the COVID-19 pandemic on the labour market was also asymmetrical across countries and also for men and women at the global level. According to the ILO there was an unprecedented global employment loss of 114 million jobs in 2020 relative to 2019; however, in relative terms, employment losses were higher for women compared to men, and for young workers compared to older workers.

The evidence from the global financial crisis and the COVID-19 pandemic point to unequal labour market outcomes consistent with the critical view of the labour market unemployment is a normal state of affairs within capitalism and therefore market forces are incapable of achieving social justice, and addressing the problem of since the structure of labour markets and other economic and social institutions as well as other factors beyond the control of individuals influence their labour market outcomes. [4] The adverse impacts of both the financial crisis and the COVID-19 pandemic on the labour market could be attributed to demand side factors contrary to neoclassical predictions. Furthermore, if it had not been for several government interventions (which are considered as an “abomination” from the neoclassical perspective) it is likely that more people would have suffered from involuntary unemployment as a result of the pandemic. For instance, ILO notes that various employment retention schemes contributed to minimising employment losses during the first year of

COVID-19 pandemic particularly in Central Asia and Europe. In Hungary for example, the government introduced several interventions to minimise job losses.

2.3 COVID-19 pandemic and Hungary Labour Market

Hungary is a landlocked country located in the Carpathian Basin in Central Europe with an estimated population of about 9.66 million consisting of 52% females and 48% males as at 2020. [22] The country officially joined the European Union on May 1, 2004. As at 8th June, 2021 the country had officially recorded 806,008 and 29,770 coronavirus cases and deaths respectively. [23] Hungary officially recorded its first 2 cases on the 4th of March 2020 after which the government of Hungary introduced a special legal order state of danger on March 11, 2020 starting with bans on flights from Korea, China, Iran and Italy. Since then, the government has taken a wide range of measures to contain the COVID-19 outbreak. By the end of 2020, comparison of Hungary’s average score on the stringency index score – a composite index of policy responses that governments have taken to respond to the pandemic on 20 indicators such as school closures and travel restrictions – [24] with neighbouring countries indicate that apart from Romania, Hungary had some of the strictest measures in place to contain the pandemic (See Figure 1).

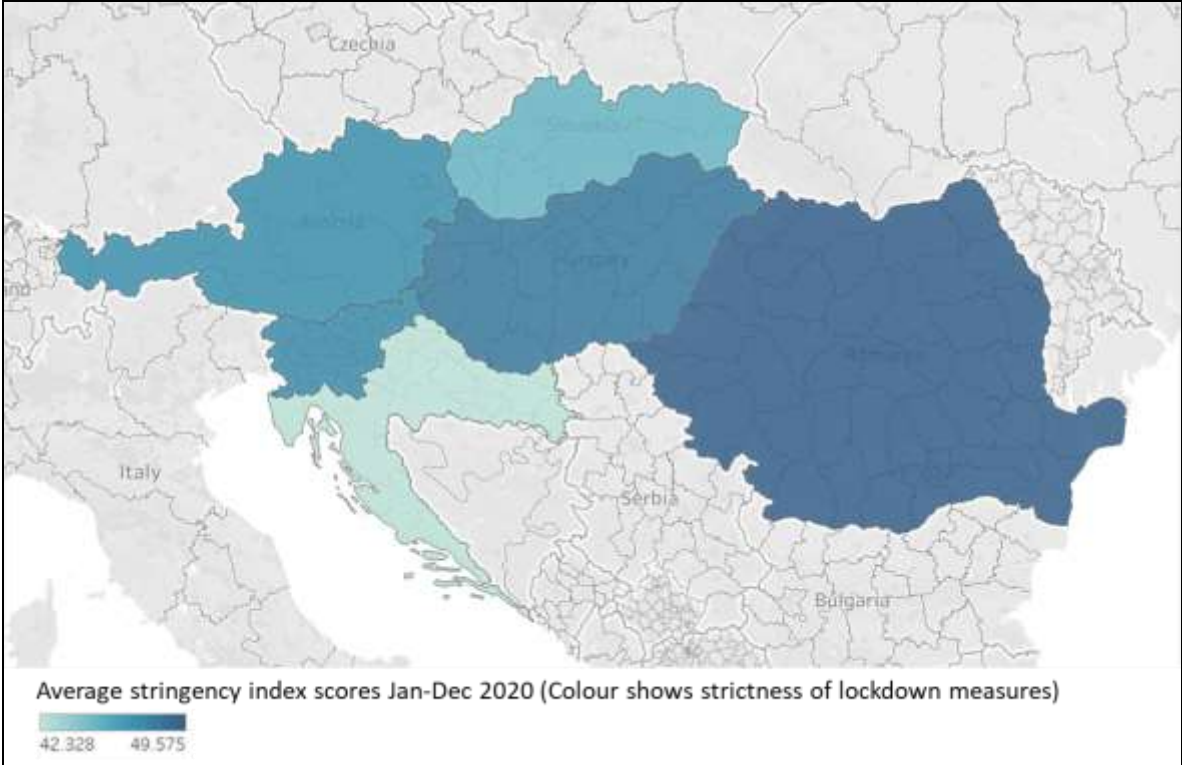


Figure 1 Strictness of COVID-19 measures in Hungary and neighbouring EU countries
Source Author’s construct based on data from Hale et al. (2021).

The ILO has observed that at start of 2021, about 20 per cent of workers in Europe were living in countries with economy-wide closures such as Hungary. Just as with many countries across the globe, the measures taken by the Hungarian government to contain the pandemic has impacted various aspects of the economy including the labour market. As part of efforts to mitigated the potential adverse impact the lockdown measures on labour market outcomes, the Hungarian Government introduced a five-point economy protection plan are as follows: The first step of the government’s interventions was to take over a portion of wage payments from firms that had to resort to shortened working hours due to the

coronavirus epidemic. Secondly, the government devoted HUF 450 billion (EUR 1.23 billion) in investments for job creation. A third intervention was to provide support for hard-hit economic sectors, such as tourism and hospitality. The fourth measure was to make HUF 2,000 billion worth of preferential, government-backed loans available to Hungarian companies, while the fifth initiative dubbed 'Family and Pensioner Protection Program' intended to gradually reintroduce 13th month pensions [25]. All these interventions by the Hungarian government were intended to minimise the adverse impacts of the COVID-19 pandemic on labour market outcomes in Hungary.

Whereas several studies have investigated the impacts and socio-economic consequences of the COVID-19 pandemic on various aspects of the economy, country level gender analysis of the impact of the pandemic has received little attention in literature. For instance, while the ILO indicates that globally women were more adversely affected than men in the labour market, it is still unclear if this was the same trend in every country. The objective of this study is therefore to shed light on the gender dynamics of labour market outcomes during the first year of the pandemic using Hungary as a case study.

3. Methodology

The focus of this study was to investigate how the gender dynamics of Hungary's labour market was impacted during the first year of the COVID-19 pandemic from January to December 2020. The study utilised a quantitative research design relying on secondary quarterly employment disaggregated by sex for the first year of the pandemic and the previous 5 years prior to the pandemic (2015-2020). The data were obtained from the Hungarian Central Statistical Office. [26] The data covered the entire economy of Hungary. The employment data was also disaggregated based on 31 economic sectors and unclassified activities in accordance with HCSO classifications (Table 1).

Various statistical techniques were used to analyse the data. Descriptive statistics were used to compare the changes in the gender dynamics of the labour market for the period 2015-2020. The year-on-year as well as quarter-on-quarter changes in employment and unemployment data for both males and females were computed using the following equation:

$$\Delta EM = \frac{100(EM_2 - EM_1)}{EM_1} \quad (1)$$

Where ΔEM represents the change in employment and unemployment levels for males and females; EM_1 represents employment and unemployment levels in the base period (previous year and previous quarter respectively); In the quarter-on-quarter analysis, EM_2 is the employment and unemployment levels in the current time period whereas in the year-on-year analysis EM_2 represents the employment and unemployment levels during first year of the COVID-19 pandemic (2020). The results for males and females were compared to determine if one group had been more affected by the pandemic than the other.

In order to understand which sectors of the economy were mostly affected, Equation 1 was repeated for the 31 economic sectors and unclassified activities as indicated in Table 1. In this case, EM_1 represented the number male and female employees respectively for the 31 sectors and unclassified activities for the base period and EM_2 represented the number of male and female employees respectively for the 31 sectors and unclassified activities in the current period. Finally, independent samples t-tests were also used to determine if there was any significant difference between the changes in the employment levels of males and females during the first year of the pandemic when compared to the previous year and

average for the last five years leading to the pandemic. T-tests are the most appropriate statistical tools to use when there are two groups or two sets of data (before and after), and the researcher wish to compare the mean scores on some continuous variables. [27] The results of the various analyses are discussed in the next section.

Table 1 Sectors analysed in this study

No	Economic Sectors
1	Retail trade repair of motor vehicles and motorcycles
2	Accommodation and food service activities
3	Administrative and support service activities
4	Agriculture, forestry and fishing
5	Arts, entertainment and recreation
6	Construction
7	Education
8	Electricity, gas, steam and air conditioning supply
9	Financial and insurance activities
10	Human health and social work activities
11	Information and communication
12	Manufacture of basic metals and fabricated metal products, except machinery and equipment
13	Manufacture of chemicals and chemical products
14	Manufacture of coke, and refined petroleum products
15	Manufacture of computer, electronic and optical products
16	Manufacture of electrical equipment
17	Manufacture of food products, beverages and tobacco products
18	Manufacture of machinery and equipment
19	Manufacture of pharmaceuticals, medicinal chemical and botanical products
20	Manufacture of rubber & plastics products, and other non-metallic mineral products
21	Manufacture of textiles, apparel, leather and related products
22	Manufacture of transport equipment
23	Manufacture of wood and paper products, and printing
24	Other manufacturing, and repair and installation of machinery and equipment
25	Professional, scientific and technical activities
26	Public administration and defence; compulsory social security
27	Real estate activities
28	Transportation and storage
29	Water supply, sewerage, waste management and remediation activities
30	Wholesale and repair of motor vehicles and motorcycles
31	Mining and quarrying
32	Other activities
33	Not classified

Source Author's based on classifications of Hungarian Central Statistical Office

3. Findings and discussions

4.1 Female and male employment trends before and during first year of COVID-19

A trend analysis of the number of persons employed in Hungary for the last 5 years prior to the COVID-19 pandemic revealed that on average more males are employed compared to females although there are more females than males in the general population of Hungary. As indicated in Figure 2, the gap has been consistently widening over the period and even further widened during the first year of the pandemic.

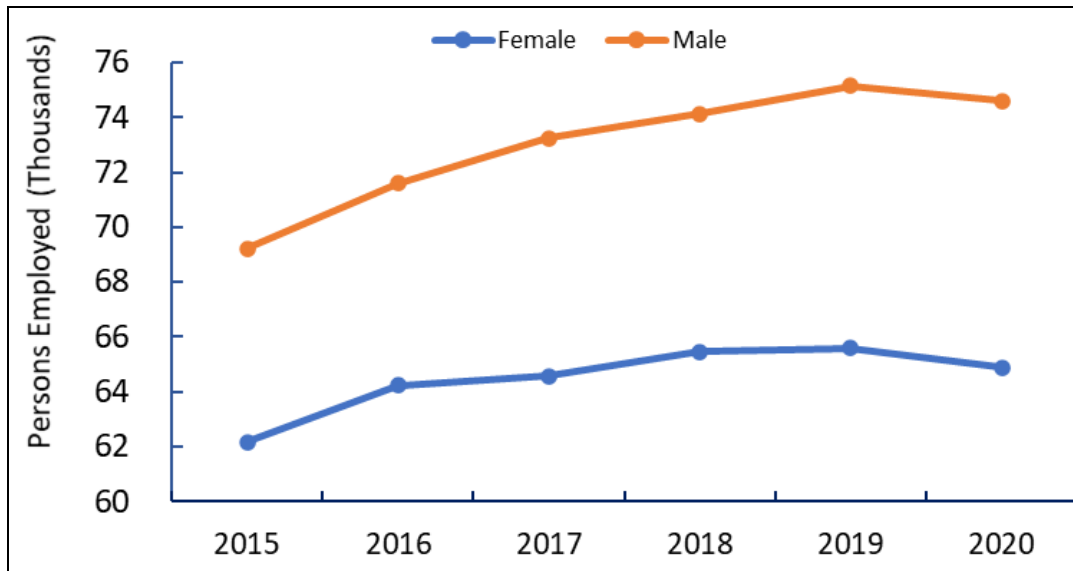


Figure 2 Employment trend in Hungary by sex (2015-2020)

Source Author's construct based data from the Hungarian Central Statistical Office

The trend analysis also shows that over the study period, the number of persons employed was trend upward for both males and females although the rate of increase has been higher for males than females. Furthermore, the study finds that it is only during the first year of the pandemic that there were year-on-year reductions in the number of employed persons for both males and females over the study period.

4.2 Impact of COVID-19 pandemic on female and male employment rates

The paired samples t-tests revealed that there was no statistically significant change in the quarterly employment rates for both males and females during the first year of the COVID-19 pandemic when compared to the previous year or the average number of people employed by sex in the 5 years preceding the pandemic; however, overall, more females (1.08%) lost their jobs compared to males (0.73%) during the first year of the pandemic when compared to the previous year (See Table).

Table 2 Paired samples t-test results on the impact of COVID-19 on employment by sex

Result	2019 vs 2020		Last 5 years vs 2020	
	Female	Male	Female	Male
t	1.443	0.721	-0.695	-1.612
df	131	131	131	131
Sig. (2-tailed)	0.15	0.47	0.49	0.11

ΔEM (%)	-1.08	-0.73	0.75	2.67
	Source Author's calculations			

4.3 Gender Analysis of COVID's impact on employment by business sectors

An analysis of the job losses by sectors during the first year of the pandemic revealed that males and females were affected differently. Overall, females in the accommodation and food services lost the most jobs followed by females in the retail trade repair of motor vehicles as well as females in the education sector. However, in terms of percentage, the year-on-year female job losses were highest in mining and quarrying sector followed by those in the electricity, gas, steam and air conditioning supply sector.

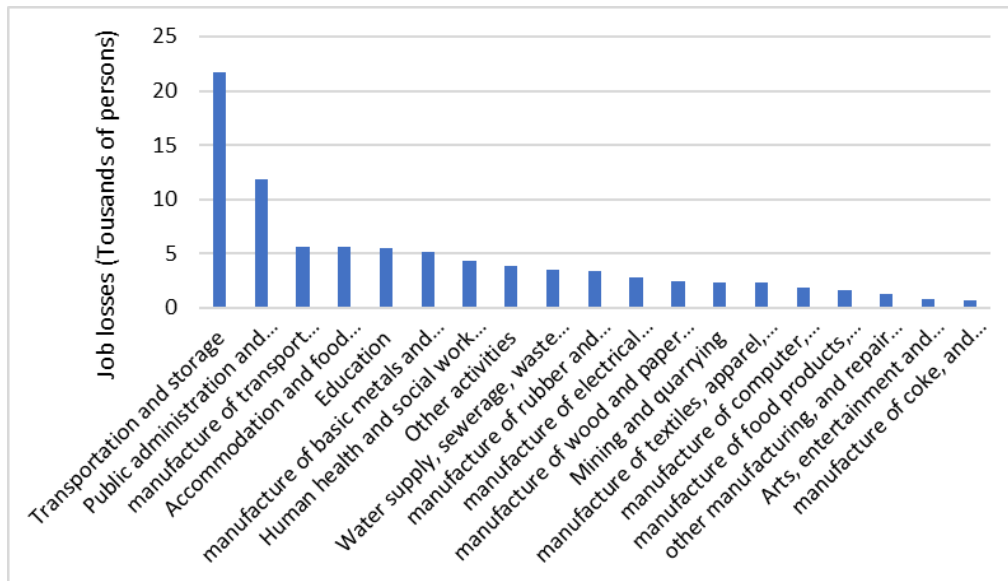


Figure 3 Sectors in which females were negatively affected
Source Author's calculations

Contrary to the females, during the first year of the COVID-19 pandemic, males experienced the highest number of job losses in the transportation and storage sector followed by public administration and defence and then the manufacture of transport equipment. However, similar to the females, the manufacture of coke, and refined petroleum sector recorded the fewest job losses during the first year of the pandemic.

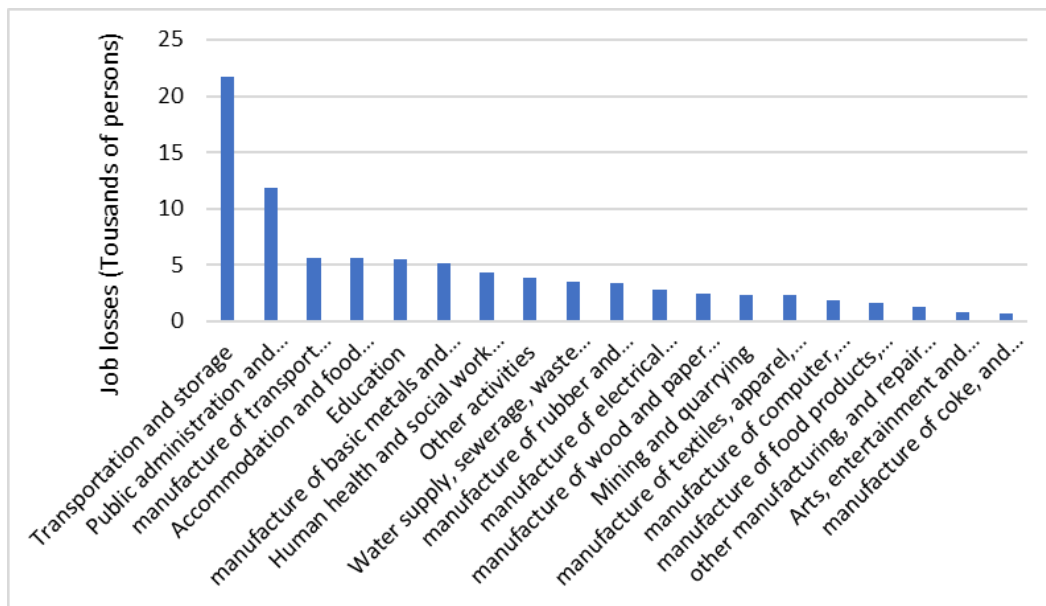


Figure 4 Sectors in which males were negatively affected
Source Author's calculations

The study also finds that, although females in certain sectors lost their jobs, in other sectors more females gained employment during the first year of the pandemic. For example, the manufacture of machinery and equipment; the manufacture of pharmaceuticals; medicinal chemical and botanical products; financial and insurance activities; and the information and communication sectors were the sectors in which more females gained employment opportunities during the first year of the pandemic compared to the previous year.

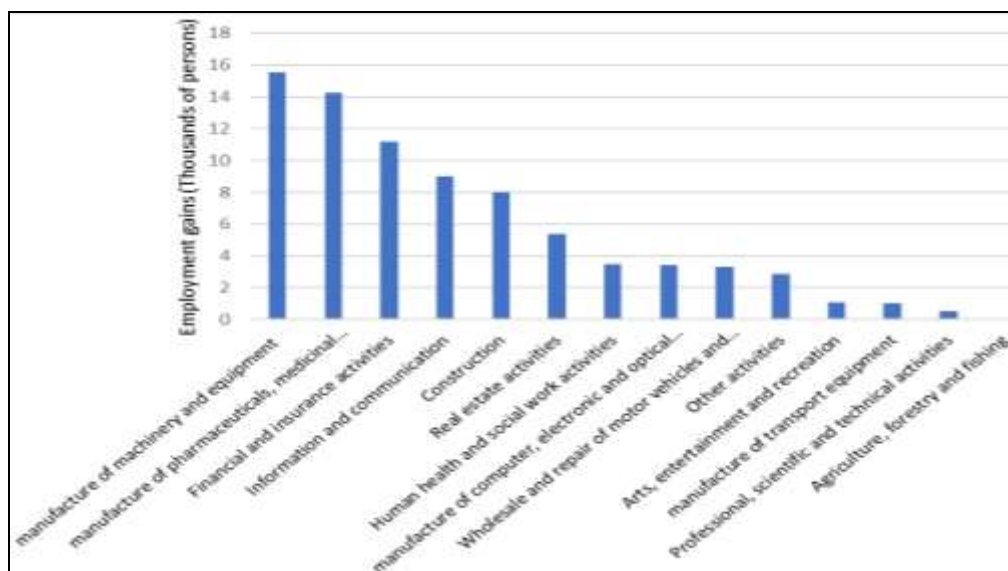


Figure 5 Sectors in which females gained during COVID-19
Source Author's calculations

Similar to the females, the study finds that whereas males in certain sectors lost their jobs, males gained employment opportunities in other sectors during the first year of the pandemic. Specifically, the Professional, scientific and technical activities; Construction; Information and communication; Wholesale and repair of motor vehicles and motorcycles; and the Retail trade repair of motor vehicles and motorcycles were the sectors in which males gained more employment opportunities during the first year of COVID-19 pandemic.

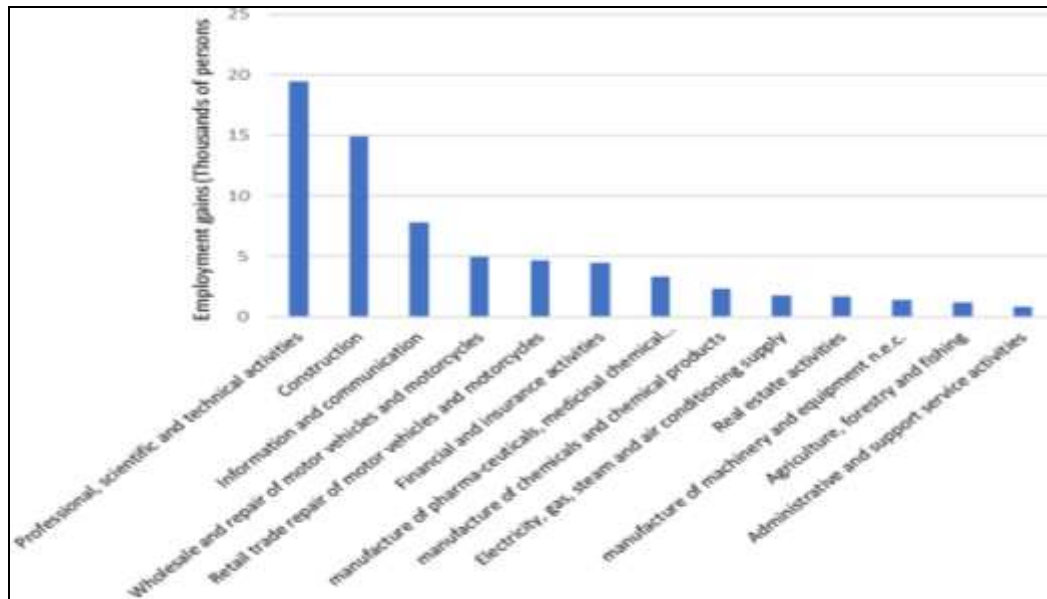


Figure 6 Sectors in which males gained during COVID-19
Source Author's calculations

5. Conclusions and Recommendations

The study sought to investigate whether the impact of the COVID-19 pandemic on the labour outcomes was the same for men and women. In order to determine this, the study analysed quarterly employment data from 2015 to 2020. Based on t-test results, the study did not find a statistically significant difference between the job losses experienced by males and females during the first year of the pandemic when compared to the previous years. However, overall, more females lost their jobs compared to males during the first year of COVID-19. This finding is consistent with a recent study conducted by ILO which found that globally more women lost jobs when compared to men. The finding of this study is also consistent with the global inequalities within the labour market that has been witnessed for several decades now with women being more disadvantaged than men on various outcomes such as unemployment, underemployed, and low waged jobs. The study also finds that job losses were not uniform across sectors. For instance, females in the accommodation and food services lost the most jobs whereas males in the transportation and storage sector lost the jobs. These findings are consistent with the segmented labour market theories which posit those males and female are concentrated in certain jobs base on gender stereotypes. Furthermore, while both females and males lost jobs in certain sectors they also gained in certain sectors. It therefore be concluded from the findings of this study that the COVID-19 pandemic had an adverse effect on both males and females in Hungary's labour market but the females were more affected. However, the outcomes of males and females were largely as result of the sectors in which they were concentrated and the extent to which the pandemic affected those sectors. For example, overall, sectors such as Professional, scientific and technical activities; Construction; Information and communication; and Financial and insurance activities recorded employment gains during the pandemic while sectors such as Education; Public administration and defence; Accommodation and food service activities; and Transportation and storage recorded year-on-year loss of jobs. The impact of the pandemic for both sexes would have possibly been worse if the Government of Hungary had not introduced several interventions including the Wage Support Program which aimed to preserve jobs and prevent workers from being laid off; the Job Creation Wage Support Scheme which aimed to support for jobseekers; and the provision of Government funds for hard-hit economic sectors and Hungarian companies. It follows that

mitigating the adverse effects of the COVID-19 pandemic requires government interventions contrary to the neoclassical theory. Furthermore, the findings of this study suggest that the susceptibility of people to losing their jobs during economic shocks and crises are dependent on the sectors within which they work. A limitation of this study is that it concentrated only on the first year of the pandemic, it would be interesting for further studies to investigate the long-term gender dynamics of the impact of the pandemic not only on labour market outcomes but other aspects of the economy as well. Furthermore, comparative studies with other countries both within the EU and other regions could shed more light on how various countries were impacted by the COVID-19 pandemic and how the adverse impacts were mitigated.

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