LISER

Annual Report 2020

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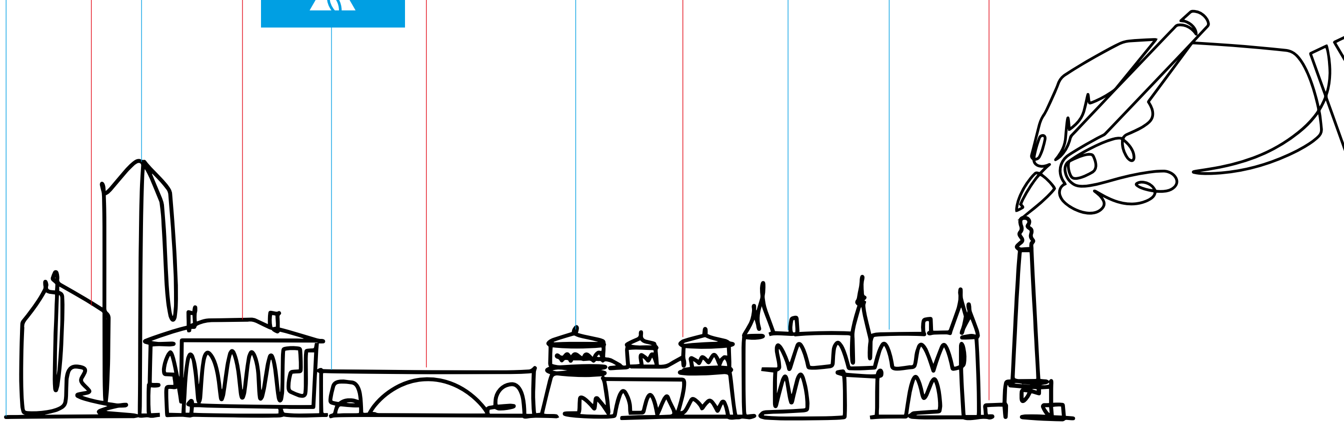


Véronique Hoffeld, Chairwoman of LISER

THE CHAIRWOMAN'S WORD

The year 2020 will go down in history as a very unusual year. The pandemic has put our lives on hold for at least a year and has made us realise that our taken for granted freedoms can be curtailed at any time.

At the LISER level, the pandemic has also had a significant impact. Indeed, the pandemic redirected certain resources to research directly related to the pandemic in collaboration with other public research institutes within the COVID task force.

In this context, it should also be noted that LISER has succeeded in obtaining more and more competitive funding, and in particular the funding of six projects within the framework of the COVID-19 Fast Track Call of the National Research Fund.

The year 2020 was characterised by the efforts of the institute's directors together with the members of the Board to develop a strategic plan for 2022-2025 in line with the priorities determined by the government.

Another highlight was the arrival of Christina Gathmann, the new Director of the Labour Market Department, who will lead, amongst others, gender-sensitive work at LISER. Within her department, the 'Gender Game' project, for example, is a project promoting science to the public in order to deconstruct gender stereotypes.

Another highlight of 2020 is LISER's participation, together with its partner Applica, in the two European feasibility studies for a 'child guarantee', with the aim of preventing and combatting social exclusion by guaranteeing for all children, among other things, education, care, food and housing.

Prof. Aline Muller, CEO of LISER

THE CEO'S WORD

LISER remains determined to anchor the synergies that arise from its dual mission - in terms of scientific excellence and in terms of societal impact - at the heart of its identity. With this commitment, our institute has continued to improve its performance in these two dimensions. The competitiveness of our research projects has continued to increase significantly at both regional and international levels, and our research work has continued to gain in impact and visibility among an ever wider range of stakeholders in society.

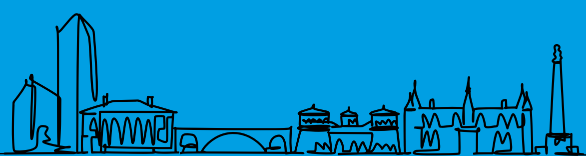
2020 also saw the continued implementation of our strategic improvement plans along the orientations defined by our Board of Directors as well as in the framework of the new human resource policy and implementation of LISER's first Collective Labour Agreement.

It cannot be ignored that 2020 was strongly disrupted by the spread of the COVID-19 pandemic. Our priority has of course been to put in place all emergency arrangements to ensure the health safety and well-being of all our staff. New virtual collaborative tools were deployed to adapt to the distance imposed to us by the health measures and to ensure the continuity of our activities. They have supported our interactions which are essential to the life of our institute and its scientific emulation.

It should be emphasised that during this difficult period, in parallel with the adjustments made to our operations, our institute while increasing the level of its core activities contributed from the very first weeks to the setting up of the *Research Luxembourg Task Force COVID19* and mobilised its research force and infrastructure to inform and assist society and its authorities effectively in the management of the pandemic. These contributions focused both on the socio-economic implications of the crisis as well as on the socio-economic and spatial parameters of the management of the pandemic. In this context, we have worked closely with our research partners, government bodies, public administrations and private, public and associative actors in our country, as well as with our foreign partners and counterparts.

A crisis is a source of transformation. In view of the transformations that our society is undergoing, we felt it was important in this 2020 activity report to present our research work to you in terms of what it tells us *about* our society and *for* our society.

LABOUR MARKET DEPARTMENT



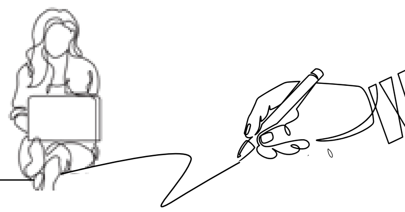
Prof. Christina Gathmann, Head of Department

A core activity of the department will be to analyze ***the consequences of the digital and green revolution for the labour market.*** Both transformations have just began to reshape the way people work and do business – destroying jobs, making skills obsolete, but also creating many new opportunities. How the labour market adapt to these challenges will determine future job creation and growth – and ultimately Luxemburg's future competitiveness and innovative capacity. The department will develop empirical tools to identify emerging skill needs and potential skill gaps in the Luxembourgish labour market; and a platform to inform stakeholders, policy-makers and employees about ongoing skill and job changes, among other activities.

A second core activity will be to provide ***state-of-the-art evidence-based policy advice to Luxembourgish decision-makers*** on challenges like long-term unemployment, the gender gap, older workers in the workforce or the integration of migrants, for example. The department has long-standing expertise in the evaluation of public policies like active labour market policies, training and retraining, minimum wages or family policies. In the coming years, we will expand our activities to analyze the consequences of health or migration policies and environmental regulations on the labour market.

A third core activity of the coming years will be to ***improve the data infrastructure and in particular access to high-quality data in and for Luxembourg.*** In collaboration with the Data Centre, we will work on establishing a safe room to access administrative data on workers and firms for Belgium, France and Germany at LISER. Another project will work to link administrative data from Germany and Luxembourg, which would enable us to analyze employment biographies of past and current cross-border workers. A third project will be to harvest the potential of big data on job vacancies and job seekers to learn about skill needs of firms and emerging skill gaps in "real time".

We also plan a number of initiatives to intensify ***the dialogue with the public and stakeholders in Luxembourg on important labour market topics.*** One example is the "Gender Game" (GG) for schoolchildren, which raises awareness of gender stereotypes, societal expectations and ascribed role models in a playful way. The in-person GG has already been a great success. We now develop a digital version of the Gender Game, which has the potential to increase its scope beyond individual school visits and potentially even beyond the borders of Luxembourg.



BUY FLEXIBLE, PAY MORE: THE ROLE OF TEMPORARY CONTRACTS ON WAGE INEQUALITY

Albanese, A., & Gallo, G. (2020). Buy flexible, pay more: The role of temporary contracts on wage inequality. Labour Economics, 64. ¦ *SJR: 1,368*

https://doi.org/10.1016/j.labeco.2020.101814

During the last decades, temporary work contracts have gained importance in several European countries aiming at providing flexible labour to employers and facilitate the labour market integration of "marginalized" categories such as low-skilled individuals, youths, and women. This is especially true in Southern European countries, whose labour markets tend to be characterized by a high level of duality between highly protected open-ended jobs and insecure temporary contracts. For example, in Italy and Spain, the share of young employees working in a temporary job is 58.9% and 66.4% respectively (Eurostat, 2020).

The economic theory suggests that permanent contracts - as opposed to temporary contracts - are intrinsically more valuable to workers. For this reason, according to Rosen (1986) 's economic theory of equalizing differences, for the same level of skills, workers would need to receive a 'premium' to accept a fixed-term contract to compensate for worse working conditions. Despite this theory, most of the previous empirical studies have found a wage penalty for temporary contracts in several OECD countries. However, the existing literature suffers from important limitations in the econometric analysis, such as relying on survey data, which tends to offer a limited time horizon to retrieve the employment history of the individuals. It typically also focuses on jobs that are ongoing at a certain point in time, which tend to be a selective subgroup of all the temporary and permanent contracts that started during a certain period.

This study overcomes this limitation by focusing on rich administrative data from social security registries of Italy. A representative sample of more than 3 million new jobs created between 2005 and 2015 was drawn, and the entry salary of temporary and open-ended jobs was compared. To ensure that the two groups of contracts share similar characteristics, the study exploits the rich longitudinal dimension of the dataset and makes sure that the two groups of workers share on average similar socioeconomic characteristics and work experience over the last 16 years (including their previous contracts and salaries). Furthermore, by focusing on new hires, it can eliminate potential problems of selectivity in contract retention, which may differently affect the composition of the two groups.

After introducing this methodological innovation, in a break with the previous literature, this study shows that, on average, an individual hired in a temporary contract earns a daily salary that is 11% higher than the one earned by a similar individual hired on a permanent contract. The wage premium at hiring is larger for "marginalized" categories such as women, youths and low-wage workers, for whom a permanent job may be even more valuable due to their higher unemployment rates. In line with this finding, the premium is also higher during the years of the economic crisis.

Dr Andrea Albanese

If you were to transpose the problematic of your publication to the case of Luxembourg, what would you say?

Luxembourg is characterized by a lower degree of labour market duality since the share of employees in temporary employment is 7.7%, which is below the EU27 average of 13.6% (Eurostat, 2020). This may be the result of stringent regulation for hiring with a temporary contract but also of the less stringent employment protection legislation (EPL) for permanent contracts, which should reduce the firms' incentive to rely on temporary jobs to obtain flexible labour. Indeed, the OECD index of "Strictness of employment protection" for open-ended contracts in Luxembourg is around the OECD average (2.14), while the index on the strictness of the use of temporary contracts is the second-highest in the OECD, immediately after Turkey (3.75).

The labour market duality of Italy is instead much higher as the share of employees in temporary jobs is about 15.2%. At the same time, the EPL for permanent contracts is also one of the highest in Europe (3.02 until 2012). The stringency of EPL for permanent contracts may be one of the main drivers of the estimated wage premium for temporary contracts, as high EPL may increase the intrinsic value of a permanent job for an individual. In line with this theory, the study shows a lower wage premium when an important reform of the Italian labour market reform was introduced, the Jobs Acts, which decreased the EPL-index for permanent contracts to 2.47.

Even if temporary contracts are less common in Luxembourg, temporary workers still suffer from worse working conditions due to shorter expected job duration and a higher likelihood of future unemployment spells. Therefore, in contrast to other forms of wage inequality, the estimated wage premium should be seen as a welcomed form of inequality to compensate workers for the flexible labour supplied to their employers. However, it remains difficult to establish whether a wage premium of 11% is adequate to cover the most unfavourable working conditions and is therefore sufficient to reduce the duality of the labour market.

OLDER WORKERS' EMPLOYMENT PARTICIPATION: NEW EVIDENCE FROM LUXEMBOURG (*WORKAGEING*)

Companies in industrialized countries are facing an aging workforce, due to increasing life expectancy and lower fertility. This means a shift from younger to older age groups, and increasing age diversity in the workplace. Maintaining economic performance under these conditions is one of the most pressing global policy challenges for the coming years. In this context, there is a growing need to understand how to sustain the employment of older workers and reduce the potentially adverse effects of demographic change on economic performance. We present here some results of *WorkAgeing*.

An analysis published in the *European Management Journal* (2021) sheds new light on the possible effects of age diversity on technological innovation, and explores the ways companies can act to mitigate problems. Technological innovation is a social and multidimensional process involving the participation of people from different generations. It could be hampered by poor knowledge transfer and a lack of cohesion between age groups. Managing age diversity to support innovation has thus become crucial. Based on a linked dataset with company and employer-employee data for Luxembourg, we show that the effect of age diversity is substantial. For instance, the benefits of age diversity depend on the corresponding age distribution: the benefits are greater for companies with mixed age groups, but smaller when groups are polarized. These results highlight the importance for managers to understand the implications of age composition and to put in place appropriate strategies. We show, for example, that companies facing age polarization can counteract the negative impact on innovation by using management practices that encourage information sharing and communication among employees (meetings between senior management and employees, team working, etc.). To embrace the benefits of variety, practices such as training and development should be adapted to each age category. As younger and older people have different skills and abilities, failing to suitably adapt development programs to their characteristics will hinder organizational performance and innovation.

In addition, we have suggested analyzing the factors that determine the health and well-being of active seniors (published in *Sozialalmanach Caritas*, 2020). This can be an economic issue, as supporting the well-being and health of older workers reduces absenteeism, keeps them in employment, and discourages them from taking early retirement. Based on survey data, we show that discrimination, harassment, and adverse working conditions are the most harmful for well-being and health. We also show that seniors' inclusion in high-commitment management practices (such as decision-making, information sharing, and supervisor–worker interaction) and flexible working arrangements (part-time work, telework, flexible working, etc.) can make active seniors happier and healthier.

The challenge of retaining highly-skilled employees (the guardians of valuable expertise and knowledge), is of utmost importance considering the impending knowledge shortage in the labor market. Therefore, we examine how specific management practices could help. Using data for Luxembourg employees, the analysis (published in *Applied Economics*, 2021), predicts that without relevant management strategies, highly-employable staff will leave, regardless of their age. We also show that management practices differentially affect the retention of highly-

Dr Nguyen-Thi Thuc Uyen

employable younger and older employees: practices that stimulate motivation (training, teamwork, etc.) play a stronger role in retaining younger workers; practices that offer flexibility (teleworking, work-life balance, etc.) help in retaining older employees. This analysis has important policy consequences in countries where the state aims to regulate an ageing workforce through incentives and financial support in various ways in line with different age groups. In most cases, state aid is targeted at the young, to help them into work, or at older people struggling with employment before the age of retirement. Hence, all these public policy issues are closely linked to the degree of government involvement in companies’ strategies.

Among policies to improve older workers’ employment participation, the Luxembourgish government introduced in 1990’s subsidies for employers who hire older unemployed people. This policy was extended in 2006 and 2017 to reinforce its effect. A current project aims to provide insights into this policy by analyzing how people benefit from these subsidies and the characteristics they share. A further project will assess the effectiveness of this policy to reduce the unemployment of older workers.

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Bourgeon, P., Hauret, L., Marguerit, D., & Martin, L. (2020). Quelles sont les compétences recherchées au Luxembourg ? Entreprises Magazine, 103, 110-112.

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Nguyen-Thi, T. U. (2020). Face à la démission, les femmes et les hommes sont-ils motivés par les mêmes raisons ? Femmes Magazine, n°215, p. 64.

Thill, P., & Kirov, V. (2020, Sep 23). Covid-19 and a new social Europe. Blog Social Europe, https://www.socialeurope.eu/covid-19-and-a-new-social-europe

DIGITAL TRANSFORMATION

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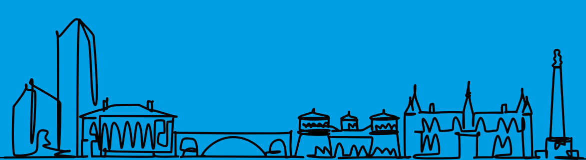
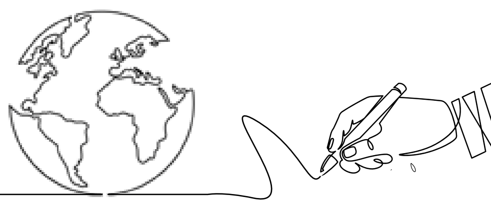
Catanzaro, D., Frohn, M., & Pesenti, R. (2020). An information theory perspective on the balanced minimum evolution problem. Operations Research Letters, 48(3), 362-367. https://doi.org/10.1016/j.orl.2020.04.010

CROSSING BORDERS RESEARCH PROGRAM



Prof. Frédéric Docquier, Research Program Leader

Launched in 2019, the cross-departmental Research Program on *Crossing Borders* aims to promote and coordinate studies on cross-border mobility at LISER, in order to advance scientific knowledge and provide sound policy advices on its causes as well as on its societal and economic implications. The primary scientific objective is to build new tools to monitor, analyse and improve the understanding of the causes and consequences of cross-border flows of people at a highly detailed spatial level. In the coming years, the research team is committed to pursue and develop new innovative projects on the electoral/political impact of cross-border movements, on long-term global migration responses to climate change, conflicts and income inequality, on the interplay between commuting and residential migration choices, as well as on the sustainability, cohesiveness and inclusiveness implications of the core-periphery developments in the Greater Region. The team also aims to provide policy decision-makers, stakeholders and the civil society with databases, policy briefs and expert analyses to help them understand the forces at work and the consequences of their actions. The objectives for the coming years are to shed light on the effectiveness of Luxembourg's integration policy, to gain understanding of the consequences of cross-border mobility in Covid and post-Covid times, to launch new research on racism and ethno-racial discrimination in Luxembourg, and to analyse the effect of Luxembourg's and European development cooperation policies on economic growth and poverty in the partner regions as well as on internal and international migration decisions. The Research Program takes advantage of the diverse methods and interdisciplinary skills available at LISER. *Crossing Borders* is the managing body of ACROSS, a new doctoral training unit (2020-2026) gathering economists and geographers from LISER, from the Department of Economics and Finance of the University of Luxembourg, and from the Research Division of STATEC. The partner institutions aim to create a team of excellence where migration and labour market scholars can interact together with data providers, and where new generations of PhD students can benefit from synergies between institutions. Crossing Borders is among the world top institutions in the field of Economics and Human Migration, and will remain very active in the organization of academic exchanges and research visits, conferences and webinars in partnership with renowned scholars and international institutions.



ANALYSIS OF IMMIGRANTS' RESIDENTIAL LOCATION CHOICE

Immigrant integration encompasses different dimensions, including socio-economic and cultural behaviors, which occur within a spatial context. In particular, immigrants' location of residence is likely to influence their interactions with natives and immigrant peers. This study investigates the determinants of the location choice, at the municipal level in Luxembourg, for different population groups : natives, immigrants established in the country and newcomers arriving after 2005. Using rich individual level data from the Luxembourg census 2011, it identifies individual and local characteristics linked to the individual's choice to enter or leave a specific municipality.

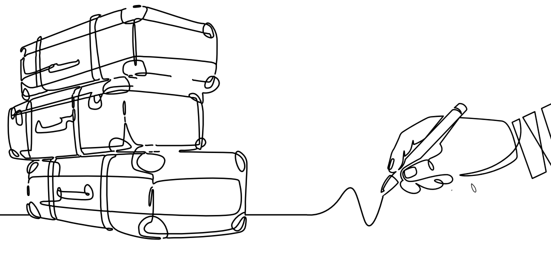
This report highlights the marked differences in location dynamics between natives and immigrants. Relocation propensities are higher among immigrants, especially among non-European immigrants. These differences lead to a decrease in inter-municipal segregation between natives and immigrants, i.e. a lower spatial separation of the two groups. Segregation at the outset is relatively low between natives and European immigrants, and residential mobility reduces it considerably. Initial segregation is higher between natives and non-European immigrants and, despite the fact that these immigrants move more, mobility reduces segregation less.

The highest inter-municipal segregation is observed when comparing newcomers to the native-born; newcomers are massively concentrated in the big cities and the surroundings of the capital, and then gradually find their place in the country. They leave the large cities for less populated municipalities but to a lesser extent than natives do. The differences in mobility between natives, European immigrants and non-European immigrants are only identifiable when differences in structure by age, gender and education are accounted for. These variables strongly influence the propensity to change residence. The differences become blurred when taking into account variables that are highly correlated with each other, such as years of residence in Luxembourg, housing ownership status, or naturalization. These findings seem to characterize the very gradual process of residential integration of immigrants in Luxembourg, which is linked to the length of stay and civic integration.

The identification of local factors influencing entry and exit reveals mixed findings. These can be explained by the imperfect variables used to measure the different relevant local characteristics (e.g., the measure of housing prices poorly captures the average value of real estate in the municipalities) or the very strong correlation between these variables (e.g., prices are correlated with amenities, distance to large cities, population size, etc.). Overall, non-European immigrants seem less sensitive to economic conditions (approximated by the unemployment rate), distance to amenities, or demographic conditions (out-migration from large cities is more common among natives). Network or diaspora effects emerge with counter-intuitive signs, which is consistent with the fact that residential mobility reduces spatial segregation, but may also hide other effects (such as competition in the housing or labor market). Hence, it is complicated to differentiate the economic and cultural factors, both attractive and repulsive, that govern disparities in propensities to change residence.

Dr Joël Machado

This project also sheds light on several methodological aspects. Comparing propensities to change residence and analyzing their determinants requires access to individual data. The aggregation of variables of interest (e.g. net entries into a municipality) and determinants (e.g., the average age of a population group) might indeed hide important layers of heterogeneity and make the results difficult to interpret. More importantly, a preliminary exploration of administrative data (available via the IGSS/RNPP platform) reveals that location choice dynamics can be analyzed in a more refined and precise manner. Administrative data exist by zip code and country of origin group, it is available with monthly frequency, and it contains a rich set of individual characteristics (including level and source of income, type of employment contract, etc.). The availability of data at the zip code (i.e., locality) level makes it possible to study spatial segregation between populations by combining inter-municipal and sub-municipal components, or to study the gentrification of communes. The temporal dimension also makes it possible to better identify attractive and repulsive factors. Hence, the results of this project can be seen as a first step in understanding local integration in the Luxembourg case. With access to existing administrative data sources, these results can be confirmed, extended and further enriched.



BIRTHPLACE DIVERSITY AND ECONOMIC GROWTH: EVIDENCE FROM THE US STATES IN THE POST-WORLD WAR II PERIOD

Docquier, F. & R. Turati & J. Valette & C. Vasilakis (2020). Birthplace diversity and economic growth: Evidence from the US states in the Post-World War II Period. Journal of Economic Geography, 20(2), 321-354. ¦ *SJR: 2,192*

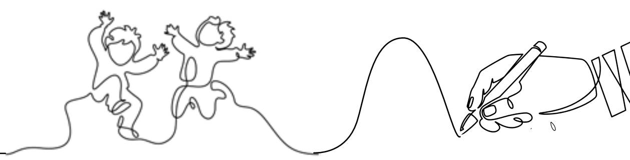
https://doi.org/10.1093/jeg/lbz016

Most studies investigating the impact of immigration shed light on how the welfare of natives and economic outcomes in the host country are affected by the size of immigration flows and by their composition by age and education levels. Nevertheless, the growing inflow of people coming from geographically, economically and culturally distant countries raises specific issues, as it has conceivably brought different skills and abilities, but also different social values and norms, or different ways of thinking. Immigration-driven changes in cultural diversity may have positive or negative effects on people's productivity in the host country. On the one hand, homogeneous people are more likely to get along well, which implies that cultural diversity may reduce trust or increase communication, cooperation and coordination costs. On the other hand, cultural diversity also enhances complementarities across diverse productive traits, stimulating innovations and the collective ability to solve problems since a more diverse group is likely to bring varied solutions to the same problem. Although evidence of such costs and benefits has been found at the firm level, the macroeconomic effects of cultural diversity are still uncertain and more difficult to assess, as they are governed by interdependencies between firms, industries and/or regions. Our paper investigates empirically the impact of birthplace diversity on economic growth, as well as the channels through which they materialize. The analysis relies on high-quality U.S. census data by state or by commuting zone over the 1960-2010 period. The choice of this period is guided by the 1965 amendments to the Immigration and Nationality Act, which led to an upward surge in US immigration and diversity. This rich data set allows us to better deal with endogeneity issues and to conduct a large set of robustness checks. This is crucial because economic prosperity and the degree of diversification in production are likely to attract people from different cultural origins, implying that a reverse causation relationship is likely to exist between diversity and growth. Our results suggest that cultural diversity brought by high-skilled immigrants positively affects economic growth. We provide converging evidence pointing at the existence of skill complementarities between workers trained in different countries. These synergies result in better labor market outcomes for native workers and in higher productivity in the R&D sector. Importantly, the gains from diversity are maximized when immigrants originate from economically or culturally distant countries (but not both), and when immigrants acquired primary and part of their secondary education abroad, and higher education in the destination country. By contrast, diversity brought by low-skilled immigrants has insignificant, or weakly significant and much smaller, effects on productivity.

Prof. Frédéric Docquier

If you were to transpose the problematic of your publication to the case of Luxembourg, what would you say?

Although the study relies on U.S. data, the incidence parameters estimated in our study are likely to hold in the European context in general, and in Luxembourg in particular. Other studies have found similar positive effects of diversity among high-skilled immigrants on productivity in the context of Germany, Austria, the Netherlands, or of the set of OECD countries. Compared to the U.S. and other European countries, the case of Luxembourg is peculiar as immigrants are on average well educated and young, and a majority of them originates from European countries. On the one hand, this means that the traditional effects on immigration, operating through the labor market, public finances and market size, are positive and larger than in many other industrialized countries, as shown in other studies. On the other hand, this means that the benefits from cultural diversity in the immigrant population are smaller than in the U.S. The simplest index of diversity measures the probability that two randomly drawn individuals from the population originate from two different countries of birth. In the U.S., this index amounts to 0.25 when combining the native and immigrant populations, and to 0.90 when focusing on the immigrant population only – the latter concept is the one at work in our study. In Luxembourg, these indices are equal to 0.50 and 0.80, respectively. This reflects the fact that the immigration rate is higher in Luxembourg, but the immigrant population is less diverse than in the U.S. In addition, most immigrants come from countries that are economically and culturally close to Luxembourg. Around one third of the immigrant population comes from contiguous countries, and another third originates from Portugal. In a nutshell, this implies that the benefits from immigration are greater in Luxembourg than in many other countries, but these benefits have more to do with the age and skill structures of the immigration population than with the cultural diversity that immigrants bring into the country. This finding is reinforced if one accounts for the role of cross-border workers, who represents almost one half of the workforce.



PUBLICATIONS 2020 OF THE CROSSING BORDER RESEARCH PROGRAM

Academic excellence

Publications using luxemburgish data

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Docquier, F. (2020). Immigration, pouvoir d'achat et inégalités: enseignements des modèles macroéconomiques. In V. Vandenberghe, J. Bughin, E. Dhyne, A. Jousten, M. Volral, & N. van Zeebroeck (Eds.), L'emploi et ses nouveaux défis. Vieillissement, digitalisation, migration et (dé)mondialisation: Actes du 23e Congrès des économistes (pp. 323-339). Université Ouverte de la Fédération Wallonie-Bruxelles.

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Beine, M., Bertoli, S., Chen, S., D'Ambrosio, C., Docquier, F., Dupuy, A., Fusco, A., Girardi, S., Haas, T., Islam, N., Koulovatianos, C., Leduc, K., Lorentz, N., Machado, J., Muller, A., Peluso, E., Peroni, C., Picard, P., Pieretti, P., ... Vergnat, V. (2020). Economic effects of Covid-19 in Luxembourg: Synthesis of the RECOV id working note. (RECOV id working note - Synthesis). LISER.

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Burzynski, M., Docquier, F., Machado, J., Adam, F., & Haas, T. (2020, Dec 3). How bad will the Covid-19 second wave be for Luxembourg's economy? LISER, (Policy Brief; No. 9). 14 p.

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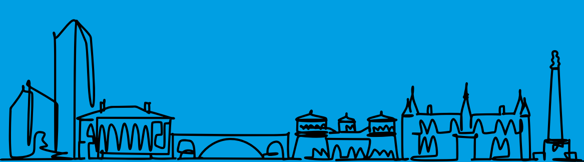
DATA CENTRE PLATFORM



Thierry Kruten, Platform Leader

Climate change and environmental pressure, migration phenomena, the digitalisation of the working environment, social integration and equity or public health are all areas for which having an ambitious research infrastructure, offering high-performance technological tools and sized to the growing volumes of data exchanged, is an essential condition for future innovations and scientific advances produced by LISER researchers.

Through its central mission as a data manager and by feeding and supporting LISER's research work, the Data Centre must accelerate the alignment of its organisational mode with the new needs of the scientific community, in an agile and evolving manner, as highlighted by the need to provide targeted and rapid responses to the occurrence of the health crisis. The formalisation of a roadmap for the development of the technological infrastructure within the framework of the 2022-2025 strategic plan is an opportunity not only to strengthen the diversity of instruments, already existing or planned, but also to emphasise the three main priorities for future investments, be it financial, technical and human, in order to conduct high-level research activities in the years to come.

ALIGNMENT OF ORGANISATIONAL MODE WITH THE NEW NEEDS OF OUR SCIENTIFIC COMMUNITY

A technological infrastructure for multidisciplinary and intersectoral research

The first priority is based on a technological pillar, i.e. the development of a data management platform providing operational solutions consistent with our research objectives by making available tools, skills and technical capacities to meet the criteria of scientific excellence. Observation, measurement, experimentation, intensive calculation and data sharing are the operational foundations of all quantitative and qualitative research activities in the social sciences and imply the adequate dimensioning of a digital infrastructure in terms of network, calculation and processing capacities, data storage and archiving. This infrastructure must not only align with LISER's research objectives, but also respond to the new paradigms of a more interdisciplinary and cross-sectoral social sciences research where large-scale datasets in combination with advanced data science and computation methods have become the new standard to understand complex societal problems.

A multidimensional challenge beyond technical implementation

This desire for openness and collaboration on a large scale implies that our research data infrastructure, which produces, processes and exchanges data, can be interconnected in a secure manner and in compliance with the ethical principles of the researcher's profession and the legal requirements of public research, particularly in terms of personal data protection. It is our responsibility to put in place concrete solutions to, by design and default, best protect the privacy of research participants while continuing to explain the challenges of tomorrow's society and provide answers. The Data Centre has and kept on developing an end-to-end encrypted data sharing platform from administrations to LISER for sampling to identify the target population of statistical surveys, as well as an end-to-end encrypted, untracked mobile phone data collection application, where the respondent has the free will to donate - or not - their data.

Transverse governance in collaboration with researchers

Like any major player in research data production and management, the Data Centre defines its strategy and puts it into operation through a data management roadmap that enables the implementation of quality data-related services that are readable by the research community. The key point for its successful implementation is the definition of a transverse governance ensuring the adequate articulation between the expressed and/or anticipated needs of the scientific community and the internal or outsourced technical and human capacity to meet them. In addition to capturing the needs, an ongoing dialogue between the research departments, the IT department and the Data Centre to ensure the steering of the development of the data platform is an essential development priority for the sustainability of a quality data infrastructure.

PUBLICATIONS 2020 OF THE DATA CENTRE PLATFORM

Data Centre

Articles in peer-reviewed journals

Guadarrama, M., Molina Peralta, I., & Tillé, Y. (2020). Small area estimation methods under cut-off sampling. Survey Methodology, 46(1), 51-75. http://www.statcan.gc.ca/pub/12-001-x/2020001/article/00004-eng.htm

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Guadarrama, M., & Plavsic, N. (2020). Dissemination of the survey methodology from a practical point of view. (Working papers; No. 2020-09). LISER, 24 p.

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Data Protection Officer, data Centre

Articles without peer-reviewed

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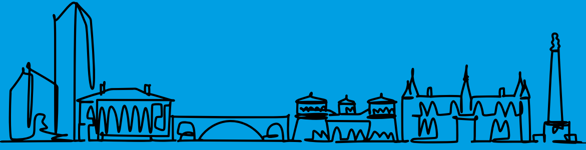
LIVING CONDITIONS DEPARTMENT



Prof. Eugenio Peluso, Head of Department

The Living Conditions department embodies at the same time the research tradition on socio-economic issues in Luxembourg and the need to adapt to the rapid evolution we have witnessed in recent decades. The Department is made up of about 35 researchers of various background and disciplines, reflecting the rich diversity of Luxembourg as a country. Over the last three decades, we have been conducting pioneering research and producing statistical evidence supporting the decisions of national and European policy-makers. The growing synergies between institutional management and applied high-quality socio-economic research have made it possible to attract high-level researchers and young scholars from all over the world. After thirty years of recognized research activity further strengthened by a major societal impact, the rising challenges are now mainly concerned with bridging the gap with the institute transversal programmes and strengthening the ties with other national research institutes and policy-makers. By contributing to the study of the impact of COVID-19 on the health, well-being and socio-economic conditions of Luxembourg families, the Department has shown its ability to quickly adapt to the evolution of social conditions and to offer policy-makers quick answers and useful information. The research themes we will pursue in the coming years will value our researchers' skills on topics such as education, income and wealth inequality, digitalisation, and family well-being and their consequences in terms of preferences for redistribution and political economy. These themes will be developed by promoting new synergies with our data center and with experts from other departments in geography, urban systems, health, migration and the labour market. The Institute plans to keep investing in the infrastructures developed in the Living Conditions department, such as microsimulation methods and large-scale surveys (as SHARE), so as to strengthen the identity of the Department in the national and European scientific community, and offer a competitive advantage capable of increasing our presence in the main international research networks.

We will continue to shed light on major social transformations taking place in the fields of health and ageing, sustainable environmental and demographic development, social cohesion and Equality of Opportunities in a multi-ethnic and multi-cultural context such as that of Luxembourg. All of this will be translated into numerous research initiatives, with the organization of training courses, scientific events and new opportunities for fundraising at both the national and the international level.

SYMBOLISM MATTERS: THE EFFECT OF SAME-SEX MARRIAGE LEGALIZATION ON PARTNERSHIP STABILITY

Chen, S., & van Ours, J. C. (2020). Symbolism matters: The effect of same-sex marriage legalization on partnership stability. Journal of Economic Behavior and Organization, 178, 44-58. ¦ *SJR: 1,482*
https://authors.elsevier.com/sd/article/S0167268120302432

In past decades, marriage has evolved from a specialization device to a commitment mechanism. Does this commitment mechanism of marriage affect marital stability? If so, what economic channels may explain this effect of marital commitment? This study explores these questions by extracting the symbolic significance of marriage as marital commitment. Marriage enforces a public commitment to a long-term relationship. This commitment and its resulting trust reduce the transaction costs of enforcing agreements between the partners. Furthermore, marriage has become a marker of individual prestige and personal achievement.

After establishing the registered partnership (RP) in 1998, in 2001 the Netherlands was the first country to legalize same-sex marriage (SSM). In the Netherlands, RP and marriage are almost identical in terms of legal rights and obligations, regardless of sexual orientation. The main differences between them exist in their symbolic significance. We isolate marital symbolism by exploiting plausibly exogenous symbolic variation induced by same-sex marriage legalization (SSML) in the Netherlands on same-sex RP. We use this policy change as a shock to marital symbolism to investigate the stability response of same-sex formal relationships i.e. marriage and RP. By examining transitions from RP to marriage and the corresponding improvement in stability, we estimate the effect of marital symbolism.

In our analysis, we use Dutch administrative micro-data where we identify the sexual orientation of every individual in a RP or marriage by comparing their gender with the gender of their partner. We apply a bivariate timing-of-events model to study transitions from a same-sex RP to marriage simultaneously with separations from RP. At the same time, we analyze whether a same-sex partnership became more stable after being married. We take into account selectivity into marriage in our model.

We find that indeed after being married, same-sex partnerships were less likely to dissolve. The symbolism of marriage had a stabilizing treatment effect on same-sex RP. This effect may be attributed to marriage premiums from two sources. First, marriage creates enhanced incentives to invest in tangible (e.g. property) or intangible (e.g. trust) assets. Second, marriage provides societal rewards to marrieds for the personal prestige or reputation they signal. These economic premiums induced by marital symbolism motivate couples to preserve their marriage longer.

We also document that SSML increased separation of pre-existing RP meanwhile initiating their transition to marriage. Such a transition to marriage took place mostly among unstable same-sex RP, especially for men. After this transition, marital symbolism stabilized the partnership. Furthermore, comparing the stability of SSM and same-sex RP formed post-legalization, we find that marriages were more stable. Therefore, even though in the short run SSML triggered separation of some pre-existing RP, in the long run it will stabilize the formal relationship market. This legislation will benefit the accumulation of marriage premiums.

Dr Shuai Chen

If you were to transpose the problematic of your publication to the case of Luxembourg, what would you say?

The effect of martial symbolism on partnership stability in Luxembourg is expected to be similar to that in the Netherlands, at least qualitatively, owing to the geographic proximity and cultural similarity. In Luxembourg, marriage also enforces the public commitment to a long-term relationship and results in higher trust between the partners. Thus, such an enforced commitment and improved trust will stabilize partnerships (partially) thanks to the enhanced economic assets and societal rewards during marriage.

Same-sex couples in Luxembourg have been allowed to register their partnership since November 2004, and same-sex marriage was legalized in Luxembourg on January 1st, 2015. The European Value Survey and the European Social Survey both document that the Netherlands and Sweden have the most tolerant attitudes towards sexual minorities on average among the European Union member states. From these facts one can see that the Netherlands is a more tolerant society to sexual minorities than Luxembourg. Then there may exist two forces interacting to determine the effect magnitude of marital symbolism. First, the less tolerant or more conservative society of Luxembourg may imply a higher marital commitment and symbolism; second, the less societal tolerance may also cause sexual minorities less likely to enter a marriage. If the former dominates the latter, the effect of marital symbolism in Luxembourg may be larger than that documented in our study holding other factors fixed; otherwise, the effect in Luxembourg may be smaller or equal to that in the Netherlands. Empirical research is needed to learn about the extent to which marital symbolism affects partnership stability in Luxembourg.

GATHERING EXPERTISE FOR A MORE COMPREHENSIVE VIEW ON INCOME COMPONENTS IN LUXEMBOURG

Household income is usually analyzed from the perspective of disposable income, that is, income after social transfers in cash and direct taxes. However, the tax-benefit system induces other taxes paid by all households: indirect taxes based on consumption. In Luxembourg, households purchasing goods and services pay VAT (composed of 4 rates, from 3 to 17%) and excise duties on tobacco, alcohol and energy products. In addition, social cash transfers are only a fraction of the transfers made by the state, in fact, another part is distributed in the form of public services (in-kind public transfers). Finally, households also receive non-monetary income from private sources such as goods and services provided for free or at reduced price by employers or fictitious rent for homeowners occupying their own homes. **This project therefore aims at integrating these elements (indirect taxes, in-kind transfers and other non-monetary income, on top of direct taxes and cash transfers) in order to have a more comprehensive view of the household income components and distribution in Luxembourg.**

The inclusion of indirect taxes and in-kind public transfers and other non-monetary income is not straightforward because of the lack of data on consumption and use of public services in surveys devoted to the analysis of household's income, as the European Union-Statistics on Income and Living Conditions/EU-SILC. In addition, the monetary value, per unit, of the public services must be estimated to be added to other incomes. However, given the difficulty in approximating the unit monetary value of some public services or in adequately sharing their use among all beneficiaries, the project focused on individualizable public services, namely education, health care, child care services, long-term care and social housing. Based on the existing literature, we have extended the EUROMOD microsimulation model for Luxembourg (relying on EU-SILC data), using additional databases and imputation techniques.

The results of the analysis first showed that better-off households pay more indirect taxes in absolute terms. However, **in proportion of their disposable income, the less affluent households are facing a higher indirect tax burden.** Indeed, although better-off households consume more, they use a lower part of their income to consume and save the rest. The less affluent, on the other hand, will use a larger share of their income to consume. **Indirect taxes are therefore regressive and induce a slight increase of relative inequalities in Luxembourg**, from 0.240 for the relative Gini to 0.246. Additionally and since reduced VAT rates seem to have a limited effect on the progressivity of taxes, we conducted an exploratory exercise to analyze the effect of implementing a single rate compensated by social transfers.

Aside indirect taxes and on average, the monetary valuation of the in-kind public transfers leads to an increase of 32% in the net income of Luxembourg households. In addition, an increase of 15% of the income is linked to the non-monetary revenue from private sources. Public services are universal and benefit all households regardless of their income. However, the share of these in-kind public transfers (as a proportion of disposable income) is greater for less affluent households and for families with children. **In-kind public transfers therefore help to reduce relative and absolute inequalities in Luxembourg**: the reduction of relative (absolute) Gini is 25% (18%) compared to the relative (absolute) Gini of disposable income after indirect taxes, using an equivalence scale adapted to public services and to Luxembourg. It is the educational service that allows the greatest reduction in inequalities, followed by health care.

Dr Philippe Liégeois
Dr Vincent Vergnat

Conversely, **non-monetary income from private sources benefits better-off households, alleviating the inequality-reducing effect of public services**.

It is worth to underline that if final income (disposable income, indirect taxes, in-kind public transfers and other private non-monetary incomes) provides a more accurate estimate of the real standard of living of households, it remains nevertheless complementary to the measure of disposable income because non-monetary income does not change the ability of households to consume more private goods and services of their choice.

The results of the analysis led to 2 reports and several publications within the Panorama Social of the Chambre des Salariés. The latter focused on some particular aspects such as the presentation of the distributional impact of the "direct" tax-benefit system in Luxembourg or of an environmental taxation, more particularly through an increase of indirect taxes on fuels.

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- La fiscalité écologique au Luxembourg : quels effets redistributifs ?
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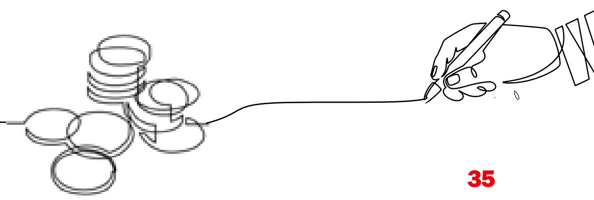

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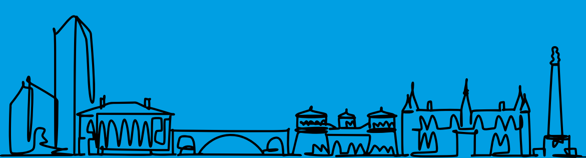
HEALTH & HEALTH SYSTEMS RESEARCH PROGRAM



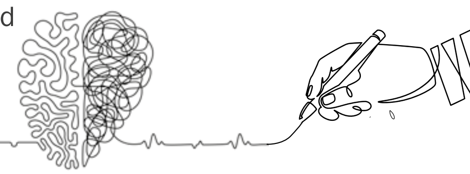
Prof. Marc Suhrcke, Research Program Leader

The transversal program ‘Health and Health Systems’ was launched at the end of 2017, with the objective to bring together and harness the expertise and interests spread across LISER’s three departments on the topic of health and health systems. In our work, we analyse health and health systems from a socio-economic perspective, hence complementing the clinical and biological expertise represented by other research institutions in Luxembourg. A focus on the environmental, social and economic correlates, causes and consequences of health is important, as the conditions in which individuals live, work and develop their daily activities influence a majority of the population’s risk factors and health conditions - often representing “the causes of the causes” of disease. Thus, a situation of poverty tends to limit the opportunities to adopt behaviours favouring good health (e.g. healthy diet, physical activity, etc.), to live in healthy environments (safety, healthiness, pollution), to access the means of self-realization (education, social relationships), and to access quality health and long-term care services.

Going forward, the work will continue to focus primarily on quantitative, social, economic & environmental aspects of health, by utilising the broad skillset available in LISER, in terms of e.g. applied econometric methodology, data science, simulation modelling, and behavioural experimental research. Acknowledging the interconnectedness of health in today’s world, our work has a global scope, covering low-, middle- and high-income countries.
The program covers a broad range of topics, including:

- Socio-economic and spatial inequalities in the health of individuals and populations;
- Socio-economic and environmental determinants of health;
- The socio-economic consequences of health;
- The economics of health behaviours;
- Evaluating the health and health equity impact – as well as (where feasible) the ‘value for money’ – of policies within or outside of the health system;
- The assessment of health system performance.

Within these topics, examples of some focal areas comprise: the impact of climate change on health and economic outcomes, the socioeconomic aspects of disability, the economics of diabetes, the impact of curfews on health, as well as research on access to care (unmet need, waiting times, third-party payment system) and the organisation and delivery of primary care and integrated care. The work is funded by e.g. the European Union’s H2020 program, the FNR’s CORE scheme, the MIFA, the World Health Organisation, and the European Investment Bank. We also coordinate the recently established Doctoral Training Unit on ‘Experiments, Ethics and Economics’ (3E), funded by the FNR.



AGREEING THE ALLOCATION OF SCARCE RESOURCES IN THE ENGLISH NHS: OSTROM, COMMON POOL RESOURCES AND THE ROLE OF THE STATE

Sanderson, M., Allen, P., Moran, V., McDermott, I., & Osipovic, D. (2020). Agreeing the allocation of scarce resources in the English NHS: Ostrom, common pool resources and the role of the state. Social Science and Medicine, 250, [112888]. ¦ ***SJR: 1,944***

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A challenge facing health systems such as the English National Health Service (NHS), which operate in a context of diversity of provision and scarcity of financial resources, is how organisations engaged in the provision of services can be encouraged to adopt collective resource utilisation strategies to ensure limited resources are used in the interests of service users and, in the case of collectively funded services, the general public. In this paper, we apply Elinor Ostrom's work concerning communities' self-governance of common pool resources to the development of collective approaches to the utilisation of resources for the provision of health services. Focusing on the establishment of Sustainability and Transformation Partnerships (STPs) in the English NHS, and drawing on interviews with senior managers in English NHS purchaser and provider organisations, we use Ostrom's work as a frame to analyse STPs, as vehicles to agree and enact shared rules governing the allocation of financial resources, and the role of the state in relation to the development of this collective governance. While there was an unwillingness to use STPs to agree collective rules for resource allocation, we found that local actors were discussing and agreeing collective approaches regarding how resources should be utilised to deliver health services in order to make best use of scarce resources. State influence on the development of collective approaches to resource allocation through the STP was viewed by some as coercive, but also provided a necessary function to ensure accountability. Our analysis suggests Ostrom's notion of resource 'appropriation' should be extended to capture the nuances of resource utilisation in complex production chains, such as those involved in the delivery of health services where the extraction of funds is not an end in itself, but where the value of resources depends on how they are utilised.

If you were to transpose the problematic of your publication to the case of Luxembourg, what would you say?

Integrated care is a relatively novel concept for Luxembourg. Nevertheless, the development of integrated care is necessary to respond to the needs of patients who require interdisciplinary care. Article 28 of the law of 8th March 2018 concerning hospitals and hospital planning provides the legal basis for the development of integrated healthcare in Luxembourg[1]. The law defines a "réseau de compétences" ("skills network") as an organisational entity that brings together the resources of one or more departments within one or more hospitals in order to deliver interdisciplinary integrated care for patients with one or several pre-defined conditions. The "réseau de compétences" can also include ambulatory care providers and research organisations. Therefore, in addition to diagnostic and care activities, the "réseau de compétences" can undertake research and teaching. Organisations volunteer to develop a "réseau de compétences" and each project is approved and supported by an interhospital management committee ("Comité de gestion interhospitalière"). Relevant stakeholders, including professional and patient associations, the health insurance fund, ambulatory care providers and the e-health agency have expressed their openness to the concept of the "réseau de compétences". Nevertheless, these stakeholders have highlighted several challenges, such as the need to clearly define roles, demonstrate value-for-money, adopt innovative financing methods, and communication – both between individuals and between organisations[2].

This paper can inform the development and evaluation of integrated care in Luxembourg by demonstrating how the work of Elinor Ostrom is applied to analyse a policy that required groups of healthcare purchasers and providers to come together to plan and deliver services. In particular, Ostrom's design principles for the successful self-governance of common pool resources[3] can guide the development and implementation of the "réseau de compétences" and address the needs and concerns of stakeholders. More specifically, the design principles recognise:

1) the need for clearly defined boundaries of the membership and remit of the "réseau de compétences",
2) the allocation of benefits proportional to contributions,
3) collective-choice arrangements whereby stakeholders can collectively make and modify the rules they must abide by,
4) monitoring arrangements to discourage free-riding,
5) a system of graduated sanctions to prevent behavior that inhibits co-operation,
6) mechanisms to resolve conflicts rapidly and with minimal cost,
7) government recognition of the right of the "réseau de compétences" to self-organise and
8) recognition of the "nested nature" of the "réseau de compétences" in one or more hospitals or other organisations.

[1] http://legilux.public.lu/eli/etat/leg/loi/2018/03/08/a222/jo

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SOCIO-PEDAGOGICAL SUPPORT FOR PEOPLE WITH DISABILITIES

The UN Convention on the Rights of Persons with Disabilities (CRPD) has set out the recommendations as to how to arrange and fund the support for adults with disabilities is set out in the. Most countries worldwide, including Luxembourg, have committed themselves to the CRPD, and in Luxembourg, it is the background and motivation for LISER's MIFA-funded project on personal assistance for persons with intellectual disabilities. The project seeks to inform the planned transition from the current, more traditional funding model to a model of personal budgeting. The project is co-lead by Professor Marc Suhrcke (LISER) and Professor Germain Weber (University of Vienna).

In the context of support and assistance, the CRPD's aim is to promote as far as possible an independent and self-determined way of life for persons with disabilities. Based on this approach, the financial means to meet individual support needs should be directly assigned to the person with a disability, thereby enabling the person to secure his or her personal assistance more autonomously. For Luxembourg, this implies a reversal of the institutional funding traditionally practised in the disability sector, away from fixed daily rates towards personal finance adapted to individual needs. The project seeks to develop a methodology to assess these needs, in order to determine individual support needs. The assessment focuses on the person with a disability, who is to play an active role in a transparent, accountable process. The individual support needs inform the setting of the personal support budget, from which personal assistance is obtained.

The project also aims at developing and proposing a "one-stop-shop" for the comprehensive assessment of support and assistance. Individual needs for support and assistance in central areas of life, as well as specific life situations, should ideally be assessed in a consistent and coherent manner. Thus far, classifications for socio-pedagogical support (ASP in French acronym) and care needs have been carried out separately for each area and by different authorities. For instance, areas that have hitherto been held largely separate and with limited coordination include housing and leisure, workshops for workers with disabilities and sheltered day-care facilities, or basic physical care services as well as special medical support. Such lack of coordination is not conducive to a coherent overall procedure for the beneficiary, and it may come at an extra cost that could be more gainfully used otherwise. Neither is this system easy to navigate for the client, as the disabled person has to manage different classification sites at different times. The "one-stop-shop" aims to significantly improve procedures and outcomes through a comprehensive and manageable evaluation process, while at the same time introducing a coherent process in terms of content and methodology, informed by existing evidence and 'best pratice'.

Prof. Marc Suhrcke

A further objective of the project is the implementation of a digital internal control system for personal assistance. This system would serve to ensure cost-effective, appropriate and error-free action at the operational level, as well as compliance with legal and other requirements. In addition to the application of the evaluation procedure itself, the use and impact of the personal assistance would be managed and documented in the control system. The objective will be to ensure transparent and cost-effective control. In addition, the system would also facilitate a continuous evaluation process.

PUBLICATIONS 2020 OF THE HEALTH & HEALTH SYSTEMS RESEARCH PROGRAM

Academic excellence   Publications using luxemburgish data

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Chirwa, G., Suhrcke, M., & Moreno Serra, R. (2020). Socioeconomic Inequality in Premiums for a Community Based Health Insurance Scheme in Rwanda. Health Policy and Planning, [czaa135]. https://doi.org/10.1093/heapol/czaa135

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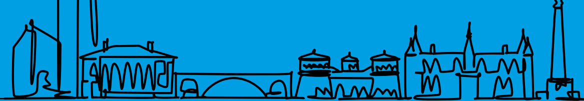
BEHAVIOURAL & EXPERIMENTAL ECONOMICS PLATFORM



LISER's Centre for behavioural and experimental economics was established in 2019 with the objective is to:

- Generate first-class academic research that can be of interest not only to academic researchers, but also to national and international policymakers. To pursue this objective, the Centre's is establishing long-term partnerships with public- and private-sector players that will allow researchers to co-produce research with non-academic partners and to pursue activities of grant-seeking.
- Broaden the spectrum of experimental methods at LISER by creating a platform to conduct large-scale online experiments, using members of the general population resident in Luxembourg as research participants.
- Maximise international visibility by positioning the Centre and LISER within a rich academic network, comprised of international centres of excellence in experimental and behavioural economics.

PUBLICATIONS 2020 OF THE BEHAVIOURAL & EXPERIMENTAL ECONOMICS PLATFORM

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URBAN DEVELOPMENT & MOBILITY DEPARTMENT

Prof. Martin Dijst, Head of Department

In an increasingly globalizing world, Luxembourg like other European countries, is facing major societal challenges involving various stakeholders. This is touching various issues, like cross-border mobility, population and employment growth, pandemics like COVID-19, unhealthy lifestyles, affordable housing, energy transition, climate change, etc. To address these challenges, understanding the complex societal problems and developing jointly with all relevant stakeholders and disciplines effective solutions are crucial. Two complementary approaches will be taken by UDM to reach these objectives. First, integration of large-scale datasets in combination with advanced analytical and visualization methodologies. Second, applying geo-experimentation and close collaborations between science and stakeholders to accelerate the realizations and scaling of solutions.
Originating from the first decade of this century, via its Housing Observatory and Spatial Development Observatory, UDM is collecting and analyzing large-scale data which feed national policies. Integration of these and other data sets is under way. By using a Geo Data Science approach, UDM will develop GIS technics and methods on large-scale data to be used in integrative spatial scenario analysis to address complex interactions between societal sectors and stakeholders and to guide transformation processes. In addition, by applying and integrating innovative qualitative and quantitative methods UDM prepares itself to become involved in urban transitions via real-world experimental interventions. This could be applied to areas such as low-carbon urbanism, healthy life styles, social inclusiveness and the sharing economy.

At the level of large-scale data analyses as well as small-scale geo-experimentation, new intersectoral alliances and innovative collaborations between policy-makers, companies, NGOs and citizens are necessary to become more strongly embedded within society. In that respect, UDM will focus on developing living labs and citizen science. A living lab is a collaboration between multiple stakeholders in the exploration, co-creation and evaluation of innovations within a realistic setting, for example to develop and test future spatial scenarios or to design cities to stimulate walking. Citizen science is a rapidly growing form of citizen engagement, in which people are voluntarily involved in scientific activities for example by making use of ambulant technologies to measure air pollution or noise. As such, citizens contribute to valuable data collections. The development of Participatory GIS (P-GIS) and Voluntary GIS (V-GIS) further stimulates these participatory approaches in spatial planning. Advantage of these innovative collaborations is that it creates democratic legitimacy, accountability and transparent decision-making in science and governance.

PREFERENCES FOR LONG-DISTANCE COACH TRANSPORT: EVIDENCE FROM A DISCRETE CHOICE EXPERIMENT

Van Acker, V., Kessels, R., Palhazi Cuervo, D., Lannoo, S., & Witlox, F. (2020). Preferences for long-distance coach transport: Evidence from a discrete choice experiment. Transportation Research, Part A: Policy and Practice, 132, 759-779, ¦ *SJR: 2,109*

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Long-distance travel has rapidly increased in recent decades due to economic growth, increased car ownership and technological innovations reducing transport costs and times while increasing safety. Although long-distance trips only represent a small share of all trips, it constitutes a high share of total distance travelled (between 20 and 55%, depending on the definition of 'long-distance'). Hence, long-distance travel contributes significantly to energy consumption and the emission of pollutants. While air travel is the fastest growing mode in Europe, car travel keeps the highest share of long-distance travel. Compared to these other transport modes, public transport for long-distance travel remains limited: rail transport tends to be concentrated in Europe to a few high-speed rail corridors in operation, and coach transport continues to be limited. Nevertheless, this can change due to the recent liberalization of the coach market in many West-European countries. This paper, therefore, analyses if long-distance travellers could be interested in coach transport, and which service characteristics are most convincing in addition to travel time and travel cost.

For this purpose, data was collected from almost 300 Belgian respondents who occasionally travel long distances. Using an online discrete choice experiment, the attractiveness of different coach services was measured. Respondents were assigned to one of three travel purpose groups (i.e., business, leisure or visiting family and friends), based on their prior experience with long-distance travel. Respondents were then asked to select one from nine possible pick-up locations in Belgium (i.e., Antwerp, Bruges, Ghent, Hasselt, Brussels, Arlon, Charleroi, Liège, Namur). The experiment then continued by presenting a long-distance coach trip from this pick-up location to one specific destination in Europe (i.e., Lille, Amsterdam, Cologne, Paris or Frankfurt). For this specific pick up-destination combination, respondents were then presented 16 choice sets. In each choice set, two alternative coach journeys were presented which differed in terms of travel time, travel cost/price and on-board comfort including Wi-Fi, leg space, catering, entertainment and the availability of an individual power plug. When respondents were not interested in using any of the two alternative coach journeys, they could also select a no-choice option. Unsurprisingly, results show that travel costs or prices are a dominant factor determining preferences for coach transport. But in addition to this, other so-called quality-of-service attributes have an impact on the willingness-to-pay for coach transport. This holds for having ample leg space, catering, Wi-Fi (especially for business travellers), and the presence of an individual entertainment system (especially for frequent travellers). Because we accounted for the interaction between such service attributes and different groups of travellers in terms of trip purpose, travel frequency and age, results also offer insights to coach operators into different travel market segments.

Dr Veronique Van Acker

If you were to transpose the problematic of your publication to the case of Luxembourg, what would you say?

The publication was a collaboration with the Institute for Coach and Bus in Belgium who was interested in the effects of the market liberalization on long-distance coach transport in Belgium. For a long time, many West-European countries like Belgium had a legislation that protected their national railway companies. This legislation often dated back to the turn of the twentieth century when coach transport started to challenge the then dominant mode of railway transport. Coach transport had some advantages over railway transport in terms of flexibility and costs, particularly on less frequently used railway connections. Companies operating these coaches, however, soon started services that ran parallel to other successful railway connections as well. Public bodies reacted against this by creating a legislation that prevented competition between two scheduled coach and railway services. Although legislations differed between countries, most favoured rail over coach transport thus preventing the development of a network of long-distance scheduled coach services in Western Europe. The UK was the first country to change this with their Transport Act of 1980. Soon other countries followed. I have not yet looked into the long-distance coach market for Luxembourg and therefore do not know whether such legislation also applied here. But nevertheless, I have the impression that long-distance transport from/to Luxembourg is currently operated by companies such as Flixbus or BlaBlaBus with lines at the level of the Grand Region or extending into important destinations in Germany and France. Repeating our stated preference survey in Luxembourg would of course start with adjusting the experiment and selecting other pick-up and destination locations. The selection of pick-up locations will probably have to be done on a much finer spatial scale compared to the original study for Belgium. Pick-up locations can probably not be limited to Luxembourg city. Regarding the selection of destinations, there are two scenarios of interest to the Luxembourg population. This could be destinations at the scale of the Grand Region, but also further destinations such as Porto and Lisbon, which may be of interest to the large Portuguese population in Luxembourg.

TERRITORIAL INEQUALITY: A STUDY OF THE LOCAL MECHANISMS IMPLICATED IN LONG RUN CHANGES IN PROPERTY WEALTH CONCENTRATION

The *Territorial Inequality* project is at the centre of a broader research programme exploring the importance of property ownership – of both land and housing – to socioeconomic inequalities and their evolution. The importance of ownership in understanding socioeconomic processes is returning to the fore in the social sciences as evidence accumulates of a widespread rise in wealth inequality, of which the increasingly generalised housing crisis is a clear manifestation.

The first results of this research programme, which also includes work conducted through the *Housing Observatory* (a longstanding collaboration between LISER and the Luxembourg Housing Ministry), indeed point to the importance of property wealth inequalities in explaining housing outcomes. In Luxembourg, the concentrated private ownership of residential land restricts the supply of housing and, in conjunction with a concentrated property development landscape, is at the roots of the country's unfolding housing affordability crisis. The country's concentrated private ownership of residential land also acts as a barrier to the public land acquisitions required to produce more affordable housing.

The *Territorial Inequality* project focuses on the precise mechanisms that generate these property wealth inequalities over the long run. Territorial inequality stands for the way in which all of the land plots and housing units found in a given place are distributed among their owners, and how this changes over time. This notion allows for an articulation of disparate research domains in geography, sociology and economics: wealth inequality in the long run and its intergenerational transmission, the links between housing production and wealth inequalities, and processes of neighbourhood change such as gentrification.

The project draws on the complete and geo-referenced history of a territory's ownership structure over the 1949 to 2018 period. The case study is Dudelange, a formerly industrial, medium sized city in which house prices have increased rapidly since the 1990s due to its proximity to the capital. The dataset used in the project was compiled from more than 30,000 transactions from the Luxembourg land registry. This massive data collection effort – which started in 2017 – was made possible by the dedicated work of LISER's IT department that developed the relational database and encoding mask, by the tireless research assistance of more than 20 students who extracted the bulk of the data and by a collaboration with the University of Luxembourg's C2DH that made possible the digitization of the records.

The project's first published output focuses on the current distribution of property wealth in Dudelange. It highlights the fact that residential landowners dominate the top of the property wealth distribution and that they have been deeply involved in the production of housing (and thus in the process of value extraction through residential production). Through a comparison with land registry archives for 1872, it appears that Dudelange's landownership structure has evolved very slowly: the distribution of landownership has only barely changed in close to a century and a half, with the top 10% of landowners owning over 60% of all land value in Dudelange in both periods. This points to the important role of tax policy (there is no inheritance tax for transfers in direct line and an insignificant land tax in Luxembourg) and planning policy (which facilitates rather than hinders property wealth accumulation) in the permanence of the country's unequal landownership structure.

Dr Antoine Paccoud

Current work on the project aims to understand the ways in which property wealth inequalities have evolved over the last seven decades. In addition to presenting estimates of property wealth inequality at multiple time points, the focus is on the methodological difficulties inherent in encapsulating a diversity of asset types (houses, apartments, land) under the umbrella term of ‘property’ and the processes (property development, land-banking, speculation) that are glossed over by the snapshot approach of the wealth inequality frame. The project’s next steps are to shed light on two other mechanisms that generate property wealth inequalities over time: asymmetrical transfers (or the transfer of land plots between different wealth classes) and spatially uneven price changes (or price movement differences in zones that concentrate the holdings of different wealth classes).

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- Public Land Acquisition: From Economic Diversification to the Housing Crisis
  Paccoud, A., 4 Mar 2021, 1 p. Luxembourg : Forum a.s.b.l.

- The top tail of the property wealth distribution and the production of the residential environment
  Paccoud, A., Jan 2020, In: International Journal of Housing Policy. 20, 1, p. 100-119

PUBLICATIONS 2020 OF THE URBAN DEVELOPMENT AND MOBILITY DEPARTMENT

Academic excellence

Publications using luxemburgish data

Articles in peer-reviewed journals

Ahne, A., Orchard, F., Tannier, X., Perchoux, C., Balkau, B., Pagoto, S., Harding, J. L., Czernichow, T., & Fagherazzi, G. (2020). Insulin pricing and other major diabetes-related concerns in the USA: A study of 46 407 tweets between 2017 and 2019. BMJ Open Diabetes Research and Care, 8(1), [e001190]. https://doi.org/10.1136/bmjdrc-2020-001190

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SPECIAL EDITION

From the day the confinement began, the Covid-19 pandemic crisis ceased to be a highly critical health crisis and became an economic, social and psychological crisis that affects all levels of society. The real extent of its consequences in all these aspects has yet to be assessed. But there is little doubt that we will measure substantial implications for years or even decades to come. Despite the deep damage, there are undoubtedly many positive lessons to be learned from this crisis.

As an applied research centre at the service of society, the economy and decision-makers, LISER plays its role to shed light on the socio-economic challenges and in proposing concrete avenues for societal change. In this perspective I have the pleasure to invite you to read our COVID-19 special report describing how our scientists mobilized from the first weeks of the emergence of the crisis to support our society and its authorities in managing the crisis.

This chronicle illustrates once again how we work in close collaboration between research fields and in close collaboration with our society, both within the social sciences and in collaboration with technological advances and health to build a resilient and inclusive society.

The COVID-19 special report is also available for download on:
https://www.liser.lu/publications/covid-19-and-society/

COVID-19

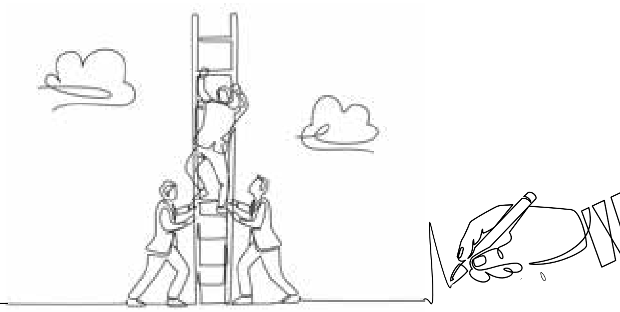
COVID-19 AND SOCIETY: MOBILIZING SCIENTIFIC EXPERTISE DURING THE PANDEMIC

LISER

LUXEMBOURG INSTITUTE OF SOCIO-ECONOMIC RESEARCH

SUPPORT SERVICE

In the accomplishment of LISER's mission and the implementation of the policies defined by the Board, the Support Service's mission is to be the agile partner of the research force of the institute in order to offer and ensure an efficient way of working through a collective know-how and an integrated approach of continual improvement in a reliable and transparent framework.



SUCCESSFUL IMPLEMENTATION OF THE FIRST LISER COLLECTIVE LABOUR AGREEMENT

2020 was marked by the implementation of LISER's first Collective Labour Agreement.

The implementation of LISER's first Collective Labour Agreement came with the entry into force its new career structure in large parts based on the '*European Researchers' Career Framework*' to better reflect the different career stages in research. In parallel, the agreement introduces new salary grids and new salary progression mechanisms that are note exclusively based on seniority anymore but valorizes as well individual performance as a driver for career development. The new schemes were set-up as from beginning of 2020. It should be emphasized that all of these implementation steps were carried out in a constructive step-by-step approach and in full transparency for all our staff. It was also duly accompanied by personalized information for each staff member, so as to explain in the most pedagogical and transparent way the transition from the old salary system to the new salary and career policy.

These substantial changes in the management of careers and salary progression at LISER were carried out along with the implementation of a whole series of career development policies enshrined in the Collective Labour Agreement and in LISER's new human resource policy.

Career development at LISER is now supported by a coherent set of levers, including annual appraisal meetings and annual People Review meetings as pillars, complemented by an ambitious Training Policy and LISER's first Institutional Training and Career Development Plan based on four strategic orientations, with a specific attention given to the development of research careers of PhDs and postdocs.

To value LISER's collective development and achievement, a collective performance bonus was introduced to reward the collective efforts of our staff in our collective common interest. It reflects and celebrates the central importance of the joint commitment and involvement of all our staff members in achieving our performance objectives, a condition for sustainability and long-lasting footprint.

SUPPORT SERVICE CONTINUOUSLY ADAPTING TO SERVE THE RESEARCH FORCE

In 2020, due to the COVID-19 pandemic, LISER went through major upheavals in the daily management of its activities. Under often unexpected and uncertain circumstances, our whole support service has been constantly adapting to offer the best possible support for LISER's research activities.

At the beginning of the year when the lock-down came into force in Luxembourg, thanks to the mobilization of the entire support team, in just a few days, the appropriate tools and IT resources were made available to enable all LISER staff to work from home under the best possible conditions. A laptop was prepared for each employee and the VPN network was extended to allow home work for all.

In the following weeks, since usual operating procedures were no longer possible, new processes were developed to continue to meet the needs of our researchers, including new needs emerging from home working. In order to maintain the quality of the support provided to our researchers and despite the exceptional circumstances we were confronted with, new workflows and tools were designed, working hours were adapted, and on-site access was organized whenever needed.

After the end of the lock-down, once on-site work was possible again, the premises and their use evolved to respect the sanitary rules and recommendations to limit the spread of the virus. The appropriate individual protective equipment was made available to all staff according to their level of risk exposure and the daily extra intensive cleaning of offices and the extra equipment of rooms have enabled our research teams to return to work in our premises in safe conditions.

Throughout the year, the support service has proven to be an agile partner, capable of offering continual improvement of new processes and organizational modes. Thanks to the commitment of the entire team, the institute's functioning has continuously adjusted to changing circumstances and respected sanitary measures to support LISER's research activities while continuing to work on the implementation of its strategic improvement plans.

GOVERNANCE

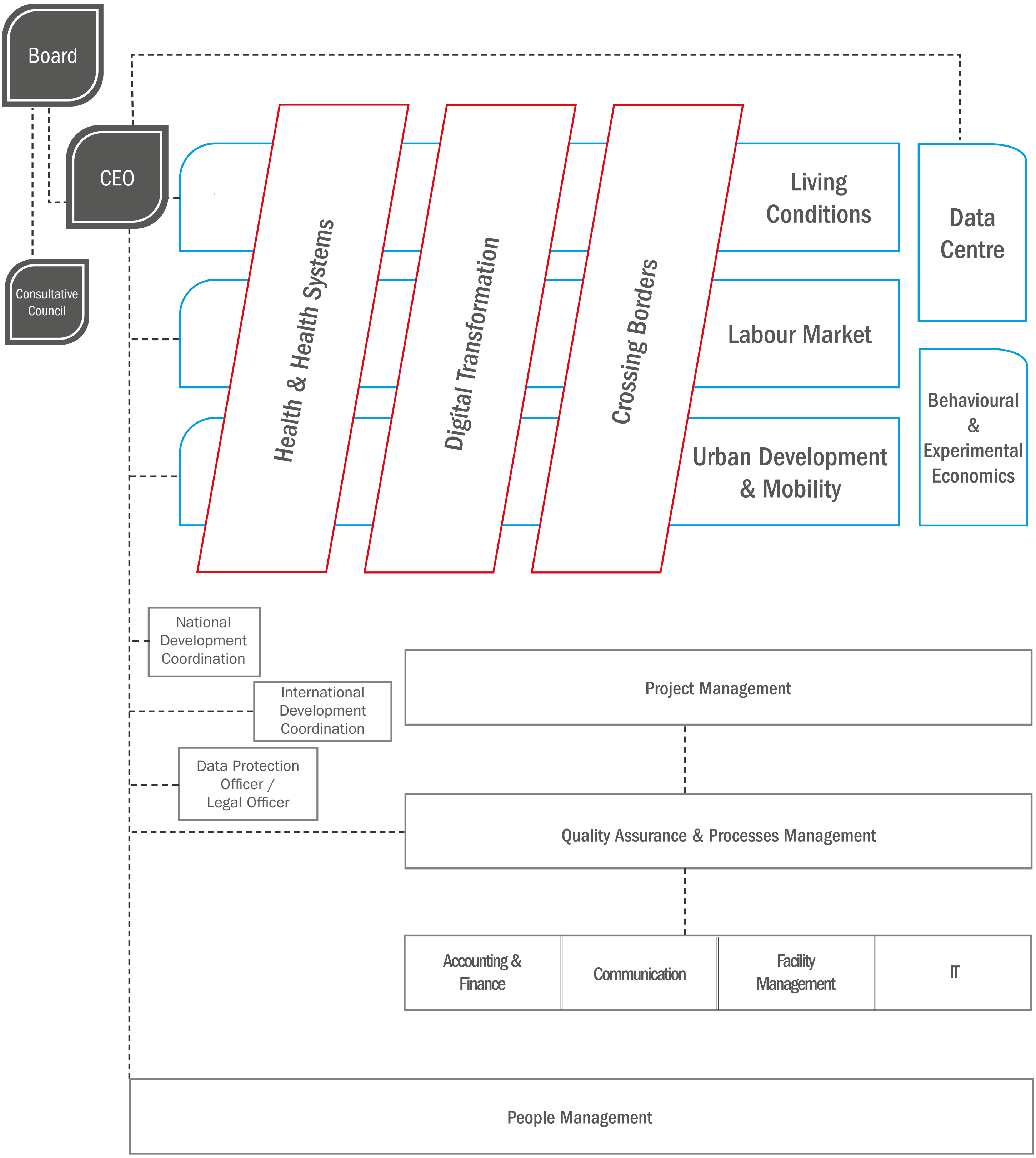
/ Jean-Marc GOY / Christiane Huberty / Valérie Ballouhey-Dauphin / Jim Clemes / Véronique Hoffeld / Tom Bauler / Aline Muller / Claude Lüscher / Carole Reckinger / Nico Weydert / Aline Schiltz /

The new Board has been nominated on January 1st 2020.
Our Board supervises the activities of the institute and approves the overall policies and strategic priorities of the institute. It is appointed by the government and is composed of nine independent directors active in industry, business and the civil society. The members of the Board act in full autonomy.

BOARD

Chairwoman	
Véronique Hoffeld	Attorney-at-law, partner and member of the Management Committee of Loyens & Loeff, Luxembourg
Vice-Chairman	
Jean-Marc GOY	Conducting Officer Senior Counsel at Capital Group, Luxembourg
Members	
Valérie Ballouhey-Dauphin	Independent Director
Tom Bauler	Chair for Environment & Economy, Université Libre de Bruxelles
Jim Clemes	Registered architect and urban planner managing partner, jim clemes associates, Luxembourg
Claude Lüscher	Founder of Licent Sàrl, Luxembourg
Carole Reckinger	Social Policy Analyst, Caritas Luxembourg
Aline Schiltz	Project Manager at the Embassy of Luxembourg in Lisbon
Nico Weydert	Honorary Deputy Director at STATEC, Luxembourg
Attend meetings of the Board with consultative voice	
Christiane Huberty	First Class Government Advisor at the Ministry of Higher Education and Research, Luxembourg
Aline Muller	CEO of LISER
Philippe Gerber	Vice-Chair of the Staff Delegation *as invited expert*

ORGANISATIONAL CHART

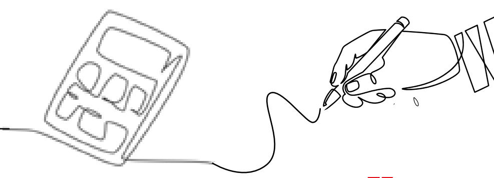


FINANCIAL STATEMENTS

The LISER's accounts have been audited by PWC as of December 31st, 2020

ASSETS	2020	2019
FIXED ASSETS		
Intangible fixed assets	89.948,20	105.893,74
Tangible fixed assets	531.165,93	695.026,40
Financial fixed assets	4.100,00	4.000,00
	625.214,13	804.920,14
CURRENT ASSETS		
Debtors		
Trade receivables due and payable within one year	2.776.878,72	3.084.869,80
Other receivables due and payable within one year	175.673,76	96.518,51
Cash at bank, cash in postal cheque accounts, cheques and cash in hand	10.147.471,78	6.214.742,54
	13.100.024,26	9.396.130,85
Deferred charges - Prepayments	254.231,72	185.296,20
Total of the assets	**13.979.470,11**	**10.386.347,19**

LIABILITIES	2020	2019
CAPITAL AND RESERVES		
Retained earnings	3.703.264,56	4.467.192,36
Profit / (Loss) of the financial year	894.146,33	(763.927,80)
Investment	621.114,13	800.920,14
	5.218.525,02	4.504.184,70
PROVISIONS		
Other provisions	592.146,31	471.956,10
NON SUBORDINATED DEBTS		
Trade creditors due and payable within one year	2.053.903,54	1.963.491,46
Other debts		
Tax debts	393.304,52	348.552,55
Social security debts	445.578,06	412.883,07
Other creditors due and payable within one year	3.115.973,41	65.613,62
	6.008.759,53	2.790.540,70
Deferred income	2.160.039,25	2.619.665,69
Total of the liabilities	**13.979.470,11**	**10.386.347,19**



We would like to thank all those who participated in the development of the Annual Report

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