

REMOTE WORKING AND RELOCATION AFTER COVID-19

THE CASE STUDIES OF ISTANBUL AND MILAN



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To my family

ABSTRACT

This paper estimates, the relocation after COVID-19 pandemic. This relocation was already started before the outbreak of COVID-19 with the help of technological innovations. Some people who generally well educated and have knowledge work, started to work remotely also before COVID-19. The strong transition to remote working happened after 1st December 2019 which is the first COVID-19 case was seen in China. After that incident, some companies started to work remotely to provide social distance.

With the outbreak of the COVID-19 pandemic, remote working had more importance than before since it helps people to provide social distance in their daily life. As explained above the main reason of this worldwide observed relocation is remote working and minimum need of daily transportation to reach workplaces. With this transition, people preferred to move more affordable, quiet and underpopulated places. People turned to their hometowns, or second homeowners moved their houses which are located more quiet and less populated place. Those situations are going to be explained in the following chapters with the cases of Milan and Istanbul.

Keywords: Remote working, relocation, city centres

ABSTRACT

Questo documento stima il trasferimento dopo la pandemia di COVID-19. Questo trasferimento è iniziato già prima dello scoppio del COVID-19 grazie all'innovazione tecnologica. Alcune persone generalmente ben istruite e con conoscenze lavorative hanno iniziato a lavorare da remoto anche prima del COVID-19. La forte transizione al lavoro a distanza è avvenuta dopo il 1° dicembre 2019, data del primo caso di COVID-19 in Cina. Dopo quell'episodio, alcune aziende hanno iniziato a lavorare da remoto per garantire il distanziamento sociale.

Con lo scoppio della pandemia di COVID-19, il lavoro a distanza ha avuto più importanza di prima poiché aiuta le persone a fornire la distanza sociale nella loro vita quotidiana. Come spiegato sopra, il motivo principale di questo trasferimento osservato in tutto il mondo è il lavoro a distanza e la necessità minima di trasporto quotidiano per raggiungere i luoghi di lavoro. Con questa transizione, le persone hanno preferito trasferirsi in luoghi più convenienti, tranquilli e meno abitati. Le persone sono tornate alle loro città natali, oppure i proprietari di seconde case hanno spostato la loro residenza in luoghi più tranquilli e meno popolati. Tali situazioni verranno spiegate nei capitoli successivi con i casi di Milano e Istanbul.

Keywords: Telelavoro, trasferimento, centri cittadini

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1. INTRODUCTION

Remote working is term that defines the working activity without a need of existence in a specific workplace. First time defined by a Nasa engineer in his book in 1973. Remote working has types like teleworking, hubworking homeworking etc... Inside the work types, more adaptable one for remote working is knowledge work type. This category defines high skilled creative class who can adapt to the digital works easily than essential work type employees. Remote working provides lots of advantages for employees and employers. Daily commute decreases and employees have more time to arrange their daily works. It has also environmental effects, decreasing daily commute helps to improve air and water quality.

Remote working was also known in EU before the pandemic. The transition from presence working to remote working started for knowledge work types in EU. In 2018, before the outbreak of COVID-19, most common remote working preferred sectors were IT and other communication services and knowledge intensive business services. With the outbreak of pandemic, almost all remote working adaptable works transited to remote working to provide social distance.

Remote working has different development in different counties according to their infrastructures before and after the pandemic. In this thesis Turkey and Italy, with Istanbul and Milan cases, are going to be analysed and compared in the following chapters. Remote working caused relocation in cities after the outbreak of COVID-19. Decrease on population growth rate and decrease on population observed in Milan and Istanbul. This thesis is going to describe the cases, the people who have relocated and their reasons. Are they plan to come back to the cities after the end of the pandemic etc. The reasons of relocation can be COVID-19 and willingness to turning back to their hometowns due to the high living expenses in the city. Unemployment is also a reason that causes relocations in the cities. People relocate to reach other job opportunities outside of the metropolitan cities. In the following chapters, remote working, its types, before and after situations, regulations, relocations in Milan and Istanbul are going to be explained.

2. WHAT IS REMOTE WORKING?

Remote working is the working activity that the workers do not need to be in a specific working environment and do not need to be in offices. Remote working also known as distance working. The term firstly used by an engineer who work in NASA. Jack Nilles, who is the engineer, mentioned about remote working in his book in 1973. ¹After this, in 1979, IBM supported its employees to work remotely, and the most recognized time of remote working is directly related with the improvement of informative technologies. In long term, it has a huge impact on reducing public transportation because of reducing pollution. Working remotely also brings more efficient plan of the day without any waste of time for transportation. Remote working helps to solve accommodation issues. In recent years specially in gentrified neighbourhoods' rents are quite high but with the help of remote working, the location of the accommodation is going to lose its importance. This case also lets hiring globally.

All the work types cannot be done remotely. Works can be divided into three: first is essential work, this work type cannot be done remotely. This type of work can be in construction, infrastructure, and maintenance sectors that needs the workers physically. Second work type is high touch, public facing. Essential and non-essential services are included in this category. Third one is knowledge work; this category is for high skilled create class that thinks for a living instead of performing manually, this category can work remotely. (*Florida et al, 2021*).

2.1 Remote working and teleworking

Remote working and teleworking terms have close definitions. Remote working is the term that explains working outside of the workplace of the employees. The location can be wherever the employee would like to be but in the case of teleworking, employees sometimes must be in the office places or must attend some meetings. Occasionally the employees cannot live very far away from the office places. Attendance is required in some cases. ²

2.2 Homeworking

Homeworking activity defines specifically the ones who work from home. In the long run the worker can be remote worker or teleworker too. Homeworkers can work full time or part time. As observed in the other types using information technologies is an essential. The worker can

¹ <https://www.bloomberg.com/news/articles/2015-12-01/what-telecommuting-looked-like-in-1973>

² <https://www.wrike.com/remote-work-guide/faq/remote-work-vs-telework/>

be employee or employer. Homeworking is a modernised way of working. 78% of the homeworkers pay for their internet connection. This argument observed in many locations.³

2.3 Hubworking

Hubworking is the working type that workers gather in hubs which are located nearly in every neighbourhood. This way of work keeps people inside their neighbourhood and helps to reduce waste. This way of work appeared firstly in Ireland before pandemic and after pandemic, increase of the number of the hubs observed in a short term. This way of work adopted by many European countries (*See Remote Work in Ireland, Future Jobs 2019*)⁴. By the help of building hubs in every neighbourhood, downtowns are going to lose interest and rents are going to decrease.

2.4 Benefits of remote working and employers' point of view

Remote working has a great impact on employees' daily lives. After transition to remote working, many surveys proves that people can manage their daily routines better than before.⁵ They can balance work life and personal life effectively. Specially woman affected from this improvement in a good way, who do not afford to hire a babysitter or enrol their children to a kindergarten can take care the children while working remotely. This situation support woman to go back to their works after having children in this sense remote working provides flexibility. Reducing costs is also another benefit of remote working since people take public transportation and private cars less than before. In long-term transporting less helps to reduce pollution in the World. The emission people create decreases by the time. Remote working has impact on health conditions of the workers according to the study by PGI in 2014, they claimed that with the engagement of remote work, employee's stress level decreased (82% of the respondents).

Location independence is another benefit of remote working, workers can choose where to work as they prefer. The location sometimes can be café, home or hub. Working from hubs is becoming more common in some European countries. Building hubs in every neighbourhood and invite employees who live in the same neighbourhood and support them to work together increases effectiveness of the work. Also, this feature allows employers to hire people who are from different socioeconomic, cultural and, geographic backgrounds. Employees who work remotely can save money easier than before. Transportation, parking fees, having lunch outside cost lots of money in long term. Spending working hours at home helps to keep money easily. Employers also benefit from remote working, higher productivity and effectiveness are the reasons why companies support their employees to work remotely.

³ <https://clockify.me/blog/remote-work/who-pays-for-remote-work-expenses/>

⁴ <https://enterprise.gov.ie/en/Publications/Publication-files/Remote-Work-in-Ireland.pdf>

⁵ <https://www.businessnewsdaily.com/15259-working-from-home-more-productive.html>

3. REMOTE WORKING BEFORE AND AFTER PANDEMIC IN EU

3.1 Remote working before pandemic in EU

Remote working increased slowly before COVID-19 in 10 years period. In order to understand the situation better, the document “Telework in the EU before and after the COVID-19”⁶ is one of the main documents that published by The European Commission’s science and knowledge service. In 2019, the remote workers rate was 5.4% in the EU-27. Working at least sometimes remotely rate was 5.2% in 2009 and it increased to 9% in 2019. Remote working is more common among self-employed people instead of dependent employees. In 2019, approximately 36% of the self-employed people were working remotely at least sometimes in the EU-27. The number was 30% in 2009. Remote working rates of dependent employees was about 11% in 2019, went up from 7.5% in 2009. (See *Telework in the EU before and after the COVID-19*, pg. 1)

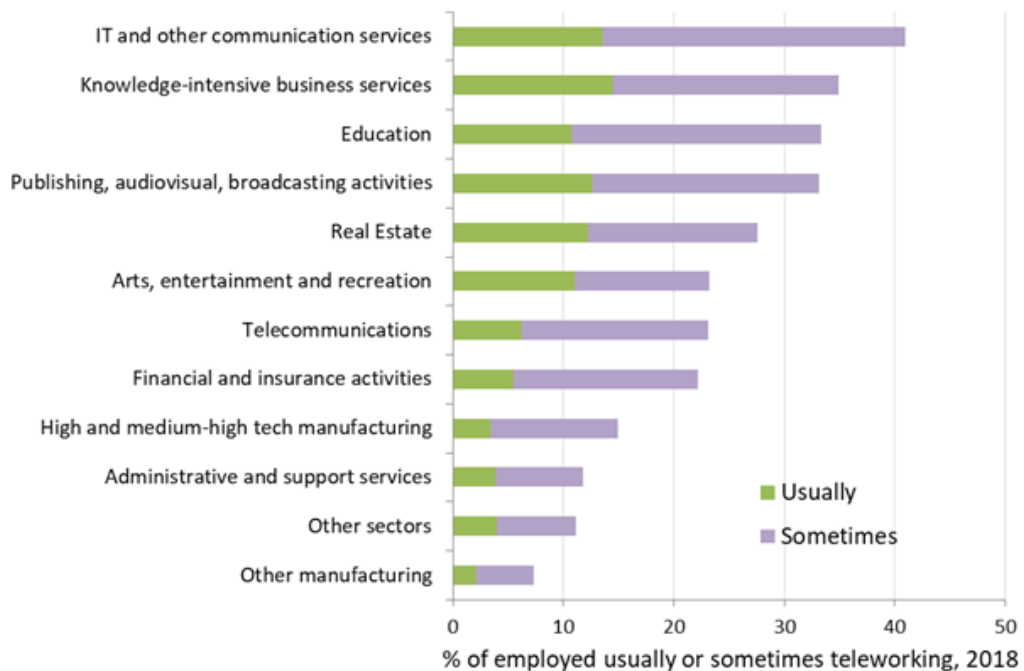


Figure 1: Prevalence of remote work by sector, EU-27 ⁷

⁶ https://joint-research-centre.ec.europa.eu/system/files/2021-06/jrc120945_policy_brief_-_covid_and_telework_final.pdf

⁷ Figure 1, See *Telework in the EU before and after the COVID-19*, pg. 2

Figure 1 illustrates that, in which sectors remote working were more common in 2018. IT and other communication services are closer to work remotely. This sector workers are generally using computer technologies while working that's why they can adapt this shift easily than the other sectors also before the pandemic. IT sector employees mostly prefer to work remotely. Knowledge-intensive business services follow IT. Educational activities, publishing, audio visual, broadcasting activities and real estate are the other sectors that remote working is common also before the pandemic in the EU-27. High and medium-high tech manufacturing, administrative and support services are not so adaptable for remote working and in these sectors, remote working is less common than the others.

High skilled professionals and managers are more common than the others also before the pandemic. They were hired for knowledge- intensive activities that is the main reason that they are more autonomous than the other types of employees. In this group teachers were more adapted to remote working with 43% in 2018. In some occupations, physical existence is a need such as hairdresser, servers and sales workers. Those work types have the less adaptability for remote work. Those works' nature is very related with physical existence in some certain locations.



Figure 2: Prevalence of remote work by occupation, EU-27 (See Telework in the EU before and after the COVID-19, pg.3)

Figure 2 describes the occupations that usually or sometimes telework. In teaching professionals, ICT professionals, administrative and commercial managers were closer to work remotely in 2018. These occupations were sometimes teleworkers. Electrical and electronic trades workers, personal service workers and sales workers were the least remote workers in 2018. Remote working rate also depend on the employers' trust. Access to remote working requirements is one of the key factors. The infrastructure for remote working must be set by company. Inequality to reach remote working causes income inequality. Top quarters of the workers in EU27 worked remotely. This top quarters income distribution is a share that declines to less than 10% among those in the bottom half (See, Telework in the EU before and after the COVID-19, Eurostat, ICT usage survey).

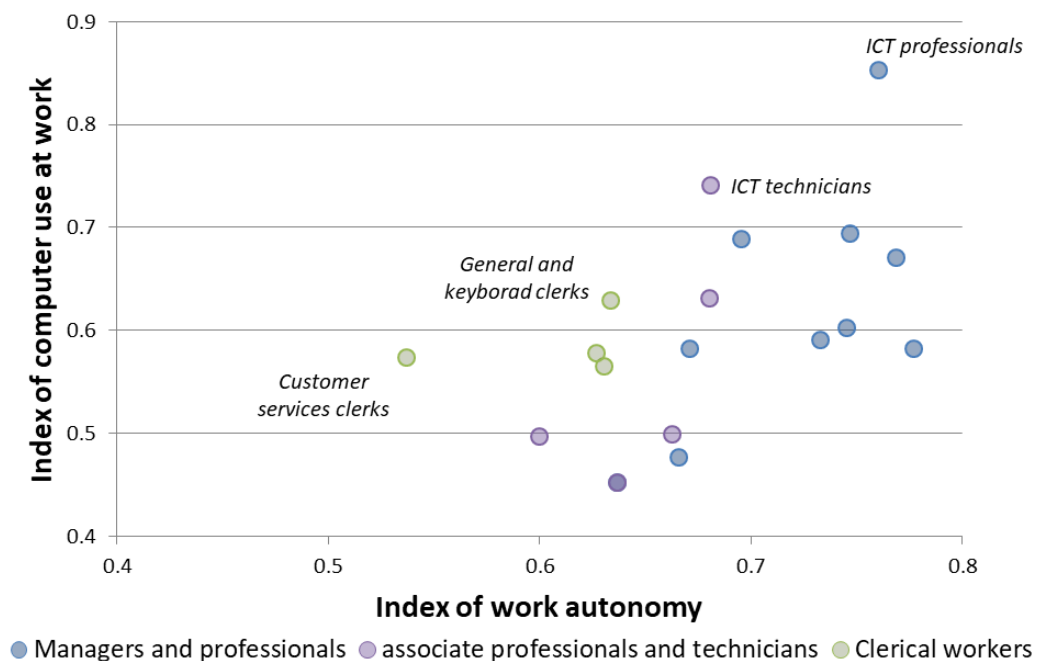


Figure 3, Computer use and work autonomy by occupation (See Telework in the EU before and after the COVID-19, pg.3)

(Note: The indexes are constructed in a way that 0 represents the lowest possible level of work autonomy (computer use), and 1 the highest. These indexes at the occupational level are obtained by averaging occupation-specific scores across sectors and 12 EU countries with available data. The index of work autonomy captures the extent of self-direction and latitude given to workers in performing their tasks. See Eurofound (2016) for further details.)⁸

⁸ https://joint-research-centre.ec.europa.eu/system/files/2021-06/jrc120945_policy_brief_-_covid_and_telework_final.pdf

Figure 3 illustrates the computer use and work autonomy by occupation. As we can understand from the figure, as increase index of autonomy, index of computer uses at work increases.

Some of the most affected countries do not have adequate infrastructure to adapt quickly to remote working. Those countries needed time for this transition after pandemic. The countries created infrastructure for remote working and rate of remote working increased in a short time.

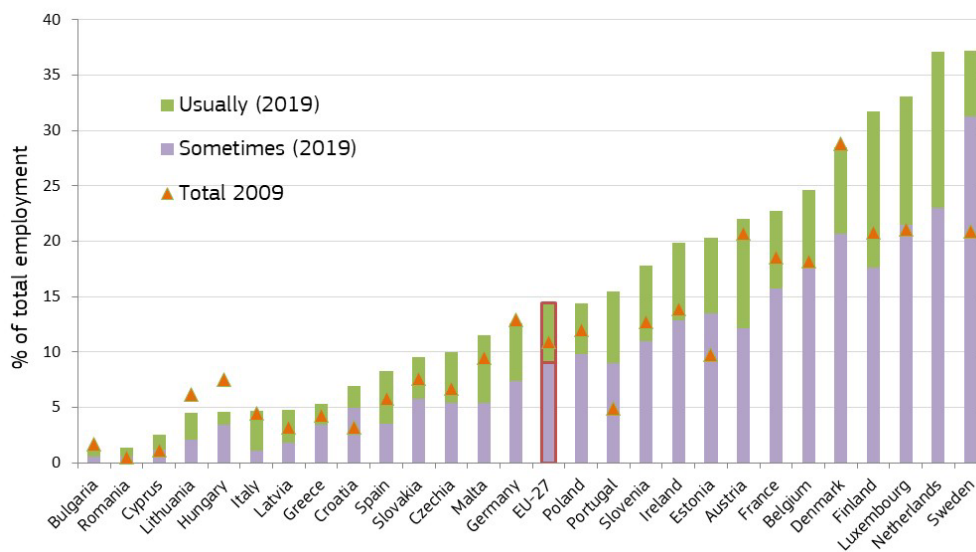


Figure 4, Prevalence of telework across EU Member States (See *Telework in the EU before and after the COVID-19*, pg.4)

Figure 4 illustrates the prevalence of remote working according to the data taken from Eurofound. The graph compares the situation in 2009 and in 2019. Remote working is more used in northern countries. The higher rates of remote working in 2009 belongs to Denmark. Almost 27.5% of the workers were remote worker. In 2019, Sweden and Netherlands shared the top rate with approximately 37,5%. Luxembourg and Finland follow with 34% and 32.5%. Denmark stayed in the same percentage also in 2019 with almost 27.5%. Only in Lithuania and Hungary the rate decreased, remote working was more popular in 2009 in those countries.

The data of Eurofound also shows that even in the same sector the remote working rates are quite different from each other. In knowledge-intensive businesses, in Sweden and Netherlands 60% of the employees were working remotely, in Italy the situation was about 30%. It is a result that beyond different industrial structure, a combination of all factors are reasons of the different rates of remote working in EU countries as happened even in the same country with huge gaps in different sectors. (See *Telework in the EU before and after the COVID-19: where we were, where we head to*, pg. 5)

For larger companies, adopting remote working was easier than smaller companies. In countries like Sweden, Netherlands and Finland, the knowledge-intensive business service companies which have more than 50 employees can be called as a large company. Adoption of remote working for small firms is harder and they have difficulties to set the adequate infrastructure to continue their business life.

In the case of self-employment, for many of them their home is their workplace too. Self-employed people are closer to work remotely than employees. Designers and software developers are the occupations that people work remotely also before the pandemic. People digital skills are the main factor of adoption remote working. Workers with strong technological skills adapt in a short time. To use apps for online meetings are essential in some professions. Learning this apps from zero takes time and extends the adoption time.

Telework was not regulated with strict laws before COVID-19 pandemic in EU. Firstly, mentioned in the EU Working Time Directive included provisions and the aim was safety and health of workers includes teleworkers. The main EU regulations addressing telework was EU Framework Agreement on Telework in 2002. This was an autonomous agreement between the European social partners (ETUC, UNICE, UEAPME and CEEP). In this EU Framework Agreement on Telework (2002), telework was defined as a 'form of organising and/or performing work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employers' premises, is carried out away from those premises on a regular basis. (See Regulating telework in a post COVID-19 Europe, pg. 5)

3.2 Remote working after pandemic

Pandemic created a huge impact on our lives and European labour market. The attitudes of work and life changed rapidly after the existence of COVID-19 (Kang et al., 2020). To keep the interactions between people minimum, employers encourage remote working. The shift from presence to online working was planned for years. This transition was happening in a long period but after changing conditions, planned shift happened in a very short period and after the pandemic many of the employees are going to continue work remote worker or as teleworker. Business trips are going to be less, and video conferences are going to be more than before the pandemic.

In each member of EU the process of transition to remote working was different from each other and government responses for COVID-19 and the existence of infrastructures are not homogeneous. Also, the situation is not homogeneous for every country. The measures of the lockdown were not the same for each European country. For example, in Spain, some

periods, all the business activities except essential ones, stopped because of the increase on COVID-19 infection. This causes an unequal impact on sectors.

Restrictions about working during pandemic mostly affected the workers with lower wages and worse working conditions specially women and younger people. (See *The Covid confinement measures and EU labour markets*, pg. 6)⁹. In some European countries, sectors divided into two as essential and non-essential. Workers of the non-essential sectors such as tourism and amusement sector affected in a bad way with the decreasing demand of tourism. Some government supported those workers economically after the beginning of pandemic. Those work types are not adaptable for remote working. Some of the essential work types are belong to food and pharmaceutical production, utilities, transport and health sectors.

According to the analysis made by European Commission, COVID-19 and Employment Working Group, Spain is more restrictive than Germany. In Spain there is fewer essential sectors continued their activity after COVID-19. In Italy the situation was less restrictive for business life in comparison with Spain and Germany. More sectors continued to work in Italy. In those three countries, most of the essential or non-essential sectors started to be operating remotely. In the case of France, the restrictions started at 15th March, but precautions were less strict than the other three countries. All public and private schools operated remotely. Although in Spain, Germany and Italy some manufacturing sectors were closed, in France none of them closed during quarantines but employers supported their employees to work remotely. Lockdown of production sites depended on negotiations between employers and trade unions at the firm level. (See *The Covid confinement measures and EU labour markets*, pg. 10)

	Absolute number of workers (thousands)		Percentage of employment	
	In essential sectors	Total employment	In essential sectors	In non-essential
DE	23150.17	41914.52	55.23%	44.77%
ES	8490.226	19327.74	43.93%	56.07%
IT	14412.55	23214.95	62.08%	37.92%

Figure 5, An estimation of the direct effect of the COVID-19 sector lockdown in three countries, as of early April 2020, (See The Covid confinement measures and EU labour market, pg. 14)

⁹ The COVID confinement measures and EU labour markets, COVID & Empl Working Group Fana, M., Tolan, S., Torrejón, S., Urzi Brancati, C., Fernández-Macías, E., 2020

Figure 5 illustrates that Germany has the highest total employment number in comparison with the other two countries. 55.23% of the employed people works in essential sectors. In Italy the rate of the essential workers is 62.08%. As mentioned above in Italy most of the sectors are accepted as essential work.

According to the research sectors were classified into 5;

1. *Essential and fully active sectors*, this sector includes food production, utilities, health and all the other sectors identified as essential all around the World. Workers of this sector, continued to work almost the same before pandemic.

2. *Active but via telework*, this category includes education, most of the public administration, finance, insurance and telecommunications. Those sectors were also very active after the beginning of the pandemic, this sector can be managed by telework and they continued their activities from homes. Students and teachers also inside this category and to continue education schools turned online immediately.

3. *Mostly essential and partly active*, not teleworkable, this category includes retail and manufacturing of chemicals and paper. In some cases, the products are in essential needs.

4. *Mostly essential and partly active*, not teleworkable group includes manufacturing. Most of the manufacturing sectors are not teleworkable excluded some computer and machine repair activities. Those working activities are not essential and teleworkable. Those works do not include a direct interaction with the clients.

5. *Closed*, this category includes hotels, restaurants and accommodation, estate, travel agencies and leisure and recreation services. They are not essential activities, and those services were closed in all analysed countries also because they are not adaptable for remote working. (See *The Covid confinement measures and EU labour market*, pg. 15)¹⁰

¹⁰ The COVID confinement measures and EU labour markets, COVID & Empl Working Group Fana, M., Tolan, S., Torrejón, S., Urzi Brancati, C., Fernández-Macías, E., 2020

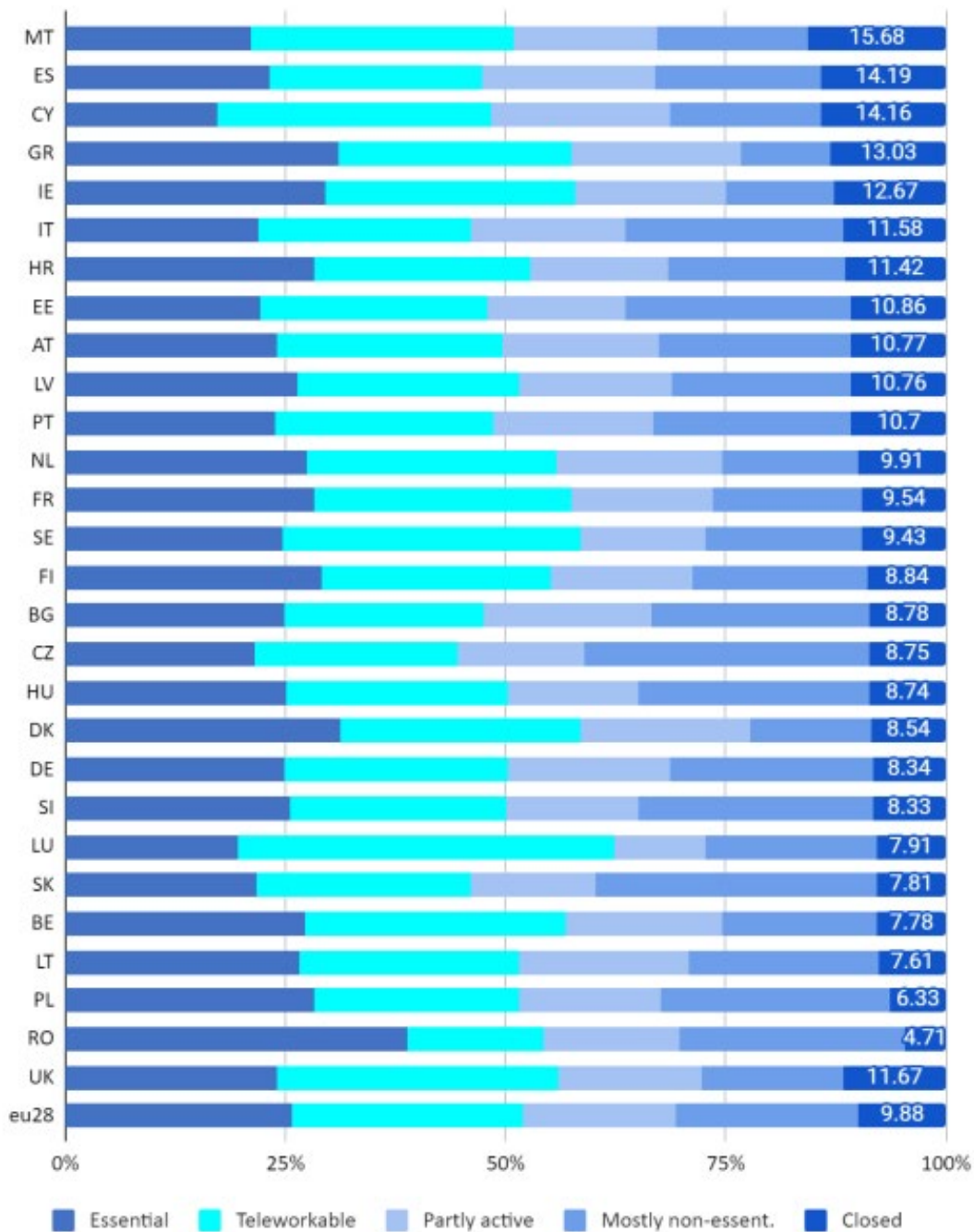


Figure 6, The distribution of employment across the 5 categories of sectors, defined by likely impact of COVID-19 crisis. Employment figures from 2018 annual LFS data, (See The Covid confinement measures and EU labour market, pg. 16)

To continue business life after the occurrence of COVID-19, remote working was introduced by the managers in a short time to keep employees safe. The transition was easier for EU countries than others. Remote working requires developed infrastructure of technology. Many firms found hard to reorganise working structure according to remote working. Approximately half of the currently remote workers had no experience about remote working before COVID-19 in EU, and this makes the transition harder. (*See Telework in the EU before and after the COVID-19, pg.8*).

Spread of remote working depend on many factors. In Europe, remote working is very supported due to developments about technology and green transitions all around the World. With the recognition of the benefits of remote working such as sustainability and better work life balance. Policies supported the transition, and the transition became more quickly people's productivity has increased. The occupations which require physical existence, cannot adapt remote working also after the pandemic. Delivery workers, couriers, cargo workers even worked harder than before pandemic. Those kinds of physical workers are not able to transit remote working.

3.3 Changes in national regulation post COVID-19

Governments started to support remote working in post COVID-19 World specially during peak periods. In France and Belgium, there was already provided legal framework for remote working to protect production and employees' rights. Finland, Germany, Italy, Poland, Portugal, Slovakia, Slovenia and Italy (in public sector) adopted remote working. After that period remote working became mostly an obligation instead of a voluntary activity for the teleworking adaptable jobs. In some countries the decision left to employers such as Hungary and Poland, as opposite in some countries the decision can be taken as an employee or employer such as Italy and Netherlands. Belgium was a pioneer about developing a framework about remote working. A cross sectoral collective bargaining agreement have issued by social partners. The aim of this agreement was to make required regulations for mandatory or recommended remote working after pandemic in January 2021. Issues solved between employers and employees about equipment cost, working time and availability. (*See Regulating telework in a post-COVID Europe, pg. 16*).

3.3.1 Regulations about remote working in Turkey

Before the pandemic, there was no regulation that includes remote working in Turkey. 10th March 2020, the remote working regulation published in the official gazette number 31419. The regulation was prepared by the Ministry of labour and social security that was the first regulation that includes remote working. The purpose of this regulation is determining the works that can or cannot be done remotely, enforcement of business rules on data protection and sharing, determining principles and procedures of remote working.

Content of the regulation was this; remote working contracts must be as a written agreement. The contract must include the descriptions of the job, the way the work is done, duration and the place of the work, the salary and the way of the payment of the salary, adequate equipment that provided by the employer and its protection, the communication between employer and employees and provisions on general and special working hours.

According to the regulation, the working environment can be organized according to the standards of the work type before the beginning of the working activity, the cost of the organization can be paid by employer or the remote worker. Unless otherwise agreed, supply of the materials and work tools must be provided by the employer. The list of the working equipment and their cost at that date must be made and signed from both sides after the delivery of the equipment. The duration of the work and time periods are defined and exist in the work contract. The way of communication and time periods are defined in the contract.

Data privacy is another head in the regulation. Employers inform the remote working about the data privacy, business rules and regulations about the data privacy. In addition, employer takes the required precautions to protect the data. In the contract the employer must determine the definition and scope of the data to be protected in the contract and it is obligatory for the remote worker to follow the rules that determined by the employer to protect the data.

Taking measures regarding occupational health and safety, the employer must inform the remote worker about occupational health and safety measures. Employer must provide trainings about occupational health and safety, must provide health surveillance and must take necessary occupational health and safety measures regarding the working equipment. In this regulation the work types that cannot be done remotely are defined. The works about the dangerous chemicals, radioactive materials, its processing and working with the wastes of these substances cannot be done remotely. Those work types contain the risk of exposing to those factors. According to the regulation the institutions and the public services that hires the works in public institutions and the works about national security decide on the specific work types that can or cannot work remotely. The transition to remote working is another title of the regulation. The employee can start direct as a remote worker, or the employee can transit to remote working with the work contract. The employee requests to work remotely with a letter of application, employer evaluates the request, and the result is shared with the employee in 30 days. In conclusion of his regulation, the execution of the regulation belongs to the minister of Family, Labour and Social Services. (See, *Official Gazette number 31419*)¹¹

¹¹ <https://www.resmigazete.gov.tr/eskiler/2021/03/20210310-2.htm>

3.3.2 Regulations about remote working in Italy

The teleworking regulation in Italy firstly was published in 1998 with the law number 191. In this regulation it is mentioned, the regulation of the private and public sector, with some differences. In the law 191, public sector is allowed to work remotely. In this regulation, teleworking was defined for the first time in a regulation in Italy. The ways of teleworking also explained. On 23rd March 2000, the national framework agreement about teleworking in the public sector was signed. In the regulation, it was proved that teleworking is a new way of working method that does not constitute a new legal category.

In 2015 the INPS¹² shared a document containing the "Implementing Provisions of the National Agreement on the home telework project", which illustrates the activities involved and the procedures for activating telework, with reference to prevention and protection measures.

About the teleworking in private sector, there is no regulation about. The legislator limits itself only to encourage teleworking. To separate business life and private life, to encourage disabled people to integrate into the production and the reintegration of the mobile workers and count as some examples of the support policies of the government.

The only regulation is contained in collective agreements and contracts were about "external" teleworking to adapt the new type of the work to the business sectors. Telework constitutes a form of organization and/or performance of work that requires to use information technologies with a contract or an employment relationship. The work defines with the contract about the standards of the teleworker, the frequency of the visit of the workplace and the conditions also related with the employers IT skills.

According to the regulation there are different types of teleworkers; first type is the home workers category who are fully equipped for working from home. The working activity continues effectively and independently. The workstation generally installed at the employer's expense. The other category is mobile working. It is also known as working out, the work can be done in different locations. The place can be customer headquarters, home, hotel etc. The employees mostly use their computers, mobile phones and faxes. The other category is remote teleworking. The work is carried out far away from the central offices equipped with the most recent technological equipment. This kind of structure can be used in public and private sectors. The last type of working is office to office teleworking. Some of the workers

¹² Istituto Nazionale Previdenza Sociale

work in the traditional office culture but a group of people inside the team goes around the World. They contact with each other via Internet and video conferences.¹³

Before the pandemic, in Italy there was only 10% of the employees working from home fully or partially (Eurofound 2020). The rate was 15.85% for the EU-27. After the pandemic the rate increased to 39.9% the average of the EU-27 was 36.5%. Highest increases of the teleworking rate in EU-27, happened in Italy.

Right to disconnect (Law 81) was established on 22 May 2017. The differences between smart work and telework was defined clearly. Smart work has more flexible working hours that creates some issues for employees, because the business life and private life confuses. This situation causes problems on employee's mental health. There must be a division between working period and resting period.

The Italian Directive on Smart Working and Teleworking No. 3/2017, provided guidelines for smart working. Public administration must identify the activities about smart working and outline objectives for implementation yearly. The performance measuring evaluation must change. Instead of counting working hours, effectiveness, efficiency and the quality of the work is more important. With this changes also before the pandemic, people encouraged to choose new ways of working and the results will be counted not with the working hours, with the quality of the output.

Regulations of telework after pandemic, as mentioned above Italy has the highest increase of the rate of teleworking in EU-27. With the help of increase on teleworking, the differences between geographical areas and sectors narrowed.

A 2021 report by the EU-OSHA made clear examples of company activities about teleworking after pandemic. The two Italian companies (Acciai Speciali Terni and Credito Cooperativo Bank) both finished company level agreements on teleworking from September 2020 until March 2021. Main titles of those contacts were about work-life balance, right to disconnect, safety of the employee and providing equipment. The company must take precautions and must care about the occupational health and safety also during teleworking.

About health and safety regulations for employees, the workers who are not working from an office place like app based delivery jobs must be protected by their employers. After pandemic food delivery companies hired lots of people but the adequate equipment is not provided. Because of previous accidents the delivery companies paid the employees past insurance. Fines were about 733 million euros.

¹³ (<https://www.diritto.it/telelavoro-la-nuova-frontiera-del-lavoro/>)

Due to the smart working there were observed changes about the office spaces. The need of the redesign occurred after the pandemic. Single offices turned into shared open spaces, creating hubs and co-working spaces to allow people to work closer to home. The Smart Working Observatory 2020 showed 51% of the large companies were affected from these changes on office spaces.¹⁴

3.3.3 Legal changes, initiatives and debates

All the existing regulations have been changed to provide required adaptation remote working after COVID-19. As time goes remote working is going to be a permanent solution. In March 2021, five countries which are Italy, Luxembourg, Latvia, Slovakia and Spain implemented some changes. As understood from figure 7, most of the European countries have statutory definition and specific legislation on teleworking before COVID-19 but 13 of them have a new specific legislation or still under review.

¹⁴ *Cominotto Cristiano, December 5 2015, Telework, Smart Work and the right to disconnect in Italy, <https://lineenetwork.org/telework-smart-work-and-the-right-to-disconnect-in-italy/>*

		Pre-COVID-19	Post COVID-19
EU Member State		Statutory definition and specific legislation on teleworking	New specific legislation on teleworking
BE	Belgium	Yes	Under review
BG	Bulgaria	Yes	No
CZ	Czechia	Yes	No
DE	Germany	Yes	Under review
EE	Estonia	Yes	No
ES	Spain	Yes	Yes
FR	France	Yes	No
EL	Greece	Yes	No
HU	Hungary	Yes	Under review
HR	Croatia	Yes	Under review
IT	Italy	Yes	Yes
LT	Lithuania	Yes	No
LU	Luxembourg	Yes	Yes
MT	Malta	Yes	Under review
NL	Netherlands	Yes	Under review
PL	Poland	Yes	Under review
PT	Portugal	Yes	Under review
RO	Romania	Yes	No
SI	Slovenia	Yes	Under review
SK	Slovakia	Yes	Yes
AT	Austria	No	Under review
CY	Cyprus	No	Under review
DK	Denmark	No	No
FI	Finland	No	No
IE	Ireland	No	Under review
LV	Latvia	No	Yes
SE	Sweden	No	No

Figure 7, Legal regulation of telework before and after the outbreak of the COVID-19 pandemic., (See the Regulating telework in a post COVID-19 Europe, pg. 18)

4. City centres, density and COVID-19

4.1 What is city centre?

City centres are the spaces that city's commercial, cultural and often the historical, political and geographical heart, and often synonymous with its central business district.¹⁵ City centres are the gathering spaces for people. People who work study or have a public work to do generally visit city centres in every weekday. The daily needs of people mostly located in city centres before COVID-19 pandemic. As a result of this gathering in city centres, people were tended to live in those locations for a long time. With this transition, this trend to live in city centres affected the local people in a bad way. The living expenses increased in a short time and became not affordable for people who already living in the same location for years. This trend also caused gentrification and relocate the local people. Most of the financial centres in the World were exposed to gentrification after industrialization.

4.2 City centres after pandemic

After the occurrence of COVID-19, the density of city centres decreased dramatically. The daily commuters of work or school began to stay at home. The working and educational activities became remotely that is the main reason of the decrease about density in city centres. The office places in city centres lost their aim. Remote working became the new trend and the habitants of the city centres decreased in a short while. People were not allowed to go out even for work or educational activities. With the help of technological innovations people prefer to stay at home also to provide social distance since the beginning of COVID-19 pandemic.

The local business owners in the city centres affected from this situation in a bad way. Rundown of those businesses caused economic crisis in countries. Many businesses went bankrupt. Some developed countries supported businesses and unemployed people. After the shift to remote working activities, the time people spend in city centres in offices, and commercial spaces decreased sharply.

¹⁵ https://en.wikipedia.org/wiki/City_centre

4.3 Density and COVID-19

After existence of COVID-19, density became a very argued term. Density of the city, city centres, even homes discussed by community. Some people think density should decrease in dense spaces and others think that density is good way to exchange experiences in all areas of life. In some governments COVID-19 virus was seen directly proportional with density of the neighbourhoods. Scholars have discussed for a long time about which one is better urban density or urban sprawl. In a dense area it is easier to build adequate infrastructure however it became dangerous due to COVID-19 according to some point of views. As contrast, some research proved that the sprawl of COVID-19 is not related with the urban density, in some cases it is wrong, in more dense countries, death rates are lower than the other ones. Sprawl is more related with connectivity, the countries that have connectivity with lots of countries with airlines, highways or railway became a junction point for travellers and then this situation causes infection. In the denser countries, there are low infection rates. According to some studies COVID-19 and death rates are higher in the countries that have less health infrastructure. The role of planners and governments are significant but not caring about low density and development of new suburban areas to make people escape from dense locations, they have key roles about providing social distance and supporting (Hamidi et al., 2020).

4.4 Trend of relocation of office places in city centres

Global COVID-19 pandemic has huge impact on work life. New work from home status, changed office ideas. Open offices were popular with the increasing number of employees but after pandemic even not remote workers could not continue to their working activities in a safe environment. There are some several changed observed after pandemic; ¹⁶

a) Smaller office spaces: Downsizing trend is observed in many of the businesses after pandemic. With the increase about adoption of remote working, the need of a broader office spaces decreased in a short time. In the future, if the remote workers do not come back to office spaces after pandemic the need of the smaller area for working is going to continue.

b) Relocating of the office spaces: With the increasing number of the remote workers, the need of the office spaces decreased. Due to the increasing rents of the office spaces in city centres, work owners decided on relocating.

c) A sense of community: Companies care about employee's wellbeing more than before. Office spaces focus on community activities more than before. The community activity spaces can be leisure spaces or game rooms.

¹⁶ Priyadarshini 28 May 2021, <https://apacrelocation.com/blogs/trends-in-office-relocation/>



Figure 8, One of the four cafeterias in Google's East Coast headquarters ¹⁷

d) Designed for Wellbeing: Offices should be designed bright and with adequate air circulation to provide a good working environment for employees. After pandemic social distance became a very significant term, also design of the office spaces affected from this term. To provide social distance, employers started to move from small office spaces to larger ones.

e) Sustainability: In recent years, sustainability became a very significant topic. The design of the office spaces also affected from that term and reducing waste and by the help of that having a positive impact on climate change became one of the criteria on relocating.¹⁸

This relocation trend can be observed as a worldwide issue. The number of daily visitors and users of city centres decreased sharply with the decrease of the tourism, business activities, events. From the decrease of tourism, hotels, sport centres restaurants and cafes which are located in the city centres affected, the number of customers went down. This situation creates issues in some aspects. The relocation of people from city centres to suburbs creates some challenges for planners. In the world there are lots of cities' main aim is to be an economic central district, how is going to transform these cities in long term or are they going to be abandoned? How is going to the redistribution of the population also after the pandemic, and its impacts on health and educational services? Those questions are going to be clarify in the following chapters with the help of case studies from Istanbul and Milan.

¹⁷ <https://www.nytimes.com/2013/03/16/business/at-google-a-place-to-work-and-play.html>

¹⁸ <https://apacrelocation.com/blogs/trends-in-office-relocation/>

5. Willingness of remote working and relocation

After the outbreak of COVID-19 pandemic, a new trend of work occurred, employees who work remotely can continue their business life wherever they want. This trend is more adaptable for white-collar workers people with computer and internet connection this group of workers are able to continue their working activities. The situation is not the same with blue-collar workers are working on jobs that needs physical existence in the workplace. After the increasing number of remote working, relocation is observed in cities.

In the following chapter, the cases of Istanbul and Milan are going to be clarified. Case studies were selected to compare Istanbul with a European city Milan. In order to compare the effects of pandemic on those cities, the following chapter will compare data such as: general demographic data, worker's demography, building activities, remote working rates before and after the pandemic.

There are some similarities and differences between those two cities. Firstly, the urban administrations are different from each other. Turkey is divided into seven regions, but the regions do not have a mayor. Inside the regions there are metropolitan municipalities and municipalities. Istanbul has a metropolitan municipality with a huge number of habitants and a single mayor, Ekrem İmamoğlu has been elected in 2019. The structure of the urban administration is quite different in Italy. Italy is divided into twenty administrative regions; each have a government and a council elected by the people. Lombardy regions is further divided into twelve administrative areas: eleven provinces and one metropolitan city Milan, that included 133 municipality. The main municipality is Milan, which is the centre of a larger metropolitan area, and his mayor is Giuseppe Sala, elected in 2016 and confirmed in 2021.

The data of the following chapters were provided by the Istanbul Metropolitan Municipality and Turkish Statistical Institute's websites for Istanbul and for ISTAD for Milan case.

5.1 Istanbul case

Istanbul is one of the most significant cities in the World with 8500 years dating back. In history Istanbul always kept its significance. Since the Historical Silk Road, city became a transition between East and West and a trade and finance centre. Istanbul during that period also exposed to epidemics such as plague and cholera so COVID-19 pandemic is not the first pandemic experience for Istanbul (Boyar et al., 2010). Due to the strategic location of Istanbul, a lot of people were attracted by the city and migrate there (Sayın et. Al, 2020).

5.1.1 The demographic data of Istanbul

Istanbul is the most populated city of Turkey. According to the Turkish Statistical Institute, the number of inhabitants was approximately 800.000 in 1927 and 15.46 million in 2021. In 2021, 3 million 672 thousand of male workers and 1 million and 690 thousand of female workers were working. The estimated population of Istanbul in 2022 is 16 million. In addition, Istanbul is the densest city of Turkey. After industrialization, many people from rural areas of Turkey, moved to Istanbul to work in new opened factories. The increase happened mostly after 70's.



Figure 9, Istanbul with its districts ¹⁹

Istanbul's most crowded 3 neighbourhoods are Esenyurt with around 900 thousand inhabitants, Küçükçekmece around 800 thousand inhabitants and Bağcılar 700 thousand inhabitants. The less crowded neighbourhood is Adalar neighbourhood. "Adalar" means islands and refers to the Prins, Istanbul and Kızıl islands which hosts around 16.000 dwellings in total. Istanbul is 5461 square kilometer and density of the city is 2901/square kilometer.²⁰

¹⁹https://4.bp.blogspot.com/qnFUyLKwuUM/VwPjbgInEcl/AAAAAAAAAerI/XVzjkCMkzG4IUsggL2NfclU9TAg5xcrvg/s1600/istanbul_ilinin_ilceleri_haritasi.jpg

²⁰ The demographic data of Istanbul in 2021, <https://www.nufusune.com/istanbul-nufusu>

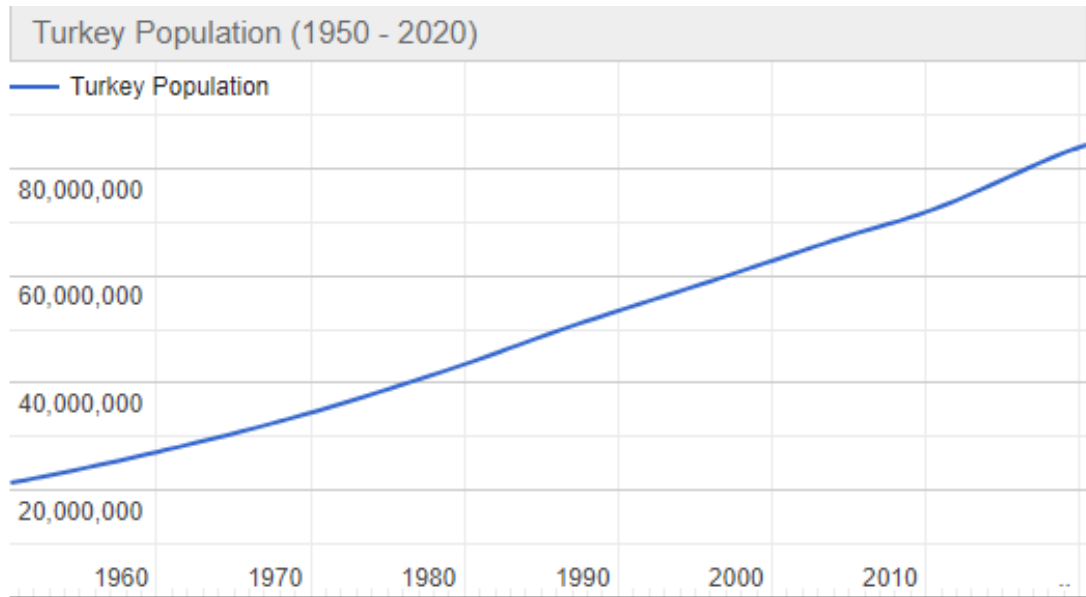


Figure 10, Population of Turkey ²¹

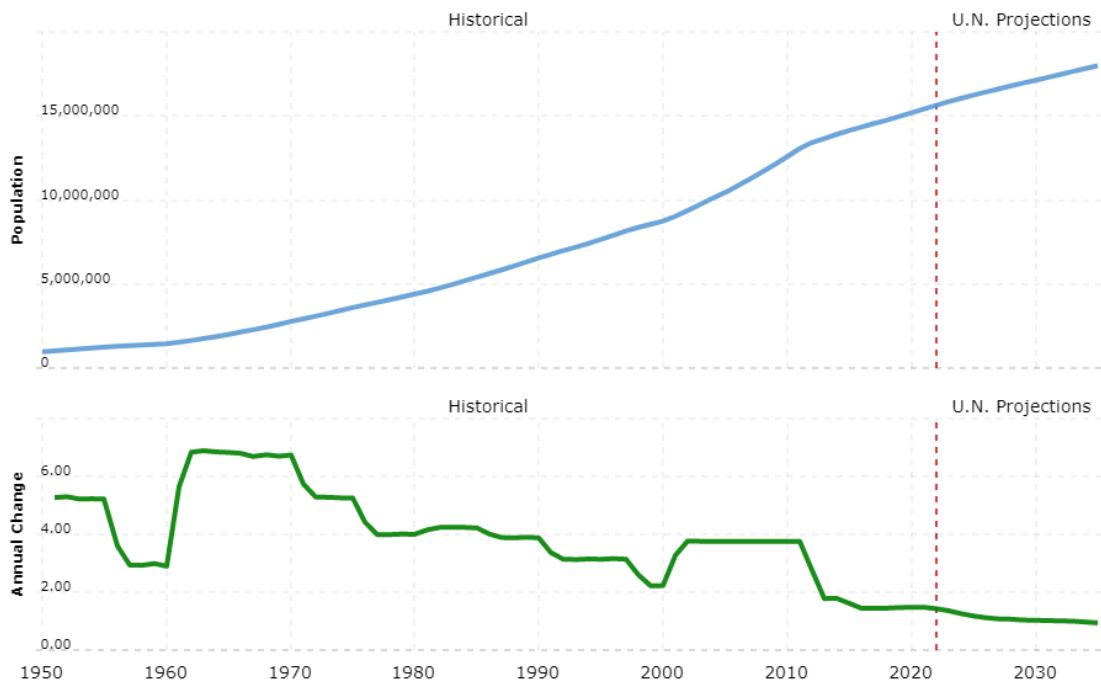


Figure 11, Population and annual population growth rate of Istanbul ²²

As understood from figure 9 and figure 10, the trend of increasing population was the same in Turkey and in Istanbul. The graphs are very similar. But in last years, there was a decrease on Istanbul's population growth rate was observed. In 2020 the number of inhabitants decreased 56.815 and became 15.462.452. For the first time in a long time, a decline on the growth rate was encountered.

²¹ Figure 10, (<https://www.worldometers.info/world-population/turkey-population/>)

²² Figure 11, (<https://www.macrotrends.net/cities/22691/istanbul/population>)



Figure 12, Istanbul bird's eye view ²³

5.1.2 Informal Building Activities in Istanbul

As understood from figure 11, density is quite high in Istanbul. Green space ratio is very low in comparison with the other cities in Turkey. "Gecekondu" is the term that refers shanty settlement. Istanbul exposed to these kinds of buildings specially after rural migration specially second half of the 20th century. Blue-collar migrants settled and worked for years in low-skill industrial jobs. According to the scholars, Istanbul is growing unstoppably, also government supports this growth. ²⁴ This situation also a reason of relocation before and after the outbreak of COVID-19.

"The ecological limits have been surpassed. The population limits have been surpassed. The economic limits have been surpassed. If you ask me where this will lead....chaos." (Mucella Yapici, Istanbul Chamber of Architects)

Illegal building in Istanbul started after the migration from the rural. Silence of the government while people were building those informal houses, supported them to continue their informal building activities in Istanbul. The municipality after the second half of the 20th century, was too tolerant to those building activities because it was the easiest way to solve the accommodation issue for the new blue-collar immigrants of Istanbul.

The amnesties to legalize those buildings were very common for Turkish Government. In the years 1949, 1953, 1963, 1966, 1976, 1983, 1984 and 1986, the amnesties led people to have

²³ <https://www.mei.edu/publications/sold-overnight-istanbuls-gecekondu-housing-and-challenge-ownership>

²⁴ Annika Marlen Hinze, January 12, 2016, *Telework, Sold Overnight: Istanbul's Gecekondu Housing and the Challenge of Ownership*, <https://www.mei.edu/publications/sold-overnight-istanbuls-gecekondu-housing-and-challenge-ownership>

their proprietorship certificate. After 2002 elections with the new government, they cared more about urban transformation projects to arrange the lands and to achieve aesthetic concerns of the city. After those amnesties there were still land ownership issues in Istanbul that allowed the state to retake the land.



Figure 13, Istanbul Bosphorus 40 years ago ²⁵

²⁵ <https://galeri.uludagsozluk.com/r/istanbul-bo%C4%9Faz%C4%B1n%C4%B1n-40-sene-%C3%B6nceki-hali-503301/>

The photos from 1973 and 2013 clearly proves the expand of the city. After the immigration, the need of new accommodations occurred. Most of the lands inside the borders of Istanbul opened for buildings.

In 2005, with the Law 5393, local municipalities take the responsibility to decide on the location of the upcoming urban renewal projects. The aim of the urban renewal projects was to protect the history and the culture of the city.

There is a contradiction that the municipalities allow people to build their accommodation but after less than half century they started to take the land from the dwellings who did not benefit from the previous amnesties. This urban renewal projects were aimed very similar achievements with the planned urban renewal projects in New York Harlem around 50's and 60's. This kind of urban renewal projects do not help to rebuild the city. According to Jane Jacobs standardization of the cities, gated buildings harm the neighbourhoods. In her book "The Death and Life of Great American Cities", she says "This is not the rebuilding of cities, this is sacking of cities".^{26 27}

As observed since 2001, there are huge urban transformation projects in Turkey. The shift is also a proof of a new neo-liberal model in Turkey (Kuyucu ed al. 2008). Those urban transformation specially focused on two kinds of lands. First one is informal housing zone and other one is inner-city slums in Istanbul. The cases of Tarlabaşı and Başbüyük neighbourhoods are examples of those urban transformation activities in Istanbul. Groups of residents of those neighbourhoods protests those urban transformation projects. (Kuyucu ed al. 2008)

According to the data taken from Istanbul Municipality's report in 2019, there are in total 1,13 million of dwelling. 255.000 of them were built before 1980, 538.000 were built between the years 1980-2000.

²⁶ The sentence "This is not the rebuilding of cities, this is sacking of cities" is written in the book of Jane Jacobs, *Death and Life of Great American Cities*, 1961

²⁷ Merrill Fabry, May 4, 2016, *Telework, Defending Vibrant City Life: Jane Jacobs at 100*, <https://time.com/4310945/jane-jacobs-100-history/>



Figure 14, The Başibüyük construction site²⁸

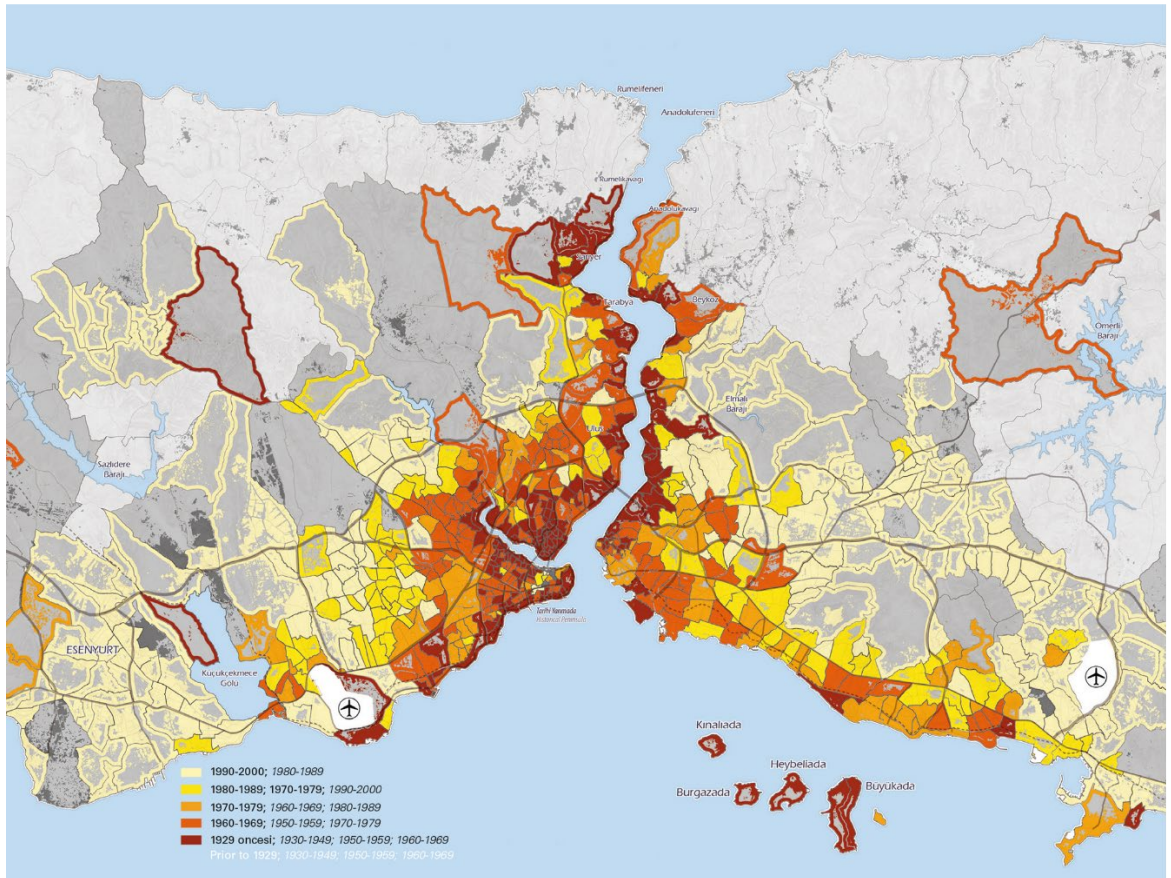


Figure 15, Age of Building in Istanbul²⁹

²⁸ <https://www.emlakmetrekare.com/toki-maltepe-basibuyuk-konutlari-ihalesi-bugun/93642.html>

²⁹ Figure 15, <https://urbanage.lsecities.net/data/age-of-buildings-istanbul>

5.1.3 The demographic data of workers in Istanbul

As previously mentioned, Istanbul is the densest city in Turkey. After the industrialization, Istanbul hosted lots of people who migrated from rural areas to become blue-collar worker. According to the 2020 data taken from Turkish Statistical Institute, there were 4.248.775 people insured employed in Istanbul, 291.563 are working in as public official and 3.957.212 are working in private sector. 2.792.197 of the workers are male and 1.456.578 are female. Their average income is 5.629 Turkish Lira. For the ones who work in public, earn 6.704 in average and the ones in private sector earn 5.540 Turkish Lira. In average male workers earn 5.595 Turkish Lira and female workers earn 5.492 Turkish Lira (1 Euro equals to 16,3 Turkish Lira)³⁰. This data shows that public workers earn more money than the private sector workers like male workers earn much more money than females. In comparison, female employment is quite low than the male employment. There were 555.455 working places. 4.829 is in public and 550.626 is in private sector.

Open job postings were 241.092 in 2012 the number of job postings increased till 2017. In 2017 the job postings were 788.368. The number started to decrease every year in 2020 the number was 267.130. Most wanted occupations were firstly blue-collar staff (45.063), sales assistant (18.339), security staff (13.803) and cleaning staff (7267) follow the row in 2020, according to the data taken from Turkish Employment Agency (İŞKUR).

Turkish Employment Agency³¹ aims to find employment for the job seekers and to find employer for the ones look for staff. In 2012, TEA employed 99.982 people in Istanbul. The number increased 104.030 in 2013, 174.324 in 2014. There was a decrease observed in 2015 and 2016 with 173.373 and 150.835 number of finding jobs. In 2017 again the increase started with 245.212, 2018 291.581, 2019 353.908. In 2020 there is an observed sharp decrease because of the pandemic with the number 101.093. In every year TEA employed more male workers than females.

The number of registered unemployment was 331.700 in 2012, the number increased to 593.237 in 2019 and decreased to 464.530 in 2020. Female rate was 46.5%. The unemployment rate of the age group between 18-24 was 34.2%. Unemployment rate was highest for blue-collar workers.

The sectors that took place in this research were firstly 9286 production businesses, wholesale and retail trade 5390 trade businesses, construction 2295 construction businesses, 2053 accommodation and food service activities businesses, 1594 transport and storage, 1542

³⁰ Current rate, 28 March 2022

³¹ "Turkish Employment Agency" shortly will be mentioned "TEA" in the following parts.

administrative and support service businesses, 1517 professional, scientific and technical activities, 950 information and communication businesses, 906 educational activities, 833 human health and social work activities, 426 other service activities, 356 finance and insurance activities, 235 real estate activities, 196 culture, art, entertainment, recreation and sport activities, 66 water supply, sewage, 55 mining businesses, 47 production and distribution of electricity, gas, steam and air conditioning. In total this research made with 27.745 businesses. In the production sector there were 777.022 employed people (See *İşgücü Piyasası İstanbul ili 2020 yılı sonuç raporu*, pg. 30) ³²

5.1.4 The effects of the pandemic on Istanbul

During 2000 Istanbul became a significant air corridor for travellers. After pandemic, one of the main reasons of the highest COVID-19 rates in Istanbul was because of the global airline travel and one of the main transfer points are located in Istanbul. Istanbul is among the top twenty cities in the world with the highest global connections and passenger density, and among the top five cities in Europe (Sayın et. Al, 2020). Because of the high rate of travellers Istanbul became the most affected city in Turkey. The first COVID-19 case in Turkey was seen in Istanbul. More than half of the COVID-19 cases in Turkey were detected in Istanbul up to now.

According to the survey that made between 9-12 April 2020, it is more obvious that Istanbul is the most affected city of Turkey from COVID-19. Survey was made more than 5600 people by Google Survey. %38 of the respondents was living in Istanbul. Results of this survey shows that the Istanbul as a global city expose to the risk of the pandemic more than other cities of Turkey. Among the participants, 22.3% of those living in Istanbul say that they have detected coronavirus in their surroundings, while this rate drops below 10% outside of Istanbul (Sayın et. Al, 2020).

Since the pandemic started, Istanbul became the most affected city of Turkey because it is the densest city of Turkey and most of the business activities happen in Istanbul. Turkey exposed to the biggest loss of employment and income in the history of Turkey³³. According to 29.04.2020 Birgün Newspaper, Minister of Health shared that the %60 of the COVID-19 cases were in Istanbul.³⁴ With the increasing cases in Turkey, lockdowns and prohibitions started. City entries and exits blocked except the ones have business or emergency reasons.

³² *İşgücü Piyasası İstanbul ili 2020 yılı sonuç raporu*, Türkiye İş Kurumu, 2020, <https://media.iskur.gov.tr/45171/istanbul.pdf>

³³ *Istanbul Urban Analysis Report*, pg. 30, https://vizyon2050.istanbul/upload/content/202093_185264.pdf?bclid=lwAR3F3M6kV3W4lwxwDVTOHh12PR1XCBy_BzCKwRn_hNtPppz10fgCj8k268E&fbclid=lwAR1m4H1U-qbfEXpnt1cPTWAQp298SyB6PYF1l7l1KRkoE_AUju-kNqz_MU

³⁴ Sağlık Bakanı Koca: Vakaların yüzde 60'ı İstanbul'da, <https://www.birgun.net/haber/saglik-bakani-koca-vakalarin-yuzde-60-i-istanbul-da-298703>

Schools started to continue their activities online, exams taken online, and people were not allowed to go out weekends. Shopping malls, shops are closed. Cinemas, concerts, theatres and other collective activities were cancelled. Restaurants and cafes started to serve as take away (Erdođdu, 2021).

In Istanbul the lockdowns had impacts on mobility and as a result of this air and water quality. Before pandemic Istanbul used to have a very heavy traffic specially between working hours. After pandemic roads were so empty due lockdowns and restrictions. Also, the use of public transportation usage according to the published by the Municipality on March 20, dropped from 7.360.000 to 2.000.000³⁵ (ibidem). As public transportation decreased, number of private vehicles in traffic also decreased. The use of public transport was 45% less on March 16, 2020, than March 9, 2020. The decrease also had an impact on the Air Quality Index, was 45-55 microgram/m³ before the pandemic, the limit as it should be is 40 microgram/m³ according to the 29.04.2020 new the index decreased 30 microgram/m³. The air quality of Istanbul increased approximately 30% in a short term³⁶. The water quality is increased after pandemic with the decrease on daily commute and human activities.

To provide the continuity of production, blue-collar workers were allowed to go out for work also during the pandemic. Due to this situation the highest daily commute in the city is observed in Avcılar, Bahçelievler, Bağcılar, Çekmeköy, Esenyurt, Küçükçekmece, Ümraniye and the D-100 highway area (Figure 15).

In Figure 16, the density map tries to define the denser areas in Istanbul, and it tries to define the infection risk map. However, it is obvious that the density and infection rates are not directly related with each other, density is a factor during epidemic (Hamidi et al., 2020). According to the infection risk map the densest neighbourhoods are Esenyurt, Avcılar and Bayrampaşa.

During the pandemic, Turkish Ministry of Health provided an app called "Hayat Eve Sığar" means life is at home, supports people to stay at home during pandemic. In the app there is a code that provides to understand the health condition of the person. While using public transportation and after the first wave of the pandemic, while shops and restaurants are open, the responsible checked all the codes with a QR while sitting in a restaurant, café or while entering bank or etc. If the people are direct contacts with an infected person, they are not allowed to use public transportation or attend the social activities.

³⁵ *Sputnik Türkiye, 2020*

³⁶ *Pandemic effects on Istanbul: Air Quality Increased,*
<https://www.sozcu.com.tr/2020/gundem/istanbula-pandemi-etkisi-hava-yuzde-30-temizlendi-5782025/>

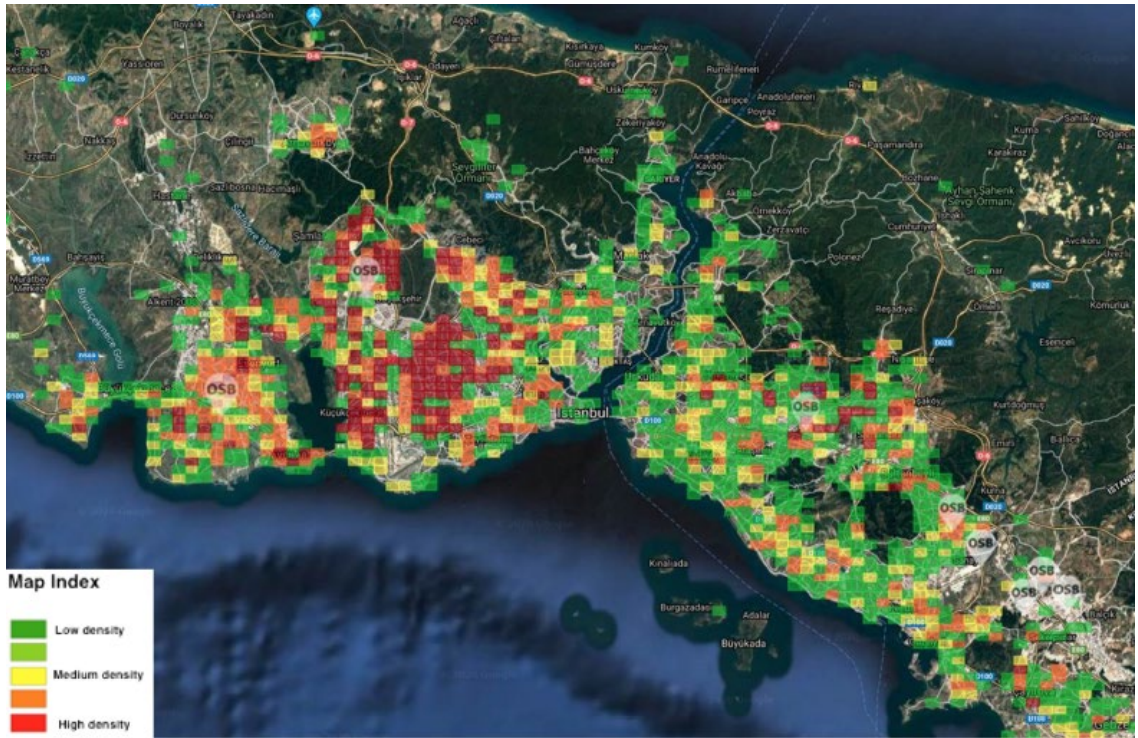


Figure 16, Blue-collar worker residence and work (organized industrial zone places) organization³⁷

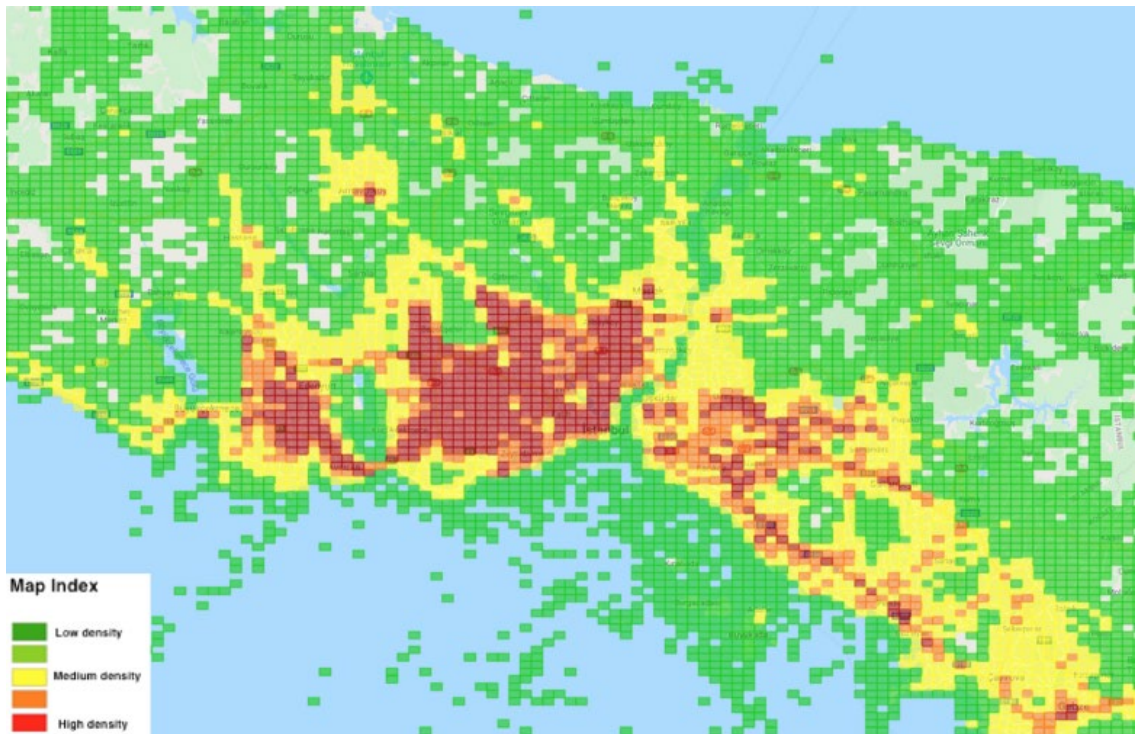


Figure 17, Blue collar worker commute activity³⁸

³⁷ Figure 16, Blue-collar worker residence and work (organized industrial zone places) organization, Aykaç N, Elbek O. COVID-19 outbreak in İstanbul. Turk Thorac J. , <https://turkthoracj.org/en/covid-19-outbreak-in-istanbul-165379>

³⁸ Figure 17, Blue collar worker commute activity, Aykaç N, Elbek O. COVID-19 outbreak in İstanbul. Turk Thorac J. , <https://turkthoracj.org/en/covid-19-outbreak-in-istanbul-165379>

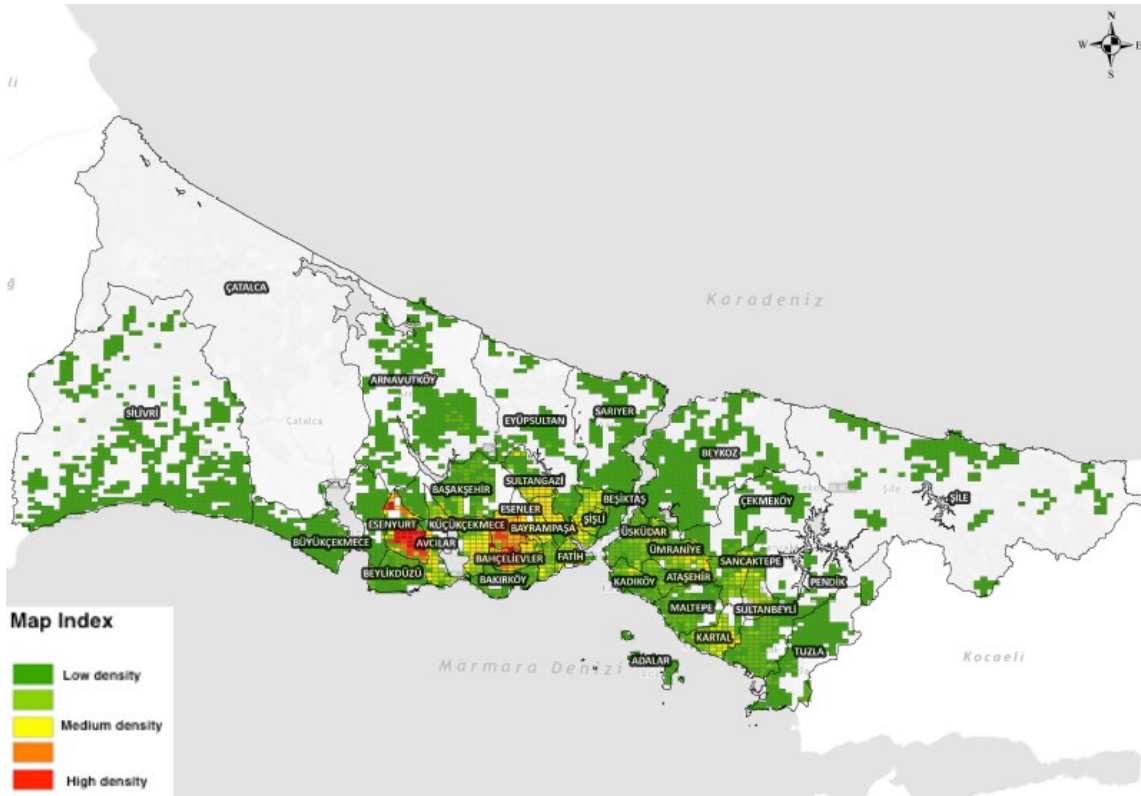


Figure 18, Istanbul density map (Istanbul infection risk map) ³⁹

In Turkey at 10th April, 2020, the lockdown announced and it would start in two hours after the announcement. At that date after the announcement, human mobility in Istanbul increased 62% in comparison with the mobility the same day and in the previous week. People were in a hurry and a huge crowd of people were observed in ATMs, supermarkets, gas stations to procure the basic needs. The aim of this sudden lockdown aimed to decrease the human mobility, but it caused a more mobility than it would be. This shows that people do not have enough income to store enough food for even 48 hours. (Aykaç et al., 2021).

During lockdown blue collar workers were still allowed to go to their jobs to provide continuity of production. Gebze is one of the main industrial zones that located in Kocaeli which is a neighbouring city of Istanbul and hosts lots of factories. According to the daily commuting data the blue-collar workers mostly live in Avcılar, Bağcılar, Bahçelievler, Esenyurt and Küçükçekmece have higher infected rates in comparison with the other neighbourhoods which “stays-at-home” more than those areas (Aykaç et al., 2021). Figure 17 shows the infection risk map.

³⁹ Figure 18, Istanbul infection risk map, Aykaç N, Elbek O. COVID-19 outbreak in İstanbul. Turk Thorac J., <https://turkthoracj.org/en/covid-19-outbreak-in-istanbul-165379>



Figure 19, Istanbul district map ⁴⁰

In the Anatolian side of Istanbul, there are production districts such as Istanbul Leather Organized Industrial Zone, Tuzla Chemicals Industrial Zone etc. Those places played a crucial role during pandemic due to during quarantines most of the human activities were seen in those spaces. Blue collar workers one of the most affected groups from pandemic. According to the data taken from DISK which is a labour union mostly consisted of blue-collar workers, the risk of exposing to COVID-19 is 3,2 times higher for the workers inside industrial zone⁴¹. This data proves that blue-collar workers are in risk group. This groups of people must be supported with paid leaves or cash support to decrease daily commute. The rates of COVID-19 are not related with over 65 years old people or density of the neighbourhoods, the main factor of the high rates of infected people is the group of people that must go to work and earn money to live on. This working group is in danger also in other countries too such as Ecuador and France (Aykaç et al., 2021).

⁴⁰ Figure 19, Istanbul district map, Aykaç N, Elbek O. COVID-19 outbreak in İstanbul. Turk Thorac J., <https://turkthoracj.org/en/covid-19-outbreak-in-istanbul-165379>

⁴¹ DISK' report's link: <http://disk.org.tr/wp-content/uploads/2020/04/Covid-19-DI%CC%87SK-Durum-Raporu-1-16-Nisan-2020.pdf>

5.1.5 Remote Working in Istanbul

As all observed in global cities, Istanbul hosts more white-collar workers in comparison with the other cities in the same country. More educated, high-quality workers prefer to live in global cities to reach more work opportunity. In comparison with other cities, in Istanbul people are working in private sectors (27,7%) while in other cities priority employment area is the public sector (29,6%). Employees educational backgrounds are not so different however in Istanbul, but postgraduate employees are a bit higher. Due to this higher education rate, income rate and living expenses are also higher in comparison with other cities in Turkey (Sayın et al. 2020).

After March 2020, the transition to remote working became sharply and Istanbul is the more adaptable city with the high number of white-collar workers. According to the survey made between 9-12 April 2020 with 5600 participants shows that in the other cities except Istanbul, 55,3% have a job with information technology based. In Istanbul this rate is 60,4% while in other cities the rate is 55,30%.

Eligibility of remote working by the province			
Residence	Yes	No	Total
Istanbul	60,40%	39,60%	100,00%
Other Cities	55,30%	44,70%	100,00%
Total	57,30%	42,70%	100,00%

Figure 20, Eligibility of Remote Working ⁴²

Survey also shows that, 90% of the residents in Istanbul define themselves as low-income people and they are afraid of losing their jobs and provide basic needs of life for their family. They think that they cannot handle the economic conditions of pandemic after a couple of months. The white-collar workers with middle-upper income have less anxiety about losing their jobs.

⁴² *Figure 20*, Özgür Sayın, Veysel Bozkurt, *Pandemide Küresel Kentte Yaşamak: İstanbul'un COVID-19 Deneyimi*, July 2020, pg. 210

Problems Experienced by Individuals in Istanbul Sample According to the Eligibility of Their Jobs to Work from Home			
Psychological Effects of the Pandemic.	Is your job eligible for remote working?	Number	Mean
I have difficulties while doing daily routine.	No	478	3,39
	Yes	662	3,21
I get angry more quickly.	No	479	3,52
	Yes	660	3,27
I am afraid of to be infected.	No	473	3,3
	Yes	662	3,03
I feel worthless.	No	472	2,55
	Yes	665	2,34
I have concern about earning a living.	No	474	3,47
	Yes	660	2,99
During this period, my health deteriorated.	No	471	2,57
	Yes	649	2,37
I often feel helpless	No	466	3,12
	Yes	650	2,88

Figure 21, Problems Experienced by Individuals in Istanbul Sample According to the Eligibility of Their Jobs to Work from Home⁴³

According to figure 21, the biggest difference between the two groups is in terms of livelihood. Those who are able to work from home, who also earn higher wages than others, can continue their work as usual, while less concerned with economic concerns than others. However, individuals who are unable to work from home are more likely to experience both their livelihood and the fear of being infected (Sayın et al. 2020).

⁴³ *Figure 21*, Özgür Sayın, Veysel Bozkurt, *Pandemide Küresel Kentte Yaşamak: İstanbul'un COVID-19 Deneyimi*, July 2020, pg. 212

5.1.6 Demographics post pandemic in Istanbul

Year	Population of Istanbul	Male Population	Female Population	Population Growth Rate
2021	15.840.900	7.933.686	7.907.214	2.22%
2020	15.462.452	7.750.836	7.711.616	-0.37%
2019	15.519.267	7.790.256	7.729.011	3.00%
2018	15.067.724	7.542.231	7.525.493	0.26%
2017	15.029.231	7.529.491	7.499.740	1.52%
2016	14.804.116	7.424.390	7.379.726	1.00%
2015	14.657.434	7.360.499	7.296.935	1.95%
2014	14.377.018	7.221.158	7.155.860	1.53%
2013	14.160.467	7.115.721	7.044.746	2.21%

Figure 22, Population of Istanbul by years ⁴⁴

According to figure 22, the increases and decrease of population can be seen between the years 2013-2021. The effect of pandemic is obvious in the year 2020. While in 2019, the growth rate was 3% in 2020 the growth rate decreased to -0.37%. With the number of births, the actual number of the relocated people is higher than calculated. After the outbreak of pandemic, Istanbul exposed to relocation. With the increase of living expenses and higher rents after pandemic crisis, people prefer to live in more economic cities in comparison with Istanbul. Since 2001, Istanbul for the first time expose to decrease on population. 56.815 people relocate from Istanbul with different reasons.

	Measure	2016	2017	2018	2019	2020
Person sent (Service for destitute)	Person	7.304	8.188	8.447	7.849	4.496
Amount spent for transferring destitute	Turkish Lira	535.776	725.525	843.931	1.004.181	645.160

Figure 23, Transportation of destitute by years ⁴⁵

⁴⁴ Figure 22, <https://www.nufusu.com/il/istanbul-nufusu>

⁴⁵ Figure 23, <https://zabita.ibb.gov.tr/sosyal-destek-hizmetleri/#:~:text=Yoksul%20Sevk%20Hizmeti,ile%20memleketlerine%20geri%20d%C3%B6nmeleri%20sa%C4%9Flanmaktad%C4%B1r.>

Istanbul Metropolitan Municipality support remigration for seven years. Section of social service is the relevant department about remigration. They provide support for those who would like to relocate from Istanbul because Istanbul and its infrastructures are not adequate to serve this huge crowd and it causes disorders. From 1st July 2019 to 30rd September 2021, 4.240 people and 16.056 people for 5 years took this support from municipality to relocate. The support is financial support to provide the fee of transportation. The Director of Social Services Neval Gündoğan Arslan says that "The relocation is mostly observed to hometowns. People who migrate to Istanbul but cannot find a job and resist to high living expenses specially after pandemic, started to remigrate. This group of people mostly cannot afford the relocation services and apply the municipality to receive this support." The relocation from Istanbul also common for public servants. Some of the public servants prefer to exchange the positions by mutual consents to relocate from Istanbul.⁴⁶

5.1.7 Relocation from Istanbul

Istanbul expose to huge number of migrations after industrialization and people were attracted from new job opportunities and moved to Istanbul. According to Milliyet Newspaper's new on 06.02.2021, stallholders in Istanbul had some financial issues after pandemic due to the increase on the prices of the products and the restrictions about going out. They had financial difficulties and decided to relocate their hometowns and be engaged in farming or animal husbandry in there.

To support the remigration and help to improve agriculture, Turkish Ministry of Agriculture and Forestry, provided supports for those who would like to build greenhouse projects not smaller than 3 decares, using alternative energy sources can be supported up to 2 million TL with 50% grant support.⁴⁷

In Turkey, according to the data of TUIK, number of people per square kilometer is 109 while the number is 2.976 for Istanbul. Also, in Istanbul while some of the neighbourhoods lost population, in Ayrıca Kadıköy, Ataşehir, Ümraniye, Üsküdar, Beşiktaş, Avcılar, Beylikdüzü, Esenyurt, increase of population observed.⁴⁸

Other main reason of this relocation is risk of being infected. Open Education Faculty Sociology Department Assoc. Dr. Yaprak Civelek says that "People prefer to live in less dense

⁴⁶ İstanbul'da geçinemeyenlerin çözümü: Gitmek,
<https://haberglobal.com.tr/gundem/istanbulda-gecinemeyenlerin-cozumu-138465#:~:text=%C4%B0stanbul'dan%20Temmuz%202019,%C3%A7e%C5%9Fitli%20illerine%20tersine%20g%C3%B6%C3%A7%20etti.>

⁴⁷ <https://www.tarimorman.gov.tr/Konular/Bitkisel-Uretim/Tarla-Ve-Bahce-Bitkileri/Ortu-Altı-Yetistircilik>

⁴⁸ <https://www.hurriyet.com.tr/gundem/istanbulun-nufusu-azaldi-pandemi-koyden-kente-gocu-tersine-mi-ceviriyor-41736512>

places. Health risk cannot be taken. Of course, living in a crowded place while there are an epidemic pushes people to an awareness that they cannot take the risk, as it becomes difficult to control the epidemic. Most of the educational activities also go on online and people who have children also can continue their activities in another city instead of taking risk of being infected.”

After the remigration, there is a question occurred which is about those who remigrate are going to come back to Istanbul again or not. To predict the future, the aim of the remigrated people must be analysed. If the main reason is economic issues and high living expenses, people who remigrate to find a new job and settle in new cities most probably are not going to come back Istanbul again also after the pandemic.

The remigration case is a bit different for white-collar workers. The ones who can continue their business activities as remote worker preferred to move less risky places temporarily until the risk is over. Those group of people can return to Istanbul again. Also, some people who are looking for a job and work part-time because of pandemic, send their families to their villages, summer houses or mountain houses. Specially the group of people over 65 years old are in the risk group and the main remigrate is observed in this age group. According to the data of the remigrated group’s age, and where to remigrate, they can be back to Istanbul again.⁴⁹

According to Research Assistant of Sociology Department, Baturay Yurtbay, cities turned into a disadvantage, who migrate from rural to Istanbul could not adapt to the city and some social, cultural and economic issues occurred with years. The group of people who migrate and could not advantage from the city and staying in the city harms socially and economically, with the outbreak of COVID-19 pandemic, started to think about the remigration.⁵⁰ Outbreak of pandemic became a chance for white-collar workers in Istanbul to reach their dreams about leaving the city and moving a seaside small village. People who would like to be engaged with agriculture rented or bought a small, detached home in small villages. They advantaged from remote working because the location of the working places was not matter during quarantine.

Another reason of the remigration before the outbreak of COVID-19, is the support and new employment opportunities in the rural areas. After 2000’s specially in Turkey, remigration started to be observed. In recent years, policies and practises came into effect to make those regions more attractive. This situation is mainly due to the increase in agricultural income and

⁴⁹ <https://www.hurriyet.com.tr/gundem/istanbulun-nufusu-azaldi-pandemi-koyden-kente-gocu-tersine-mi-ceviriyor-41736512>

⁵⁰ <https://www.hurriyet.com.tr/gundem/istanbulun-nufusu-azaldi-pandemi-koyden-kente-gocu-tersine-mi-ceviriyor-41736512>

employment because of the change in agricultural policies, industrial incentives, investments and therefore regional development. (İslamoğlu et al, 2014)

In summary, Istanbul is the most populous city of Turkey with 15.46 million of people according to the data taken from TUIK in 2021. It is the densest city in Turkey, and it owns 4.248.775 employed people according to the data taken from TUIK 2020. Population of Istanbul has similarities between the population of Turkey but if in the recent years, there is an obvious decrease on the population growth rate in Istanbul and from 2020 to 2021 there is also a decrease on the population. Informal building activities in Istanbul caused relocation for the people whose informal houses were pulled down.

In Istanbul, according to the survey 60,40% of the employed people are working in eligible to remote working jobs such as knowledge intensive works. Not eligible working types such as production and service sectors, had some difficulties during quarantine because in Turkey lockdown started and some of the businesses stopped their activities during quarantine and inhabitants of Istanbul expose to unemployment and at the same time living expenses are increased that is one of the main reasons of relocation. After the outbreak of COVID-19, living expenses in Istanbul increased and low-income people who cannot afford to live in the city relocated to their hometowns to do agriculture, husbandry etc. Government also provides economical supports for those who would like to start agriculture. Istanbul Metropolitan Municipality also provide the support for the relocation expenses for low-income people in Istanbul.

5.2 Milan Case

5.2.1 The demographic data of Milan

Milan is a city of northern Italy as capital of Lombardy region. Milan is the second most populous city and global city of Italy with 1.399.860 habitants (The data is from 2020)⁵¹ while the metropolitan city is about 3.26 million inhabitants.⁵² In 2019, the population density was 2.072 number of inhabitants per square meter in Milan. Milan is very well-known city in the World that leads tourism, fashion, manufacturing, education and arts. With the trend of industrialization, the number of inhabitants increased sharply in Milan and the number reached 1.743.427 in 1973.⁵³

The increase of the Italian population can be seen from Figure 25 but in Milan the increase on the population is not continuous. The decrease can be seen from figure 25 specially from 1991 to 2001 there is a decrease around 100.000 inhabitants. In 2000's the population growth rate became even minus.



Figure 24, Milano⁵⁴

⁵¹ https://www.comune.milano.it/documents/20126/2313917/cleta_zone_eta_2019.pdf/c689d3df-aa0f-c546-fedb-76941c61d8bf?t=1588941878238

⁵² <https://en.wikipedia.org/wiki/Milan>

⁵³ <https://worldpopulationreview.com/world-cities/milan-population>

⁵⁴Google maps

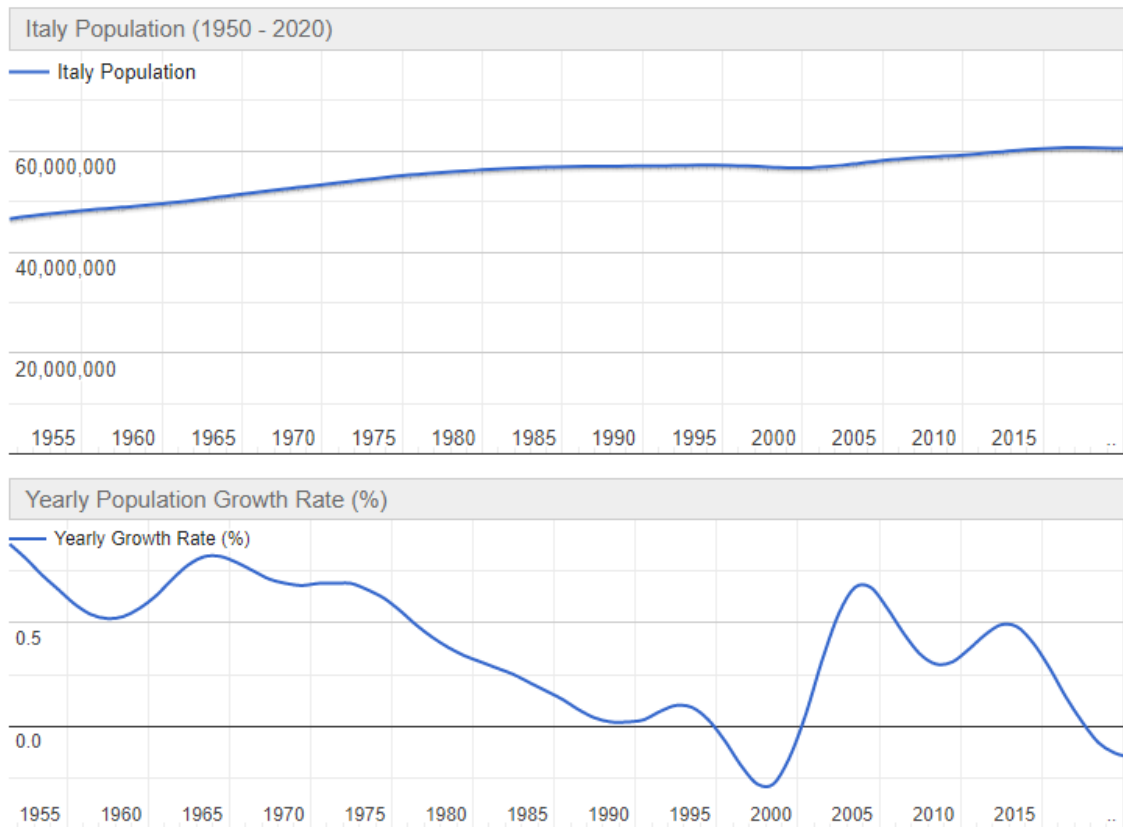


Figure 25, Population of Italy⁵⁵

	1951	1961	1971	1981	1991	2001	2011	2021
Municipality of Milan, population	1.274.187	1.929.687	1.730.200	1.604.844	1.369.295	1.256.211	1.242.123	1.372.355
Metropolitan city of Milan population	1.929.687	2.494.598	3.087.296	3.139.490	3.009.338	2.940.579	3.038.420	3.239.006
Municipality of Milan, total employs			742.855	818.188	761.170	808.642	882.234	
Municipality of Milan, industry's workers			346.452	251.544	147.818	92.144	60.640	
Metropolitan city of Milan, total employs			1.161.093	1.399.383	1.409.748	1.309.559	1.394.360	
Metropolitan city of Milan, industry's workers			642.634	576.961	442.214	314.669	226.110	

Figure 26, Milan and metropolitan city of Milan demographic data⁵⁶

⁵⁵ <https://www.worldometers.info/world-population/italy-population/>

⁵⁶ Figure 25, ISTAT

In 2020 the number of inhabitants was 1.399.860. The population decreased after the outbreak of pandemic the number was 1.372.355 in 2021. It is obvious that from 2020 to 2021 there is a loss of population with 27.505 inhabitants. In 1951 the population was 1.929.687 for metropolitan city of Milan while in Municipality of Milan it was 1.274.187. In 1971 while employers were 742.855 and blue-collar workers were 346.452, in 1981 the employers number increased 818.188 and the number of blue-collar workers decreased to 251.544. The sharp decrease on the number of the blue-collar workers also continued during 1991, 2001 and 2011. In metropolitan city of Milan also the same situation occurred while employers increased from 1.161.093 to 1.399.383 blue-collar workers decreased 642.634 to 576.961. The decrease of the blue-collar workers was obvious for both metropolitan city of Milan and Municipality of Milan.

Density map of Milan shows that the population specially gathered near Duomo, Citta Studi, Lambrate, Navigli. Inhabitants generally settled near universities. Most crowded neighbourhoods of Milan are, Loreto (45.456 inhabitants), Villapizzone (41.468 inhabitants), Padova (37.531 inhabitants) Niguarda (36.896 inhabitants) Citta Studi (36.393 inhabitants), Gallaretese (32.669 inhabitants), Quarto Oggiaro (30.729 inhabitants), Centrale (19.335 inhabitants) etc.⁵⁷

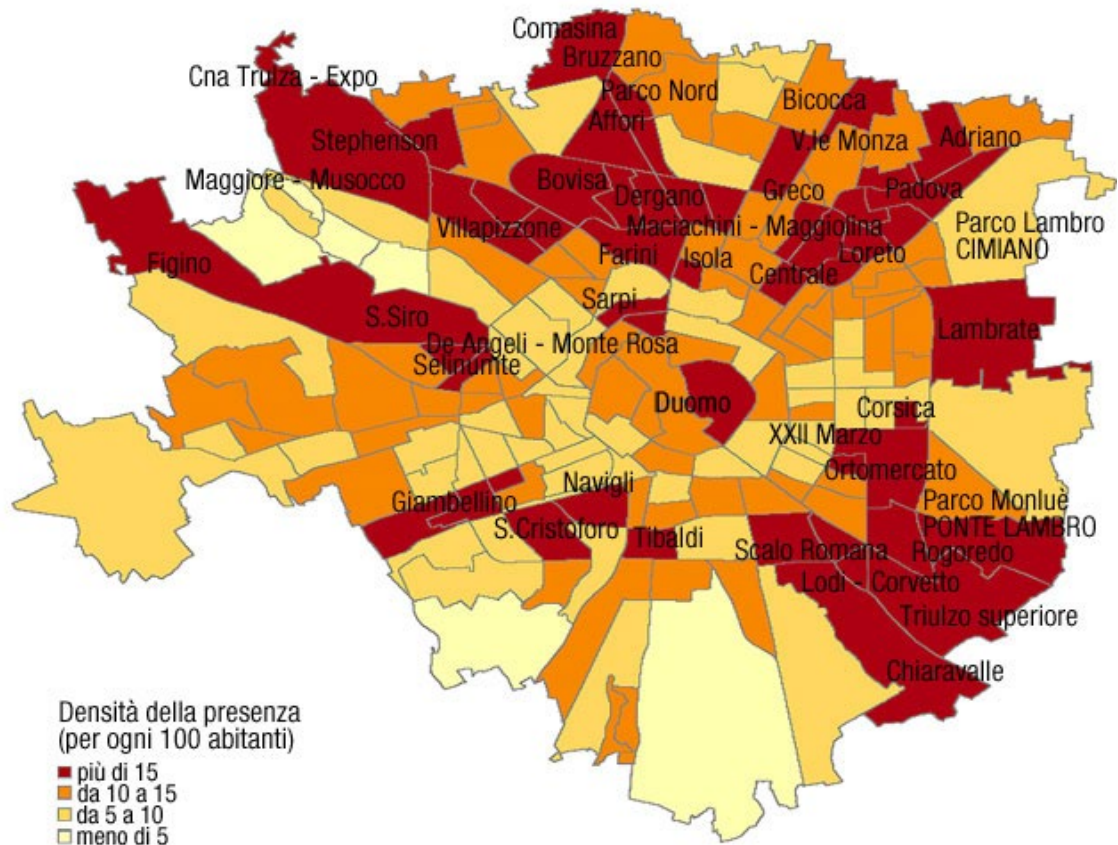


Figure 27, Density map of Milan⁵⁸

From 2012 to 2020, number of births and deaths are almost the same however the number of immigrants jumped in 2013 sharply while in the other years almost the same with 60.000. In 2013 the immigrants were almost 120.000. If we look at the emigrants, there is an increase between 2012 to 2013 but from 2013, there are decreases obvious in 2014 and 2015.

As observed from the figure 28, in 2013 there is an increase on the population. In 2013 the number of immigrants increased approximately over 50.000.

⁵⁷ <https://www.citydoormilano.it/quartieri-milano.html>

⁵⁸ Figure 27, <https://speciali.espresso.repubblica.it/popup/milano/>

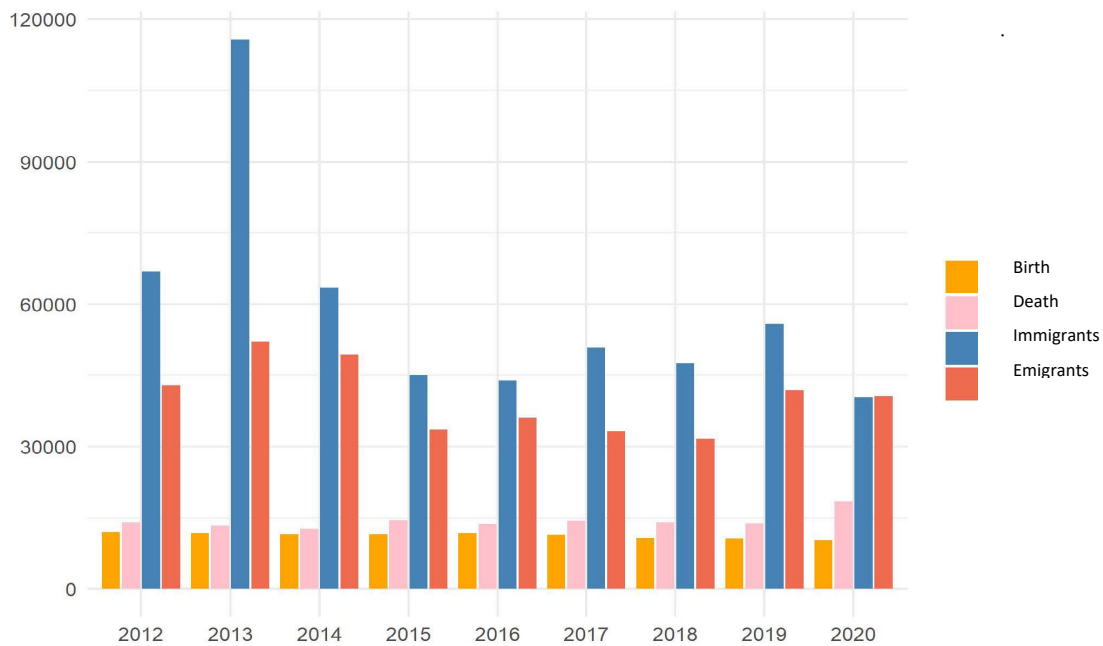


Figure 28, Natural and migratory movement of the total population residing in the municipality of Milan⁵⁹

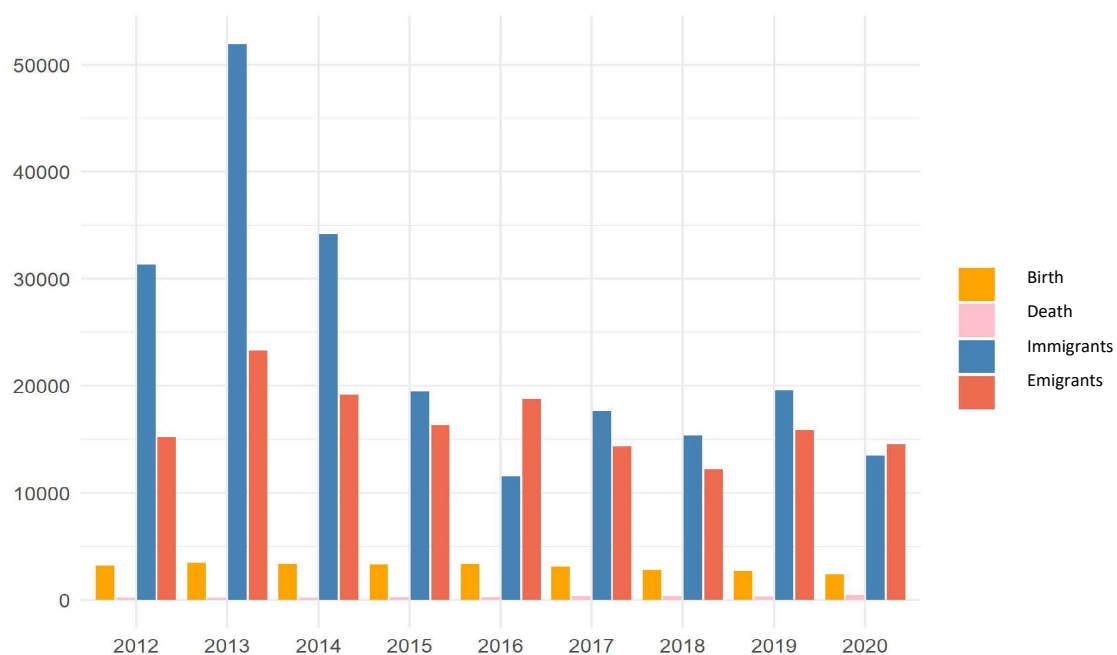


Figure 29, Natural and migratory movement of foreign populations residing in the municipality of Milan⁶⁰

⁵⁹ Figure 28, Ufficio servizi statistici - Città metropolitana di Milano

⁶⁰ Figure 29, Ufficio servizi statistici - Città metropolitana di Milano

In recent years it is obvious that the skyscrapers are visible in Milan. UniCredit Tower, Allianz Tower, Generali Tower, Solaria Tower are some of the well-known towers in Milan. UniCredit Tower in Milan is the tallest building in Italy, built between 2009-2011.⁶¹

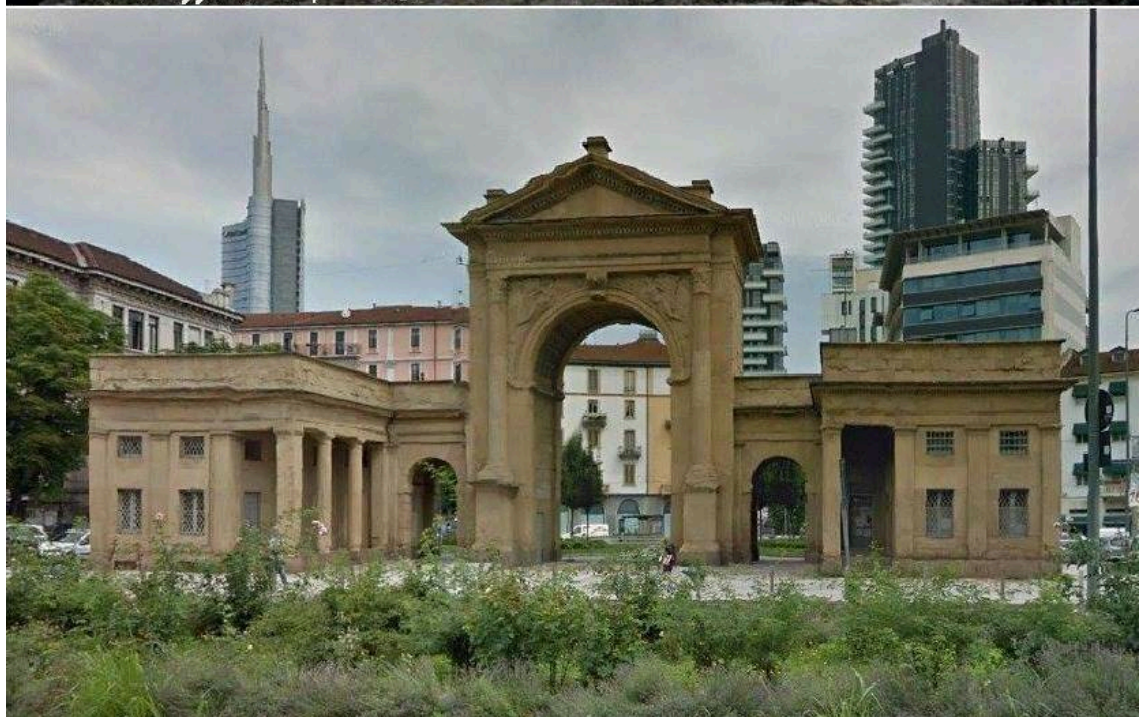


Figure 30, Porta Nuova in 1900's and now⁶²

⁶¹ https://en.wikipedia.org/wiki/Unicredit_Tower

⁶² Figure 30, <https://www.facebook.com/MILANO.sparita.e.da.ricordare/photos/porta-nuova-ieri-e-oggi-grazie-ad-andrea-donofrio/1605946382785710/>



Figure 31, Milan 1972⁶³



Figure 32, Milan 2018⁶⁴

⁶³ Figure 31, https://www.cartografia.servizirl.it/viewer32/index.jsp?config=config_mirrorBox.json

⁶⁴ Figure 32, https://www.cartografia.servizirl.it/viewer32/index.jsp?config=config_mirrorBox.json

5.2.2 The demographic data of workers in Milan

Milan hosts lots of significant factories to support employment and attracts people to high job opportunities for years but with the decrease of manufacturing during 90's also blue-collar workers employment rate decreased. With the existence of huge universities in the city, the new graduated people create a huge work force in the city. Number of employed people in Milan is about 1.6 million. 25% of the population is self-employed. ⁶⁵ Milan was the third wealthiest city in World with a GDP \$110.5 billion. Milan hosts 45% of the businesses in Lombardy region. Those businesses create work opportunities for inhabitants. ⁶⁶ In Milan employment rate was higher than the average employment rate of Lombardy Region in 2005. The rate was 65.9% for Milan and 65.5% for Lombardy Region and 57.55 for Italy. In 2018 the employment rate was 69.5% for Milan, 67.7% for Lombardy Region and 58.5% for Italy. This data shows that the employment rates increased but the gap between Milan and Lombardy Region is still visible. ⁶⁷

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⁶⁵ https://en.wikipedia.org/wiki/Economy_of_Milan#cite_note-12

⁶⁶ <http://usatoday30.usatoday.com/marketplace/ibi/milan.htm>

⁶⁷ [https://genioimpresa.it/article/2877/mercato-del-lavoro-a-milano-indicatori-di-performance/#:~:text=il%20tasso%20di%20occupazione&text=Milano%20si%20conferma%20al%2069,3%25%20dello%20scorso%20anno\).](https://genioimpresa.it/article/2877/mercato-del-lavoro-a-milano-indicatori-di-performance/#:~:text=il%20tasso%20di%20occupazione&text=Milano%20si%20conferma%20al%2069,3%25%20dello%20scorso%20anno).)

Main indicators (% values)		2011	2012	2013	2014	2015	2016	2017	2018
Activity rate	Male	80,2	79	79	80,3	81,6	81,2	81,1	80,8
Activity rate	Female	67,1	71,3	70,8	70	70,1	69,6	70,2	71,6
Activity rate	Total	73,5	75,2	74,9	75,1	75,8	75,4	75,6	76,2
Employment rate	Male	76	73,4	74	73,1	75,6	76	76,2	75,8
Employment rate	Female	63,5	66,4	66	64,5	64,9	65,4	65,6	66,8
Employment rate	Total	69,7	69,8	70	68,8	70,2	70,7	70,9	71,3
Unemployment rate	Male	5,2	7,2	6,3	8,9	7,3	6,5	6,1	6,1
Unemployment rate	Female	5,4	7	6,8	7,8	7,4	5,9	6,6	6,7
Unemployment rate	Total	5,3	7,1	6,5	8,4	7,4	6,2	6,3	6,4

Figure 33, Employment, unemployment rates by gender in Milan ⁶⁸

According to the figure 32, from 2011 to 2018 activity rates in businesses for male and female employees did not change sharply by the years. While the rate was 80,2% for male workers 2011 and it became 80.8% in 2018. For female workers, the rate increased more than male workers. While the rate was 67.1% in 2011 this rate increased to 71.6% in 2018. For the female workers there is an obvious sharp increase from 2011 to 2012 but the rate went down after 2012 slowly until 2016. After 2016 the rate increased again. About employment rate for male

⁶⁸ Figure 33, <https://dati.comune.milano.it/dataset/ds112-economia-indicatori-occupazione-residenti-15-64/resource/ea71ace2-a4d3-493b-a860-bac6d894a4a4>

workers, while the rate was 76% in 2011, it decreased to 75.8% in 2018. For female workers the rate was 63.5% in 2011 and in 2018 the rate jumped to 66.8%. There is an observed increase of employment rate in total. While it was 69.7% in 2011, the rate became 71,3% in 218. It means that even there is an observed decrease and male employment, the increase on the female employment also helped to increase the average of the total employment rate. Unemployment rates were very close for female and male workers in 2011. While it was 5.2% for males it was 5.4% for female workers. There was not an observed decrease on unemployment rates between the years 2011 and 2018. In contrast the rate increased in the years 2011, 2013, 2016 and 2017. In 2018 the unemployment rates were 6.1% for male workers and 6.7% for female workers.

In 2019, approximately 2.111.000 people were working in Milan. The most common sector was wholesale and retail trade repair of motor vehicles and motorcycles, administrative and support service activities follow.

5.2.3 The effects of the pandemic on Milan and Lombardy Region

Lombardy Region is one of the most effected regions from COVID-19. The effects of the pandemic were analysed with a project called ResPOnSE COVID-19. The surveys were made for this project, first one is between 6 April-7 July (around 15.000 cases), second one is 21-31 December 2020 (around 3.000 cases and the third one is between 17 March-6 June 2021 (around 8.210 cases). According to the respondents in 2021, 40% of the Italians have a connection with a death person because of COVID-19. In Lombardy Region this rate is 50%. Inhabitants of Lombardy Region feel more exposed to COVID-19 than the other regions. About economy, 20% of the employees in Lombardy Region, afraid of to lose their jobs. 30% of the families thinks that their economic conditions are worse than before. 20% of the respondents think that the situation is going to get worse. ⁶⁹

After the outbreak of COVID-19, the way of living has changed. Milan was one of the most affected cities because it is global city hosts lots of international people and very developed business and manufacturing activities are settled in. During the pandemic, with the high number of infected people, primary health services became not adequate for inhabitants. Milan deal with lots of infected people in the first months of pandemic, primary health services worked a lot to reach all the infected people and heal them (Guida et al 2020). Young generation is one of the most affected age groups from pandemic. After lockdowns, online education, remote working, lack of social network harm mental health of the young generation

⁶⁹ <https://lastatalenews.unimi.it/anno-dopo-prima-ondata-effetti-pandemia-lombardia-nord-italia>

specially teenagers. Italian Government decided to allocate 20 million Euros to improve mental health.⁷⁰

According to a survey made by Lombardy Region with the support of ARIA, 59% of the respondents changed their daily habits after COVID-19. The use of bicycles, scooters, cars and motorcycles have increased. The reason of this change is to provide social distance while commuting. As future plan of the people, 66% of the respondents again are going to return what they prefer during pre-pandemic. There is an observed decrease on the sale of seasonal transportation tickets specially in Milan.⁷¹

Pandemic had also an environmental impact on Milan. Air quality index proves that before and after the pandemic, there is a difference. Lack of commuting activities, online educational activities, remote working helped to increase environmental situation in Milan as happened most of the cities in the World. Even after the pandemic, air quality index did not decrease to the acceptable numbers. The number of deaths because of nitrogen dioxide increased.⁷²

5.2.4 Remote Working in Milan

2020 was a shocking year for every economy. Milan also affected from this economical change. Milan hosted approximately 2.118.445 employees in 2019 and all of the work types were not adaptable for remote working due to the need of physical existence in the workplace but in Milan the number of white-collar workers is also quite high. This group of employees also experienced remote or tele working before the pandemic but after pandemic the number increased sharply. Milan is one of the most adaptable cities for remote working but this remote work. In Milan the survey called "Your Next Milan 2021" held to understand the situation and the future of the city. This transition to remote working also requires a developed infrastructure. Milan has a very improved digital infrastructure that made this transition easier than the other cities.⁷³

⁷⁰ https://www.affaritaliani.it/milano/pandemia-salute-mentale-dei-giovani-milano-emergenza-780970.html?refresh_ce

⁷¹ INDAGINE ONLINE - Gli effetti della pandemia sulla mobilità in Lombardia, <https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioAvviso/servizi-e-informazioni/cittadini/Muoversi-in-Lombardia/esiti-questionario-abitudini-spostamento-2021/esiti-questionario-abitudini-spostamento-2021>

⁷² <https://www.mitomorrow.it/verde/qualita-dellaria-a-milano/>

⁷³ Lo Smart Working in numeri, Anno 2021, Rapporto n: 04/21 <https://www.assolombarda.it/centro-studi/smart-working-2021>

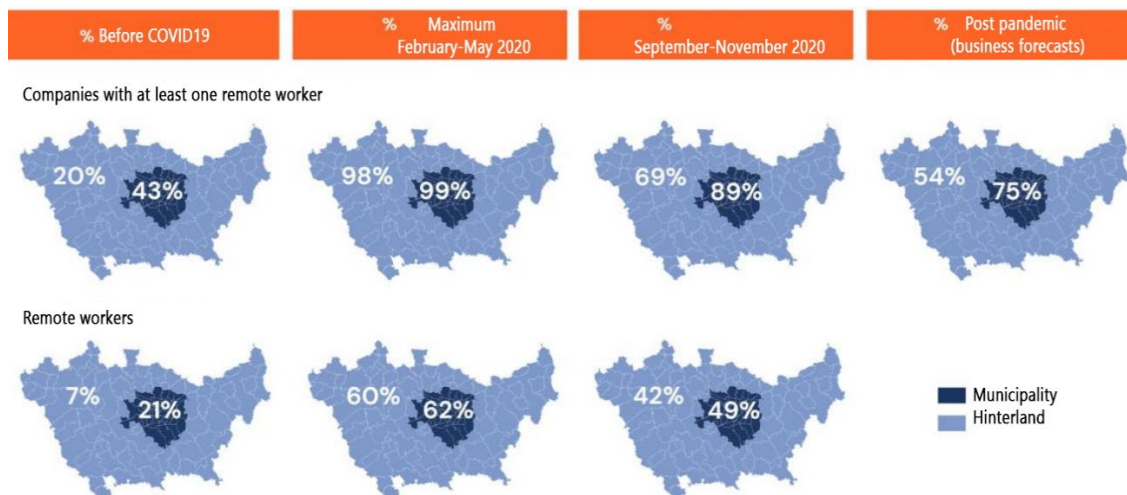


Figure 34, Remote working rates before and after pandemic, source: Centro Studi Assolombarda ⁷⁴

Before the outbreak of the COVID-19, the number of the companies at least have one remote worker was 43% in Municipality of Milan. In the Hinterland the rate was 20%. The rate of the companies who totally integrated with remote working was 21% for Municipality of the Milan and 7% for the hinterland. Between February and May 2020, this rate jumped as a result of lockdowns, 99% of the companies who based in Municipality of Milan used to have at least one remote worker, in the hinterland the rate was 98%. In the rate of the totally remote businesses, 62% in Municipality of Milan and 60% for the hinterland. There is a very sharp increase observed, almost every business has at least one remote worker after outbreak of pandemic.

During September-November 2020, there is a decrease for at least one remote workers in the companies, from 99% to 89% and for hinterland from 98% to 69%. Totally remote working companies rate also decreased from 62% to 49% and for the hinterland 60% to 42%. Post pandemic situation as business forecast is going to be 75% for at least one remote working company in Municipality of Milan and 54% for the hinterland. These rates shows that even after pandemic most of the companies are going to continue their business activities remotely. There are going to be an observed decline, but the rates are not going to be as low as the situation before pandemic. In Milan also there is adequate digital infrastructure to continue business remotely.

⁷⁴ **Figure 34**, Lo Smart Working in numeri, Anno 2021, Rapporto n: 04/21, pg. 29 <https://www.assolombarda.it/centro-studi/smart-working-2021>

5.2.5 Relocation from Milan

Before the outbreak of COVID-19 in 2019, Milan was receiving monthly 4-5 thousand of people, roughly 75% of those people were coming from other municipalities in Italy and rest of them from abroad. Since April 2020, the increasing number turned even negative.⁷⁵ In 2019 about 3-4 thousand of people were emigrating each month approximately. Majority of those people were moving other municipalities in Italy and just some of them were going abroad. After new supports to work remotely and the regulations supports the rights of the remote worker, living in the city centres lost its mean. Inhabitants started to relocate also from Milan because of high living expenses, to go to their hometowns to be with your families during quarantine etc. People started to return their city of origin. According to 2020 data, the inhabitants in Milan were 1.392.502. In 2021 the number of inhabitants of Milan was 1.386.285. The city lost 18.000 inhabitants. The decreased also happened from 2019 to 2020 with loss of 12.000 inhabitants. Birth rate of the city is also negative for those years. The relocation from Milan is not just related with COVID-19 also related with the quality of life. Living in a more natural area and less dense places is most of the people's choice if they could achieve.⁷⁶

Having second homes is very common in Italy. During pandemic also made their second homes as first. People who live in apartment blocks felt very depressive during quarantines and the idea of having a detached home and small garden was appeared. With no need of existence in workplaces, inhabitants of the city started to move out the city. One of the main reasons of this relocation is international students in Milan. With the fully online courses some of the international students turned to their countries to be with their families during quarantines.

Milan is capital of Lombardy region and second most populous city of Italy with 1.399.860 inhabitants, in the metropolitan area there are 3.26 million inhabitants. Milan is a very well-known city as leader in fashion, manufacturing, education and arts. It is one of the main reasons that Milan attracts people all around the World for a long time. There is an obvious decrease on population after the outbreak of COVID-19 with 27.505 inhabitants. This situation can be a result of remote working and online education. For international students there was no need to stay in Milan during quarantines, to be with their families they relocated to their hometowns. In Italy, second home trend was also common before the outbreak of pandemic. This trend continues also after the pandemic and some of the inhabitants moved to their second homes without closing their homes in the city. This also makes hard to understand the population rates in the city and this relocation can be temporary or permanent.

⁷⁵ <https://www.infodata.ilsole24ore.com/2022/02/12/crollo-delle-nascite-flussi-le-citta-italiane-raccontato-grafici/>

⁷⁶ Giorgina Petani, Fewer and fewer inhabitants in Milan, is it just the fault of the pandemic?, <https://www.mitomorrow.it/cambiamilano/abitanti-a-milano-pandemia/>

6. Comparison between the cases

Comparing Milan and Istanbul, some similarities and differences emerged. In Istanbul the population increased after industrialization, especially after 60's the population growth rate jumped from 3% to over 6%. In the same period, in the Municipality of Milan the population jumped from 1.274.187 in 1951 to 1.929.687 in 1961. The population growth continued in Istanbul until 2021, reaching 15.46 million of inhabitants, while in Milan the growth stopped. In the same year, the population was 1.372.355 in the municipality and 3.239.006 in the metropolitan city.

There are many other elements that the two cities share. Milan (metropolitan area) and Istanbul are both the biggest cities and the major economical centres of their respective countries. Both cities lead businesses in their countries and host many headquarters. The data over show that during 60's both cities have approximately the same inhabitants, Istanbul received lots of migrations for 50-60 years from other cities of Turkey to become a blue-collar worker. Both countries host a huge number of employees due to lots of work opportunities in those cities. In 2020, there were 4.248.775 insured employed people in Istanbul and 1.600.000 in Milan.

But there are elements of discordance too. In comparison the number of inhabitants and the number of employed people in those cities. Milan has a higher employment's rate. In Istanbul the number of registered unemployed people was 464.530 in 2020, while the unemployment rate was 6.4% for Milan in 2018. This is especially true looking at female employment rate. In Istanbul the number of employed females is 1.456.578, while there are 7.900.000 female residents. Thus, the employment rate of female workers in Istanbul is around 18%. The activity rate of females in Milan was 66% in 2018. Data comparison shows that in Istanbul there is not adequate work opportunities for females.

Both Milan and Istanbul were affected from the COVID-19 and exposed to the impacts of the pandemic because Istanbul and Milan are both transfer points of global airline travels. That is one of the main reasons that those cities are in the group of the most affected cities in the World. The first COVID-19 case in Turkey was seen in Istanbul on 11st March 2020. According to a survey made between 9th and 12th April (Sayin et. Al, 2020), 22.3% of the respondents expose to COVID-19 in their environment while the rate was average 10% in the other cities of Turkey. As positive impacts, the quarantine in Istanbul caused an increase on water quality, air quality and a decrease in the heavy traffic.

In Istanbul commute of blue-collar workers also continued during quarantines to provide production. During that commuting from the accommodations of the blue-collar workers to the industrial zone, the risk of to be infected was quite high during those periods. Istanbul as a global city also hosts white collar workers who have remote working adaptable, knowledge intensive based work types could continue their business activities also during the quarantines. Remote working was also known before the outbreak of COVID-19 but was not as common as after quarantine. There is a sharp transition observed to remote working also in Istanbul. This sharp transition also observed in Milan. While before pandemic the rate was 43% for remote working in Municipality of Milan after pandemic this rate jumped to 75%. During February May 2020 remote working reached he maximum rate.⁷⁷ In Milan there are less productive workplace than in Istanbul.

The pandemic left different impacts in the two cities. In Istanbul, in the recent years a decrease on the population growth rate is noticed and with the changes on working and education experience due to COVID-19, the need of existence in certain places has changed. This caused a relocation from Istanbul. One of the main reasons of this relocation is increasing unemployment rates. The people who moved from their hometowns before the pandemic, did not find job opportunity in Istanbul, due to the economic stagnation caused by the quarantine. As a result, they decided to relocate from the city temporarily or permanent. Metropolitan city of Istanbul supported those relocations with providing the fee of transportation. In addition, government supported the people who decided to do farming. This relocation is an example of permanent relocation, on the other hand people who transit to remote working moved to their second homes or their hometowns. Some of those people who moved their second homes closed their homes in city centres, this kind of relocation is a proof that this relocation is not a temporary movement. Some of them did not need to close their first homes in city centres and after lockdowns, they came back to the cities again according to their preferences about working types.

In Milan relocation was observed before the pandemic. Number of emigrated people were roughly 3-4 thousand before the outbreak of COVID-19, in 2019. Majority of emigrated people were moving to other municipalities in Italy and others moved to another country. After the outbreak of COVID-19, Milan exposed to increasing number of relocations. Italy is one of the most affected countries from COVID-19, allowing for a harsh lockdown in the city. Most of the educational and business activities were continuing remotely as happened in Istanbul. Relocation from city centres started. People preferred to be near nature instead of spending their times surrounded by concrete walls. As a reason of this relocation to nature, there is an observed increase on the population on seaside towns. This relocation is still in progress and the future of relocation and its nature - permanent or temporary- is not certain yet.

⁷⁷ Lo Smart Working in numeri, Anno 2021, Rapporto n: 04/21, pg. 29
<https://www.assolombarda.it/centro-studi/smart-working-2021>

7. Conclusion

Remote working is the term that defines the working style without a need of existence in a specific office place. This term was firstly defined in 1973 by an engineer who used to work in NASA. As previously explained, remote working is a wide concept that include many ways of working: hubworking, homeworking, teleworking and etc. The trend of working sometimes or every time out of the workplace is the same for remote working types.

Remote working is an option for knowledge intensive work types because presence required work types are not adaptable for remote working such as healthcare services and manufacturing. Milan and Istanbul are significant cities for their countries with huge number of inhabitants and businesses they host. Majority of the knowledge intensive work type employees in Milan and Istanbul preferred to work remotely after the outbreak of COVID-19. The transition to remote working was already an existing trend before the pandemic for both cities with developing infrastructures.

Remote working provides benefits for employees and environment. From the employees' point of view, they can balance work life and personal life better than before they transit to remote working. Specially woman provided benefits who cannot afford a babysitter for their children provided benefits from remote working. This situation supported woman to came back to business life again. Remote working also created positive impacts on environment. Decreasing daily commute helped to decrease air and water pollutions. The data shows that the emission people created decreased during pandemic.

The regulations about remote working differs for each countries. In Italy before the outbreak of COVID-19, there was an existing regulation about remote working but in Turkey the remote working regulations included, 10th March 2020 with official gazette just after the outbreak of pandemic, with an urgent need. This is also a reason of in Italy there are more developed infrastructure for remote working than in Turkey but in both countries after the sharp transition to remote working, required infrastructure of remote working built in a short time.

After the outbreak of pandemic, the already decreasing population growth rates of Istanbul and Milan sharply decreased and turned negative. Relocation from the city centres became a new trend, causing a decrease of their importance. From 2021 to 2020, Istanbul lost 56.815 inhabitants and reached 15.462.452. This relocation from the city was also supported from the Istanbul Metropolitan Municipality. The Municipality helped the group of people that have low income and would like to turn back to their hometowns. They received financial contribution for their transportation costs. The government also supported husbandry; this created an option for the group of unemployed people who used to live in cities.

In Milan, there were 1.399.860 inhabitants in 2020 while the metropolitan area was hosting 3.26 million of inhabitants. The number decreased to 1.372.355 for Milan. The loss of inhabitants is also a consequence of the trend of moving to second homes and repatriation of international students.

The two cities have been strongly affected by relocation phenomena due to their position as global cities. The trend was existing also before the outbreak of COVID-19, but the pandemic accelerated it. Nevertheless, in the two cities the impact has been different, and the predictable future trend are also different.

In Istanbul supporting relocation policy adopted by the municipality in order to relocate low-income unemployed people to less dense cities and their hometowns because unemployment and lack of infrastructures of the city, started to create issues. The already high living expenses in the city increased sharply after the outbreak of pandemic, in long term this situation can be cause increase on crime rates in the city. In 2021 with the start of presence education, university students protested the high rents and lack of dormitories in the city⁷⁸. This shows that Istanbul has reached a limit of population that started to cannot overcome anymore. The previously mentioned policy is also aimed to help the ones who would like to relocate. This policy is a good option to decrease the density, but it can cause gentrification in long term. In Istanbul data about relocations shows that generally it is preferred by low-income people. It may be predicted that these relocations will be permanent.

In Milan, the situation is different from the Istanbul case. There are more white-collar workers than blue collars and the city lost international students. In Milan there is not a policy about supporting relocation because the city is not as dense as Istanbul and there are adequate infrastructures for inhabitants. The municipality of Milan did not want to make people relocate from the city because with the potential decrease on population, business activities in the city decreases and even without a policy city lost population after the outbreak of COVID-19. This relocation trend to second homes and hometowns can stop after vaccination and hybrid working and educational activities.

In Istanbul the relocation will be more permanent that in Milan because relocation became a trend also for low-income people who exposed to high living expenses in the city. Relocations of low-income people were supported from Metropolitan Municipality and government provided this support with affording the fee of transportation from Istanbul to their hometowns. Government supported this relocation to increase agriculture in Turkey. The financial supports about husbandry increased during pandemic.

After the outbreak of COVID-19, during this smart transition, Milan had less difficulties with the help of developed infrastructure in the city in comparison with Istanbul. During

⁷⁸ <https://www.hurriyet.com.tr/gundem/universitelilerin-barinma-sorunu-evler-ates-pahasi-yurtlardayer-yok-41886460>

September-November 2020 the rate of remote workers were 89% for Municipality of Milan and 69% for the hinterland. In the post pandemic there is an observed decrease on remote working with 75% for the Municipality of Milan and 54% for the hinterland. This decrease can be a proof of the relocated remote workers in Milan, approximately 21% of them are going to come back to city to continue their works in presence. This can be considered a proof that not all the relocations due to COVID-19 are going to be permanent.

With the pandemic and changing lifestyles, relocations were observed all over the World. Milan and Istanbul both exposed to those movements after the outbreak of COVID-19. According to the results most of those relocations can be permanent but the process continues.

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