

THE IMPACT OF REMOTE LEARNING ON A STUDENT-BASED RENTAL MARKET DURING THE COVID-19 PANDEMIC. CASE STUDY: CLUJ-NAPOCA, ROMANIA

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L'impact de l'enseignement en ligne sur un marché de location dépendant de logement étudiant pendant la pandémie de COVID-19. En mars 2020 les universités roumaines ont fermé les campus et ont transféré les activités d'enseignement en ligne pour les deux mois suivants afin de réduire la propagation du COVID-19. Pour les villes universitaires, cette décision avait mené au déménagement d'un grand nombre d'étudiants ayant le domicile dans d'autres municipalités, parmi d'autres effets. À Cluj-Napoca, 83% des étudiants non-résidents vivant hors campus et 98% des étudiants hébergés dans des foyers ont quitté la ville pendant le confinement de 16 mars – 14 mai 2020 (la période pendant laquelle les restrictions à la mobilité et aux activités 'non-essentiels' atteint le maximum). Mais les effets économiques que les étudiants produisent dans la ville n'ont pas subitement disparu – 71% de ceux qui louaient sur le marché locatif privé payaient encore un loyer après que le confinement est fini. Cependant, dans de nombreux cas, le montant qu'ils ont payé a diminué parce que les propriétaires ont accepté des réductions pour le loyer. Nous avons calculé que ces réductions de loyer, ainsi que le montant d'argent perdu après qu'une partie des étudiants aient mis fin à leur bail en avance, ont monté pour les propriétaires aux environ 2 millions d'euros par mois pendant les deux mois de confinement. Après ce premier choc, étant donné que les universités poursuivaient l'enseignement à distance pour l'année universitaire 2020–2021, la diminution du nombre d'étudiants locataires a influencé à la fois le loyer moyen à Cluj-Napoca (qui a diminué de 20% entre mars 2020 et mars 2021) et la saisonnalité de la demande (résultant dans l'aplatissement de l'augmentation habituelle du loyer moyen avant le début du semestre d'automne).

1. INTRODUCTION & LITERATURE REVIEW

Since the 1990s, a continuously increasing number of people have enrolled in higher education globally, especially in the Western, highly industrialized countries that have supported these evolutions given their added economic and social benefits (Baron and Kaplan, 2010; Calderon, 2018; Christie, 2007; Rugg *et al.*, 2000). Currently, there are 235 million students enrolled in universities all around the world, more than double than in the year 2000 (UNESCO, 2023). Romania followed this ascending trend as well – the number of students has rapidly increased, especially between 1990 and 2007 (Petrescu *et al.*, 2018), in the context of the establishment of many private universities, and an increased enrolment in public universities, due to the increasing availability of fee-paying student-places added to the already existing publicly financed ones (government-financed).

The higher number of students means a higher local and regional economic impact on both students and universities. In areas with a developed higher education sector, the contribution to the regional GDP can be substantial. In a report compiled by the OECD (2007), it ranged from 2% to 4%

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in the studied economically peripheral regions (e.g., North-East England) and was around 1% in central regions (such as California, the US). Valero and Van Reenen (2019) found a positive correlation at the regional level between the increases in the number of universities and the growth of the regional GDP/capita. This relationship was driven by the direct expenditures of universities, but also by the increased supply of human capital and greater innovation. A steady increase in the local human capital may explain why, for decades, the US cities with higher rates of tertiary educated people has grown faster, becoming more economically productive and better at adapting to economic shocks and reinventing themselves, than other, though comparable, but less-skilled cities (Glaeser and Saiz, 2004). Marozau *et al.* (2021) added some nuances to the widely accepted positive relationship between universities and economic growth (such as in Goldstein and Drucker, 2006; Hayter and Link, 2014; Pastor *et al.*, 2016; Maneejuk and Yamaka, 2021) by showing that the overall impact of universities relies on the economic development stage of the national economies – it was found that the outcome of the entrepreneurial mission of universities is positively related to GDP only in innovation-driven economies. Moreover, Florida and Gaetani (2020) described the manner in which universities contributed to regional innovation by increasing the number of local patenting and start-up companies, while at the same time heightening the economic inequalities (expressed as higher rates of income and occupational segregation) in the US metropolitan areas with highly rated universities.

However, such larger scale and long-term effects always start with the direct expenditures of universities and students and their impact on the local economies. In many cases, student expenditures are the most important direct impact of a university on a city's economy. For example, in Cluj-Napoca (Romania) the estimated direct impact of the largest university amounted to as high as 190 million euros in 2015, 71% of which were students' expenditures (Chircă, 2017).

Students' demands for accommodation, products, and services support job creation and increase the consumption of local goods and services. This impact appears more clearly in urban areas with high numbers of university students (in relation to the total population) such as the American college-towns described by Gumprecht (2003), or the small and medium-sized university cities in Europe studied by Ave (2017).

One of the most prominent impacts of large universities on the local economies is the increased demand for housing. This is especially the case of the universities recruiting mostly outside their local area. In many cases, such universities cannot offer enough on-campus accommodation for their non-local students which most often rely on the private rental market to find a suitable housing solution.

In cities with high rates of non-local students to permanent local residents, variations in the number of renting students have lasting impacts on the local rental and real-estate markets. Mocanu and Tremacoldi-Rossi (2023) found that the increasing number of international students in college-towns in the US between 2005 and 2015 culminated in a 1.3% higher average rent, 2.5% higher house prices, and a faster house price appreciation after the 2007–2009 economic downturn than in other urban areas. On-the-rise house prices were the result of increasing rent demands in close proximity to the student campus, the replacement of single-family houses in those areas with multi-family rentals, thus driving house prices up in areas targeted by new student housing developments. Then, the displaced non-student local residents' increased demand drove house price appreciation in neighbourhoods far away from the campus.

Besides the growing demand for housing that usually drives the average rent up, Aggeler (2020) showed that there are other aspects of student renting that can explain rent increases. Firstly, the additional financial support (from a parent or guardian) that students benefit from usually allows them to pay higher rents than local residents can. Secondly, students being perceived as higher-risk renters and the fact that they are frequent movers allows property owners to raise rent more frequently. However, a higher flexibility and mobility of the renters as a driver of increasing rent is not specific to student renting only; Pajević (2021) found this driver was also associated with the increasing propensity for flexwork of young IT employees.

Other impacts result from the spatial distribution of the student-rented accommodations. The literature describes the functional effects that result from the agglomeration of students in certain areas of the cities (usually near campuses) as “studentification” (e.g., Baron and Kaplan, 2010; Mosey, 2017). Usually, such agglomerations slowly change the economic and cultural setting of the affected neighbourhoods (by increasing the demand for goods, transportation, and specific services, by revitalizing declining urban areas, while at the same time inducing seasonality to the economic and social life of the neighbourhoods and raising concerns over the social cohesion of the local communities). The opposite term, “de-studentification” (Smith, 2008; Kinton *et al.*, 2016) refers to situations when the student number and impact in the former “ghettoized” areas decrease either naturally, or following an administrative decision, resulting in population decline, closed businesses, abandoned buildings and home price drops.

The emergence of a novel virus affecting humans at the end of 2019 and it spreading worldwide (on March 11, 2020 the World Health Organization declared the outbreak of the COVID-19 disease to be a pandemic) brought large scale disruptions both to national economies and social life (OECD, 2021a; Bonaccorsi *et al.*, 2020; Sharifi and Khavarian-Garmsir, 2020). All over the globe, the measures aimed at limiting the spread of COVID-19 consisted of widespread lockdowns with physical distancing, banning unessential travel, closing down bars, restaurants, cancelling cultural and sports events, as well as the transition to remote working and learning wherever possible. As the pandemic continued, the idea that “the new normal is digital” (United Nations, 2020) became prevalent, and researchers began to ask themselves how remote working and learning would impact economies and cities. Using counterfactuals where remote work becomes more common in the future, several studies predict important changes at both city and national level. For the Los Angeles metropolitan area, Delventhal *et al.* (2022) found that if 33% of employees work remotely, average house prices will fall by 6%, increasing in suburban areas and dropping even further in the central city areas. This would be triggered by the migration of employed people from central areas to the peripheral areas, which offer more affordable housing options and more amenities. Gupta *et al.* (2022) supported this model with data on 30 US metropolitan areas where house prices and rent dropped in the city centre and increased away from the centre in 2020, flattening the bid-rent curve in most cases. Additionally, a higher propensity for work-from-home was associated with residential sprawl in a counterfactual model of job markets and increasing work-from-home in the case of several professions in Australia (Lennox, 2020). By considering the national migration of workers and expanding the analysis to the entire US, Delventhal and Parkhomenko (2020) predicted a movement of residents from large coastal metropolises to small interior cities and a 1.5–1.7% real-estate price drop in the most expensive cities (New York, Los Angeles, and San Francisco).

Based on their dependence on higher education institutions in terms of employment and students’ expenditures, towns and cities home to large universities were impacted by campus closure due to COVID-19 pandemic in different ways. Sullivan (2020) exposed the vulnerability of highly dependent US college-towns to both short-term and long-term post-pandemic disruptions, such as decreased student expenditures during the online learning period and the decline of future enrolment, likely leading to the closure of financially vulnerable higher-learning institutions in the long-term. In a more quantitative manner, Chircă and Lazăr (2021) estimated that for each month of lockdown in Cluj-Napoca (Romania), a loss of 33.4 mil. Euros, that is, a drop of 0.5% in the city’s GDP (7,300 mil./year according to CIRD, 2020), was expected triggered by the overall decrease in students’ expenditures.

Our study aligns with this research line, assessing the effects of COVID-19, such as the impact of remote learning in universities upon the student-based rental market in Cluj-Napoca, Romania. Housing in Romania is characterized by the propensity for owning a place to live, rather than renting it – home ownership is at 95%, the highest in the world (OECD, 2021 b). Besides, in the case of large cities, an average family would have to pay, for the same residential unit, a similar monthly amount either as rent, or as a mortgage payment (World Bank, 2015, p. 162), therefore making home buying a sensible decision. Moreover, getting a mortgage loan is a fairly accessible process, thus limiting the renting demand to students, young employees, and foreign citizens. While considering these premises, we assume that changes in student renting behaviour would have a considerable impact on the rental

market of the university cities. We chose Cluj-Napoca as the area to test this hypothesis because it has a ratio of students to residents of 21%, the highest in the country (Chircă and Lazăr, 2021). In this context, our main objectives were:

- to identify changes in the students’ renting behaviour after the universities in Cluj-Napoca transitioned to remote learning, and
- to understand how these changes impacted the average rent in the city.

2. METHODOLOGY

2.1. Context and case-study

The first cases of COVID-19 were registered in Romania in late February 2020. Measures to prevent the spread of the virus started with a nation-wide lockdown between mid-March and mid-May, followed by a state of alert characterized by various types of restrictions applied to economic and social activities (depending on the severity of the epidemiological context) for the next two years, until the 8th of March 2022. During the pandemic, education was strongly impacted – in March 2020 schools all over the country closed, while universities shifted their activities to online/remote learning. In April, all schools switched to online learning, and activities continued in this format until the end of the school year. Alternating periods of online learning, in-person learning, hybrid learning and even school closures were the reality of the following two school years, 2020–2021 and 2021–2022 (Săgeată, 2022). However, the universities’ autonomy allowed them to avoid these frequent activity changes and most of them functioned online for two years (Săgeată, 2022).

Online teaching was a new activity for the Romanian education system; there were almost no established practices in this area (Edu *et al.*, 2022). Neither the schools, nor the universities were prepared at that point for the exclusively online education (Coman *et al.*, 2020). As a consequence, the education system faced major challenges, such as lacking appropriate hardware and software for online teaching and remote learning, students’ and teachers’ inadequate or non-existent digital skills, missing or poor internet connection etc. (Zamfir, 2020; Săgeată, 2022). This situation contributed to the discontent of students, parents, teachers, and education experts with regards to online learning (Butnaru *et al.*, 2021; Coman *et al.*, 2020; David *et al.*, 2022).

Cluj-Napoca is the second-largest city of Romania, and the second university centre in the country in terms of the total number of students (second to Bucharest). There are ten universities in the city, the largest one being Babeș-Bolyai University (BBU), which enrolls roughly half the total number of university students in the city (Table 1).

Table 1

The number of students enrolled in public universities in Cluj-Napoca

University Name	Total number of students in the 2019–2020 academic year
Babeș-Bolyai University	39,054
Technical University of Cluj-Napoca	20,587
“Iuliu Hațieganu” University of Medicine and Pharmacy	8,017
University of Agricultural Sciences and Veterinary Medicine	5,339
“Gheorghe Dima” Music Academy	1,185
The University of Art and Design	1,153
<i>Total</i>	75,335

Source: Registrul Educațional Integrat/The Integrated Education Register.

Alongside the public universities’ students there are 2,733 students enrolled at private universities (source: National Institute of Statistics). Those universities are the “Bogdan Vodă” University, the Cluj-Napoca Branch of Sapientia (the Hungarian University of Transylvania), the Cluj-Napoca Branch of the “Dimitrie Cantemir” Christian University, and the Protestant Theological Institute of Cluj-Napoca.

All ten higher education institutions located in Cluj-Napoca have large recruiting areas, most of them exceeding the regional level (Cristea *et al.*, 2017) and the vast majority of their students are non-locals, such as 77% of BBU students (UBB, 2020). The university dorms provide housing for less than a third¹ of the non-local students, the remaining ones have to find accommodation on the private rental market. Considering an average student household as having 2.5 persons², this means 12,700 rental units, or up to 9.4% of the city's housing capacity³.

During lockdown (March-May 2020), universities in Cluj-Napoca shifted to remote learning and closed most of their dorms. After mid-May 2020, the lockdown (the state of emergency) was replaced at the national level with a state of alert with fewer mobility limitations, but the campuses remained closed for the last part of the second semester of the 2019–2020 academic year. For the majority of students in Cluj-Napoca, the 2020–2021 academic year started remotely, the universities keeping most dorms closed, but several faculties offered in-person courses and laboratory classes to the first-year and last-year students and to students in practical specialties.

2.2. Methodological aspects

The present study was based on a non-probabilistic online survey targeting students and on a rent index analysis. In order to gain insight into the national and local trends in the rental market before and during the pandemic we have reviewed two real-estate websites (<https://www.imobiliare.ro/> and <https://www.blitz.ro>) and read 37 real-estate analysis documents posted on these websites. To further the analysis and identify the specificities of the rental market in Cluj-Napoca we have conducted two semi-structured interviews with experts.

The questionnaire we used was designed for a larger study addressing the impact of the COVID-19 pandemic on students' mobility, residential status, and travel behaviour. The section on mobility and housing contained 14 items (closed items and 7 Likert scale-point type items). We posted the questionnaire on the QuestionPro Research Platform (ID 7430023) and the link for the online survey was active between June 25 and August 20, 2020. We disseminated the survey link on online student groups and on social media. According to the final QuestionPro report, 1,058 people viewed the questionnaire and the response rate was 40%. The final sample had 263 valid questionnaires, most of them filled in by BBU students (87%). Before the lockdown and prior to remote learning in universities, 47% of the respondents were living in rented accommodations and 35% in university dorms. For the present study we used a subsample of 99 students living in rented accommodations that answered most

¹ In January 2020 there were 31,570 BBU students studying in Cluj-Napoca, according to Chircă and Lazăr (2021). The total number of BBU students is larger than that, but the students enrolled in BBU faculties located in other cities were excluded, as were the ones enrolled in postgraduate courses, distance learning and part-time learning, or in training programs for teachers. Using this number of students and the rate of BBU students to the total number of students enrolled in universities in Cluj-Napoca (52%, according to data in Registrul Educațional Integrat/The Integrated Education Register) we calculated a total number of 60,712 students studying full-time in Cluj-Napoca. Based on the percentage of non-local students enrolled in BBU – 77% (UBB, 2020) – we calculated that there are 46,748 non-local students enrolled in all the universities of Cluj-Napoca. The total housing capacity of the dorms is around 15,000 places (Magrădean *et al.*, 2019), which means that only 32% of the non-local students can be accommodated in the universities' campuses [according to UBB (2022), the students enrolled in public universities having permanent residence at least 20 km away from Cluj-Napoca may live in a dormitory if they are enrolled as full-time students on the government-financed student places. The places in dorms are distributed yearly, based on the academic performance of the students (90% of the places), as well as according to social or medical criteria (10% of places)]. The remaining 31,748 students have to find accommodation mostly on the private rental market.

² A typical student household had an average number of 2.73 persons in Ireland (HEA, 2020) and 2.3 persons in Austin, Texas (Aggeler, 2020). Due to missing data on the size of the average student household in Romania, we have used the general average household size in Romania for 2021 (2.5 persons) for this study, as calculated by Eurostat (<https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-1b.html?lang=en>).

³ Out of the 135,419 residential units registered in Cluj-Napoca according to the Population and Housing Census of 2011.

questions about mobility and housing. The sample consisted of people aged between 18 and 26, 92% being undergraduate students and 8% Master's students. The monthly rent they paid varied largely, from under 100 to over 250 euros, while the most common rent was between 100 and 150 euros per month (for 40% of respondents the stated monthly cost of the rent ranged between 100 and 150 euro). Moreover, considering the average rent in the neighbourhoods where the majority of the students in our sample lived (Fig. 1), the logical conclusion is that most of them were rent sharing with other tenants.

The “Blitz index” (<https://www.blitz.ro/indice-blitz>) was designed by the “Blitz Imobiliare” real-estate company in Cluj-Napoca. For the average rent, it is based on several thousand individual rental offers posted on the company webpage. The values of the index are calculated as daily averages after 30% of the rental offers, the lowest and the highest ones, were eliminated in order to ensure the accuracy of the index. For this study we have used the values of the “Blitz index” for March 2020 – June 2021 period.

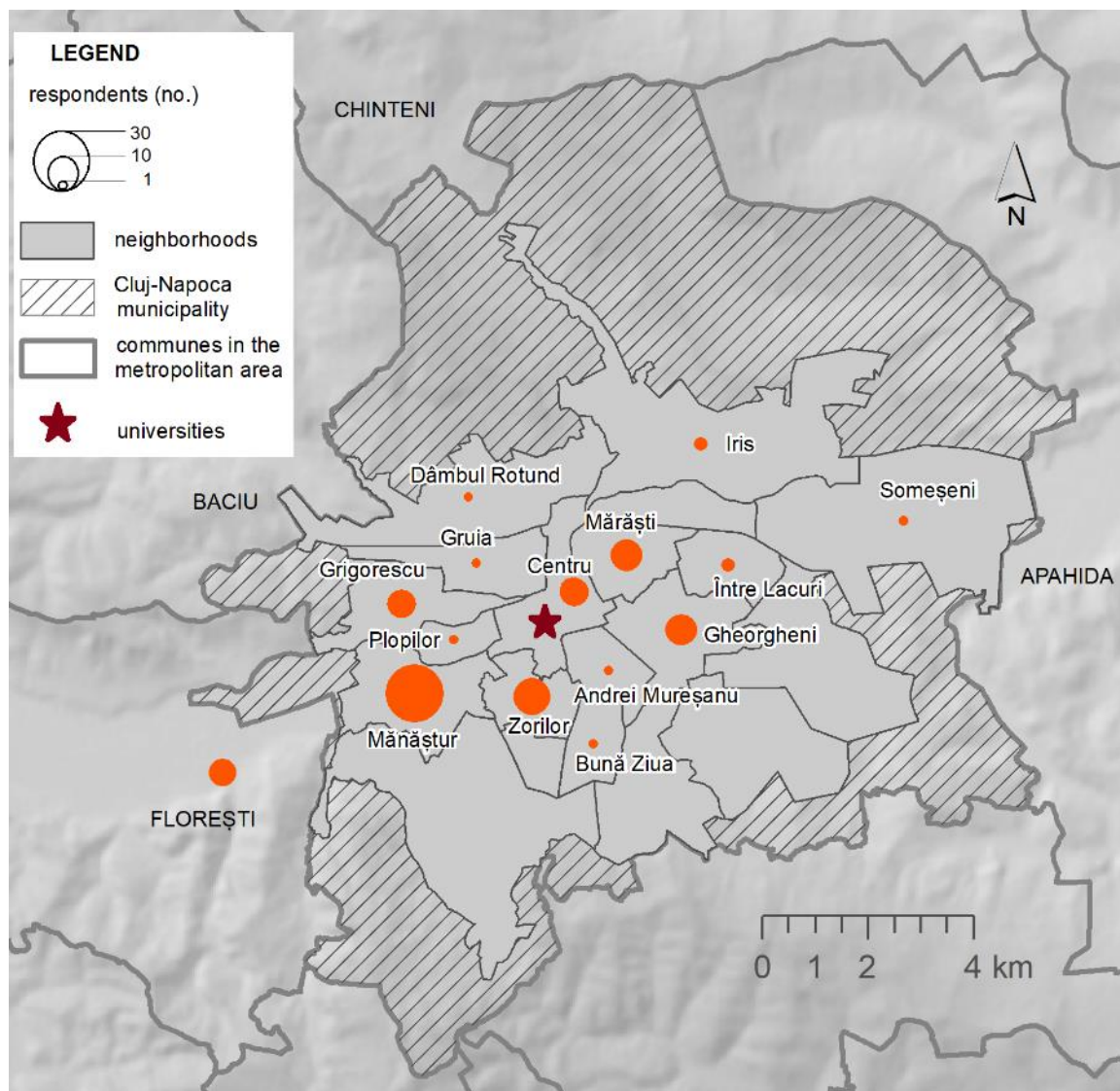


Fig. 1 – The distribution of respondents by the neighbourhoods where they were living in rented accommodations. The headquarters of the main universities in Cluj-Napoca are located in the city centre.

3. RESULTS AND DISCUSSIONS

3.1. Student renting in Cluj-Napoca in the context of university remote learning

After the lockdown was imposed and the universities transferred teaching activities online, 78% of the non-local students that were living in rented accommodations left the city (they went home or in other localities). Some (14%) returned to Cluj-Napoca after the lockdown ended, but most of them did not. However, in terms of renting behaviour, the situation was more nuanced – after two months of lockdown, 71% of students were still paying rent, while 29% had ended their tenancies. It appears that not only those staying in Cluj-Napoca during the lockdown continued to pay rent, but also more than half of those leaving the city during that period (out of 77 students that left the city 48 continued to pay rent and 29 ended their tenancies).

There are several explanations for this development. Firstly, it could be partially explained by the widespread uncertainty as to how long academic activities would continue remotely. The higher education institutions announced the extension of their remote learning period in accordance with the Government prolonging the duration of mobility restrictions and physical distancing measures (first the lockdown was extended by one month, then, a state of alert was issued, which was extended every month for another 30 days); only in mid-May 2020 the universities finally announced they would continue the teaching activities remotely for the remainder of the spring semester. In these circumstances it is highly probable that the students postponed radical decisions about their tenancies, not to mention all the other factors related to the individual circumstances that a student was in. In most cases, the existence of legal constraints (e.g., a formal tenancy agreement) and landlords having cut the monthly rent payments (Fig. 2) were the factors that influenced the students' decisions about maintaining their tenancies. For 10% of students, maintaining tenancies was associated with the desire to keep living in a good location („because I did not want to give up living in that specific location”) and, for 2% of them, with rent having been paid in advance (“because I had already paid the rent for several months in advance”).

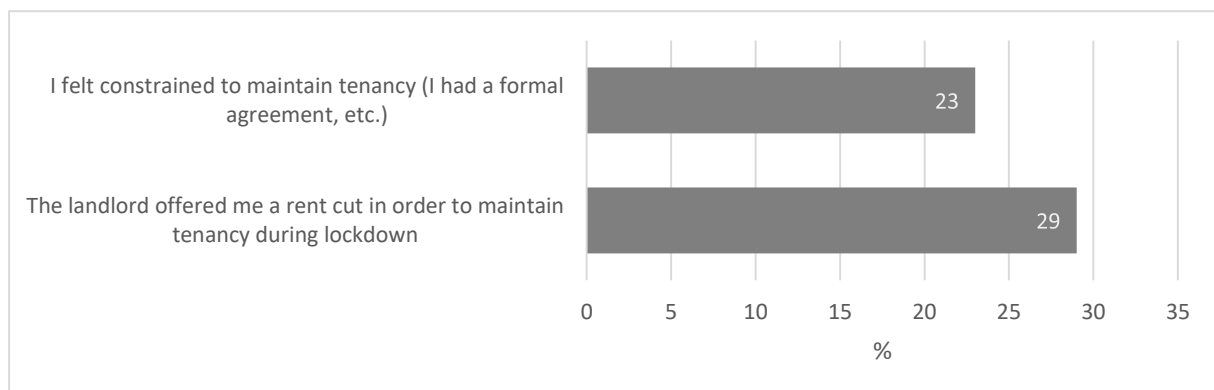


Fig. 2 – The most important factors influencing the students' renting behaviour (the percentage of students stating one explanation or the other of the above accurately described their situation – they selected 6 and 7 on a 7-point Likert scale).

Aside from those mostly pandemic-induced circumstances, one must take into consideration the specificity of the Romanian rental market. Most often, the tenancy agreements in Romania are not legally registered (World Bank, 2015, p. 82), so being unilaterally terminated is very simple, and adjustments to the rent can be made fast and easily. In order to understand if and how adjustments were made in the context of the COVID-19 pandemic we have asked the students to report the cost of

the rent before and after lockdown using two closed questions with answers corresponding to five rent classes: under 100 euros, 100–150 euros, 151–200 euros, 201–250 euros and over 250 euros. Analysing the difference between the rent declared before the lockdown and the transition to remote learning in universities, and the rent declared after the lockdown, it resulted that after lockdown 29% of students reported zero renting costs, 41% reported the rent as being approximately the same, for 28% the rent had decreased, and for 2% it had increased (when co-tenants ended their tenancies earlier, leaving the burden of paying the entire rent to the remaining tenant). In most cases (22 of 28 cases), the rent decreased by 50 euros/month (one class), but there were situations when a decrease of 100 euros (two classes) was reported (6 out of 28 cases). Summing up these changes, one may note a 5,600–7,000 euros monthly loss for the landlords during the two months of lockdown (Table 2). Extending these results to all students in Cluj-Napoca that were living in a rented accommodation before the lockdown (31,748 students, based on our calculations), the total loss amounted to 1.8 – 2.2 mil. euros/month.

Table 2

The rent cost for the students in the sample before and after the lockdown

Rent classes	Number of students paying rent before the lockdown and remote learning	Number of students paying rent after two months of lockdown and remote learning	The rent paid by the students in the sample (euro)			
			before the lockdown and remote learning		after two months of lockdown and remote learning	
			<i>Min.</i>	<i>Max.</i>	<i>Min.</i>	<i>Max.</i>
50–99 euros	3	10	150	297	500	990
100–150 euros	39	29	3,900	5,850	2,900	4,350
151–200 euros	25	16	3,775	5,000	2,416	3,200
201–250 euros	16	9	3,216	4,000	1,809	2,250
251–300 euros	15	6	3,765	4,500	1,506	1,800
TOTAL	98	70	14,806	19,647	9,131	12,590
Total monthly loss of landlords renting to the students in the sample (euro)					– 5,675	–7,057

Assuming that all non-local students left the city during the lockdown, Chircă and Lazăr (2021) calculated an expected loss of 33.4 million euros per month caused by student expenditures that did not happen (according to their model, the cost of housing made up 23% of students' expenditures). Our study showed that the students' behaviour was more nuanced, as many of them continued to pay their rents, and part of them returned to Cluj-Napoca after the lockdown. These results suggest that, at least for the private rental market, the transition to remote learning in universities was not a sudden shock, but rather an extended decline, with gradually coalescing effects – remote learning during the entire spring semester gave way to the summer break, when part of the students usually don't pay rent anymore (the ones that graduated, the ones looking for a better place for the fall semester etc.). In addition, the BBU announcement (on July 24, 2020) that the fall semester of the following year would also unfold online likely influenced more students to end their tenancies or to not search for another rental.

3.2. Changes to the average rent in Cluj-Napoca

The average rent for accommodations listed on the www.blitz.ro webpage shows an almost continuous decrease in 2020 compared to the year 2019 (Fig. 3), and the persistence of this trend in the first months of 2021. A year after closing campuses and shifting to remote learning in universities, the average monthly rent decreased by 20% (in March 2020 the average rent was 411 euro, in March 2021 it was 329 euro).

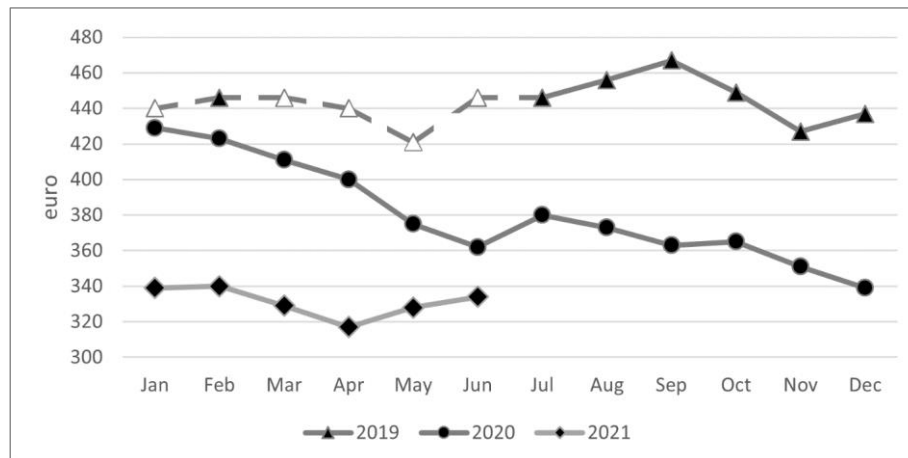


Fig. 3 – Average rent in Cluj-Napoca for a two-bedroom apartment.

Source: own graphical representation based on the Blitz rent index for the values between March 2020 – June 2021, the average rent prices retrieved from the market analysis documents posted on www.blitz.ro (for the values for February 2019, July 2019 – February 2020), and the estimated average rent prices based on the market analysis documents posted on www.blitz.ro and on interviews with real-estate experts (for values for January 2019, March – June 2019, in a segmented line and hollow triangles).

We cannot associate these evolutions only with the students' decreasing demand for renting in 2020, as it cannot be disconnected from the decreasing demand of the employees working from home that moved away from the city, or from the decreasing demand of those losing jobs in other economic sectors affected by the lockdown (bars, restaurants, cultural events etc.). However, it is highly probable that the 2020 disappearance of the usual seasonal increase in the average rent for the August–September period is strongly associated with the large number of students not coming to Cluj-Napoca; the World Bank estimated the rate of the student renting demand to the renting offer to be 1 to 10 at the beginning of a typical academic year in Cluj-Napoca (World Bank, 2015, p. 79).

Starting the spring of 2021, due to the decreasing number of COVID-19 cases in Romania and to the eased restrictions regarding mobility and social events, the real-estate experts were expecting an increasing demand for renting properties and, with it, a rising average rent. Moreover, the decreased average rent in 2020 came with the expanding number of potential renters (more people could afford to pay rent) and an increasing number of transactions. A lower rent may also mean a lower cost for attending a university, thus an increased accessibility to higher education for a higher number of potential students.

4. CONCLUSIONS

The sudden transition to remote learning in universities as a way to reduce the COVID-19 spread was a natural global experiment that allowed for several observations. One of them was the empirical measurement of the economic impact of universities and students on the cities' economies. Closing campuses and switching to remote learning in the universities in Cluj-Napoca meant that many students were leaving the city (83% of those living in rented accommodation off-campus and 98% of those living in university dorms). Despite this "exodus", the direct impact of the students' expenditures in the local economy did not disappear all at once – 71% of those previously living in rented accommodations continued to pay rent after two months of lockdown and remote learning in universities, and part of those leaving the city during lockdown returned after the mobility restrictions

eased up. However, for the landlords renting to students the amount of money lost because of students ending their tenancies earlier and the amount lost to agreed rent cuts added up to a loss of around 2 mil. euros/month during the lockdown. After this first shock, the situation became more complex with the continuation of online learning during the 2020–2021 academic year. This, together with maintaining the work-from-home policy and keeping all cultural and sporting events shut down for almost a year resulted in a decreasing demand for renting, thus driving the average rent down by 20% between March 2020 and March 2021. Moreover, the decreasing number of renting students in Cluj-Napoca influenced the seasonality of the demand leading to the flattening of the usual average rent increase before the start of the fall semester.

Another observation that the pandemic facilitated was a glimpse into a future where education is mostly conducted online. Although one can argue that the government-imposed restrictions (bringing changes to everyday life by limiting the social gatherings and even leading to losing jobs) had a very important role in keeping students and young employees out of the cities, the experience of the year 2020 proved that remote learning is another possible way of going to college for many students. As the increasing use of the commercial online learning platforms and the pervasiveness of distance learning programs and MOOCs in many universities prove (Coursera, 2020; Van der Zwaan, 2017), the future of higher education is becoming more and more digital. This forced online experiment sounded a wake-up call for the more traditional universities, urging them to prepare for and adapt to these changes. However, many scholars think that more students taking classes remotely does not necessarily mean the death of in-person teaching, but rather a higher flexibility and more innovative teaching environment in universities (Dennis, 2020; Witze, 2020). Moreover, unlike small American college towns, where the university is the major player in the local economy, in Cluj-Napoca, while important, the universities are but one element in the economic and cultural life of the city. Here, the attractive power of the city among students and young employees remains intense, as suggested by the large number of those maintaining tenancies during the lockdown, while living away from the city, and by the increasing average rent since May 2021.

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