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1. Introduction

The Ministry of Higher Education and Research (MESR) of Luxembourg mandated *Interface Policy Studies Research Consulting*, Switzerland, to organise and lead a research evaluation of the Centres de Recherche Publics (CRPs).

The Grand Duchy of Luxembourg operates three non-university public research and technology institutions. They are the Luxembourg Institute of Science and Technology (LIST), the Luxembourg Institute of Health (LIH) and the Luxembourg Institute of Socio-Economic Research (LISER). The three CRPs include departments linked to different scientific disciplines. The evaluation focused on the research performance of the CRPs' departments.

The research evaluation was conducted in 2022 and followed two earlier evaluations carried out in 2012 and 2018.¹ This report presents the evaluation of the Department of Urban Development and Mobility (UDM) of the Luxembourg Institute of Socio-Economic Research (LISER).

The observations and recommendations presented in this report are based on a peer review by the following three experts working in the departments' research fields:

- Prof. Dr. Brett Christophers, Professor of Economic Geography, Department of Social and Economic Geography and Institute of Housing and Urban Research, Uppsala University, Sweden
- Prof. Dr. Desmond Dinan, Professor of Public Policy and Ad personam Jean Monnet Chair, Schar School of Policy and Government, George Mason University, United States of America
- Dr. Roman Rudel, Institute director, Institute for Applied Sustainability to the Built Environment, University of Applied Sciences and Arts of Southern Switzerland, Switzerland

The peer review consisted of a self-assessment report written by the UDM and a hearing at the department that took place in August/September 2022. The assessment period runs from 2018 to 2021. The hearing, which was organised and moderated by Interface, comprised a presentation by the department, a group discussion of the self-assessment report and several individual and group interviews. These included interviews with the Head of department, research team leaders, members of the research staff and PhD students as well as clients and business partners. The agenda of the hearing can be found in the appendix. The report was finalised by Ueli Haefeli and Kristin Thorshaug of Interface.

Between 2010 and 2012, evaluations of selected departments of the former CRPs were carried out. The first full evaluation of the CRPs, which included all departments, was carried out in 2018.

The overall results of all departmental evaluations are summarised in an institute report for each CRP² and a synthesis report³. The institute report includes an assessment of the CRPs as a whole. It also summarises the findings from additional governance interviews with representatives of the government commissioner, the board of directors and the executive management of the CRPs as well as a comparison between the CRPs and a foreign benchmark institute.

The department report is structured into two parts: the first part discusses in detail the observations gathered by the expert team during the evaluation process. This part focuses on the input, output and outcome/impact of the department:

- Input includes the preconditions for the research conducted, such as strategies, financial and human resources, infrastructure, organisation and external research, industry and other collaborations.
- Output includes the performance of the department, exemplified through research and innovation results and their dissemination.
- Outcome and impact refer to the medium- and long-term effects as well as the relevance of the output on science, society, economy and public administration/politics.

The second part presents the expert team's overall assessment and recommendations for further developing existing strengths and overcoming observed weaknesses.

Rieder, Stefan; Haefeli, Ueli; Thorshaug, Kristin (2023): Report on the evaluation the Luxembourg Institute of Socio-Economic Research (LISER), Interface Policy studies Research Consulting, Lucerne and Lausanne.

Rieder, Stefan; Balthasar, Andreas; Haefeli, Ueli; Grosjean, Nicolas; Büchler, Chiara; Essig, Stefan; Thorshaug, Kristin (2023): Synthesis report on the evaluation of the Centres de Recherche Publics (CRP) in Luxembourg, Interface Policy studies Research Consulting, Lucerne and Lausanne.

2. Detailed results of the evaluation

2.1 Description of the department

The Department of Urban Development and Mobility (UDM) was founded in 2001 under the name Geography and Development (GEODE) in LISER's predecessor institute CEPS/INSTEAD. The department aims to understand and improve the use and development of the transformative capacities of individuals, households, firms and other actors in urban areas and urban systems to stimulate sustainable urban transitions.

The overarching themes of its research activities are "Pathways to Urban Vitality" and "Liveability in a Dynamic Urban World", with research topics covering housing, development of financial centres, spatial development, cross-border metropolitan integration, local and cross-border mobilities, public health and smart cities. The department also contributes to LISER's "Health and health systems" and "Crossing Borders" interdisciplinary research programmes. The two national observatories, the Housing Observatory and the Observatory of Spatial Development and the two Social Observatories at the municipal level are important cornerstones of the department's research activities. The main target group for the UDM's research activities is public stakeholders at the national and local level.

The UDM is structured into two research teams: "Living with Urban Dynamics" and "Governance of Urban Dynamics". In 2021, UDM had of a total of 48 employees (full time equivalent: 45.1). The third-party funding under UDM management supervision amounted to approximately 2.4 million Euros in 2021, with 55 per cent thereof stemming from contract research and 43 per cent from competitive grants.

2.2 Input

2.2.1 Strategy of the department

In the 2018 evaluation, the research agenda of the UDM was assessed as being clear and unique, but too ambitious. Since then, the department has reduced and realigned the number of strategic themes in its research strands. The experts note that this realignment has been successful. They identify a clear thematic research strategy with a dual focus on research excellence and societal impact on the one hand, complemented organisationally by the two research strands of "Living with Urban Dynamics" and "Governance of Urban Dynamics" on the other. In the experts' opinion, the department's research strategy provides a clear framework and the ample flexibility to respond to new societal developments. The realignment of the research agenda is also reflected in the results of the bibliometric analysis. The analysis shows that after 2017, UDM steadily restructured its research priorities with future-oriented topics. The analysis further shows that the department seems to be a leader in developing research topics with increasing prominence.

The experts note that the department has formulated its strategic objectives more clearly in terms of research excellence than in terms of societal impact. This is also evident among UDM staff, who seem to have a clearer understanding of the mission of research excellence than that of societal impact.

2.2.2 Human and financial resources, infrastructure and equipment

The experts find that the UDM has a very positive working environment, with predominantly good working conditions and highly skilled and motivated staff members.

The department leadership has nurtured a culture characterised by openness, exchange and collaboration. The experts note that the UDM has experienced a large increase in personnel (62 per cent growth) in the evaluation period. This has led to significant constraints on the department's available infrastructure, with more staff having to share office space.

The last evaluation in 2018 suggested that the UDM could improve its third-party funding at both national and international levels. During the 2018-2021 evaluation period, the UDM has been highly successful in increasing its third-party funding, with very impressive growth in competitive grants and contract research, including an increase in funding at the European level. The UDM's third-party funding has increased steadily in recent years, accounting for 40 per cent of the department's total expenditures in 2018 and 52 per cent in 2021.

The experts view the large increase in competitive and contract research as a positive development. Based on the statements in the interviews, there are, however, indications that the increase has led to pressure on the department's human resources with higher workloads for UDM staff. According to the UDM self-assessment report, there is a restriction in the growth of permanent positions. This, together with legal restrictions on the duration of fixed-term contracts⁴ has led to challenges in recruiting and retaining staff. Due to the infrastructural and personnel constraints, the experts advise against further aggressive growth of the department's research activities and projects.

According to LISER, the institutional allocation of funding is based on a clearly defined process. Nonetheless, the experts note complaints in the interviews concerning insufficient transparency in the allocation of funding from the institute to the department. This may lead to frustration among staff, especially if the allocation is not seen as being sufficiently linked to performance-based incentives. Because of this, the experts see a need for a discussion at institute level on a possible increase in the incentive-based allocation of resources.

2.2.3 Organisation

The experts find that the organisational structure of the UDM functions well. The Head of department has been successful in creating a working environment in which employees feel included, encouraged and motivated. The experts note that the management style of the Head of department is highly regarded by the staff. The merger of the previous four research strands into the two research teams ("Living with Urban Dynamics" and "Governance of Urban Dynamics") has been successfully implemented. The research teams enable exchange and collaboration within and between the sub-themes. At the same time, the structures are seen by UDM staff as rather informal, and the research teams are not evaluated as units according to their output. In the experts' opinion, this ensures flexibility in the work of the researchers and reduces the risk of rivalry and competition between the research teams.

The experts identify two issues linked to the organisation that should be given priority:

 Firstly, the experts note tensions between the objectives of research excellence and societal impact. According to the experts, activities related to research excellence, such

According to the Labour law (Code du Travail), the duration of a fixed-term contract cannot exceed two years, including renewals (fixed-term contracts may be renewed twice). For contracts concluded between a public research centre and researchers, the maximum duration of fixed-term contracts is extended to five years, including renewals.

as scientific publications and competitive funding, are perceived within the department as having a higher priority for staff members than activities related to societal impact, such as contract research for public authorities. According to the experts, this tension is inherent in research institutions with parallel missions of scientific excellence and societal impact. However, the increase in competitive funding and contract research seems to accentuate this tension somewhat.

Secondly, the experts identify some disputed issues between LISER and the UDM, particularly as regards decisions concerning the allocation of funding and the recruitment of new personnel. A further issue is identified in the administration structures at the institute level, where the processes (e.g. in project management) are perceived as bureaucratic and time-consuming by department staff. In the experts' opinion, these issues may have a negative effect on the relationship between the institute and the staff members of the UDM.

LISER's "Crossing Borders" transversal research programme was established in 2019, with the objective of developing the institute's capacity to work across departments in an interdisciplinary setting. While all three departments are involved in "Crossing Borders", the programme leader is organisationally affiliated to the UDM. The experts note that inevitably and appropriately, cross-border mobility is an important research topic at LISER. Given its inter-disciplinary nature, it is also a topic that crosses departmental lines and therefore offers collaboration opportunities between LISER's departments. Until 2021, the programme was in a "settling-in" phase, but it has since moved into a "maturation phase" as it targets academic excellence and high societal impact. It is difficult for the experts to assess the extent to which the programme adds value to the UDM (and the institute as a whole) or constrains its activities, given the necessary input of departmental resources and researchers' time into the transversal research programme. In the experts' opinion, the programme seems to not yet be fully taken up in the activities of the department. The experts advise that LISER and the departments monitor the further development of the programme to ensure that it follows the intended path.

2.2.4 External research and industry collaboration and service provision

The UDM is active in a number of national and international scientific networks and collaborations, notably with institutions in Belgium, France, Germany and the Netherlands. The experts see a clear focus on collaboration with public authorities at national level, with several long-standing relationships with ministries. According to the experts, these partnerships are of great importance for the potential societal impact of the UDM and should therefore remain a high priority. The experts note that the UDM has few collaborations with private and non-government partners. The lack of diversification in partnerships can create a cluster risk and reduce the department's potential for social impact.

2.3 Research and innovation performance

2.3.1 Quality of output

The experts find that the UDM's output in terms of scientific research is of high quality, which is borne out by the bibliometric analysis. UDM staff publish in high-ranking international journals and are building a reputation for themselves and for the department with high-level publications. On the one hand, 53 per cent of UDM publications in the evaluation period were published in top 10 per cent journals. On the other hand, the field-weighted citation impact of 1.62 shows that UDM publications receive 62 per cent more citations than the average in their research field. However, the results of the bibliometric analysis indicate that the citation impact of UDM publications has declined slightly since 2020.

The UDM demonstrates high-quality output in its activities in contract research. The experts are particularly impressed by the department's involvement in the observatories, which are highly valued by national stakeholders. Inevitably, perhaps, the UDM's unique focus on the national context in Luxembourg may reduce the international visibility of the department. According to the experts, the department should further strengthen the international focus of its activities, but not at the expense of the national focus, which they see as the main competitive advantage of the department.

According to the experts, the topics represented in publications by the UDM are in line with the department's research strategy. In the experts' opinion, there are three areas in particular where the UDM currently appears to be very strong and generating research that is of very high quality and visibility, namely; 1) politics and governance issues of crossborder regions, 2) financial networks and financial centres and 3) health geographies. Moreover, the quality and quantity of innovation in the UMD is generally high, including staff participation in significant scientific networks and initiatives. A particularly notable example is the SURREAL project with both academic and non-academic international collaborators.

2.3.2 Quantity of output

The UDM demonstrates output of high volume, with publications in different formats such as refereed journals, books, reports and policy briefs. In the 2018-2021 evaluation period, the department had a yearly average of 45 peer-reviewed journal papers. This is a clear improvement from the last evaluation period, where the department had an average of 26 peer-reviewed journal articles per year. The information made available in the UDM self-assessment report and the bibliometric analysis shows an increase in the number of publications between 2018 and 2021, both in total and per FTE research personnel. The experts find that the quantity is impressive when compared to the resources and scope of the department. The high volume of output is also illustrated by the high shares of funding through competitive grants and contract research.

2.4 Outcome and impact

In the 2018 evaluation, the experts noted that the UDM's contribution to societal challenges should be further improved. The experts of the 2022 evaluation find that the UDM amply fulfils its mission to promote scientifically sound and socially relevant knowledge. The experts recognise the clear societal impact of the UDM through its extensive cooperation with public authorities in Luxembourg. The various observatories seem to have great potential to contribute to policy improvement. The research activities of the Housing Observatory, in particular, seem to have a significant impact not only on policy but also on the national debate on land ownership and housing affordability and enjoy high visibility and credibility. The experts identify a clear potential for the UDM to further diversify its societal impact through participatory, transdisciplinary and transformative research in the form of, for example, Citizen Science and Living Labs. The Marie Skłodowska-Curie ITN project SURREAL (Systems approach of urban environments and health) is a promising step in this direction.

The scientific impact of the department is evident in the high number and quality of its publications and the growing international reputation of many of its staff members. Clearly, the UDM has strengthened its impact on the research community during the evaluation period. As mentioned, the bibliometric analysis shows that the UDM has a high research impact, well above the average for the field. According to the experts, the UDM's future priority should be to ensure that its research activities continue to have both high scientific and societal impact.

3. Overall assessment and recommendations

3.1 Overall assessment

The UDM has demonstrated impressive growth in the evaluation period, with notable improvements in competitive and contract research funding. The consolidation of the four former research strands into two research teams has proven beneficial in ensuring focused research activity while providing the flexibility to explore new avenues. The department is characterised by highly motivated and active staff members who are committed to the department's mission of promoting scientifically-sound and socially-relevant knowledge. The staff produces scientific publications of high quality and quantity, and the output is impressive when compared to the resources and reach of the department. Through its extensive contract research on behalf of national public authorities, the department contributes to policy development and improvement, demonstrating a major societal impact.

The evaluation has identified issues that could be addressed in order to ensure the continued positive development of the UDM in the coming years. The first issue relates to the department's staff support. The apparent moratorium on the recruitment of new permanent positions has led to increased uncertainty among fixed-term staff regarding their future career prospects at the UDM. At the same time, the COVID-19 pandemic has had a negative impact on the integration of the department's PhD students. The second issue is related to the large increase in competitive grants and contract research. Although this is a positive development, it has resulted in an increased workload on UDM researchers. It also appears to have accentuated inherent tensions between the objectives of research excellence and societal impact, with indications that academic research is perceived as having a higher priority for staff members than contract research. Furthermore, within contract research, there is still a notable disproportionate reliance on national public authorities. The third and final issue concerns the current system of institutional allocation of funding, where the existing performance-based incentives are not considered sufficient from the UDM's point of view.

3.2 Recommendations

Based on the observations stated above and in the previous chapters, the expert team formulates the following recommendations for the UDM (any aspects which concern LISER as well as UDM are also reported in the institute report for LISER):

Recommendation 1: Clarify postdoctoral researcher policy

Postdoctoral researchers are a critical resource for the UDM, making valuable contributions to the department's research activities. The apparent moratorium on the recruitment of new permanent positions restricts the department's ability to attract and retain staff in postdoctoral positions. Although LISER offers information on career opportunities, there is insecurity and frustration among postdoctoral researchers regarding their opportunities at LISER. The experts therefore recommend that steps are taken to ensure that the current policy on career prospects for postdoctoral researchers is clarified and clearly communicated to existing and potential new staff. This includes support in preparing for a further career outside LISER. To ensure consistent and fair treatment across all departments, the experts consider an institution-wide policy to be necessary.

Recommendation 2: Strengthen support for PhD students

PhD students make up around one third of the UDM staff, and the number of PhD students has increased considerably during the evaluation period. The PhD students are seemingly very satisfied with the support given by their supervisors. However, the evaluation shows that the integration of the PhD students into the department was negatively affected by the COVID-19 pandemic. The experts recommend that the UDM rebuilds and strengthens the support structures for PhD students at departmental level by appointing a PhD coordinator. The coordinator should be responsible for organising orientation meetings as well as regular meetings (e.g. quarterly) where PhD students can discuss their experiences at the department. The coordinator should also act as a liaison between the PhD students and the department to ensure that the PhD students may fully profit from the training and exchange opportunities offered by the department. The position of coordinator could be given to an experienced postdoctoral researcher or a PhD student in the final stages of their PhD.

Recommendation 3: Secure attractive working conditions

The experts note various issues that could potentially compromise the UDM's ability to recruit and retain valuable staff (e.g. housing, telework, contract regulations). Some of these issues are beyond the UDM's control. The experts recommend that the UDM explores possible mechanisms for optimising the areas in which the department has leverage to ensure continued high employer attractiveness. Examples might include clear information on career perspectives in the department, career development training for young researchers and advice on navigating the local housing market.

Recommendation 4: Reinforce the standing of contract research in the department

There are indications that academic research is perceived as having a higher priority within the department for staff members than contract research. The experts recommend that the UDM ensures that contract research is given the same priority as academic research. This requires a clear commitment at management level regarding the importance of contract research, incentives for staff to participate in contract research and staff training to ensure high quality output and customer satisfaction. In addition, the experts recommend that the management of the UDM commit to ensuring that long-standing relationships with public authorities are maintained and strengthened.

Recommendation 5: Diversify societal impact

The societal impact of the UDM is mainly in evidence in the activities of the observatories financed by public authorities, which is impressive. The experts identify clear potential for the department to diversify it societal impact and support the defined objective of the UDM to explore the possibilities within participatory, transdisciplinary and transformative research in the form of, for example, Citizen Science and Living Labs. Diversification can also be sought through collaboration with other departments and institutes.

Recommendation 6: Develop a model for performance-based allocation of funding

The experts note the department's dissatisfaction with the current system of institutional allocation of funding, particularly as concerns incentivisation and motivation, but also regarding the ability to recruit additional research staff. The experts recommend that the department develops a model for the performance-based allocation of funding for the attention of the institute, including an explanation of the added-value of the model. Although the allocation of block grant funding is an institute-level responsibility, the experts urge the department to be pro-active in advocating an alternative model (or models) to the institute leadership.

Appendix: Agenda of hearing

Wednesday, 3	31 A	ugust 2022		
1 15:45 – 16:	:45	Welcome address by the Ministry of Higher Education and Research (MESR)	MESR	
16:45 – 17:00	UDM Evaluation team			
2 17:00 – 18:00 Presentation by the Department of Living Conditions (DoLC)				
Time	#	Function/institution of participants	Evaluation team	
17:00 – 18:00	1	Head of the Department		
	2	Chief Executive Officer of LISER		
	3	Member Management Board		
	4	Transversal Research Programme Leader		
	5	Research team leader		
18:00 – 20:00	Dis	cussion of self-assessment report and preparation of interviews	Evaluation team	
Thursday, 1 S	Sept	ember 2022		
3 8:30 – 10:0	00 0	Questions and discussion on the self-assessment report	UDM	
Time	#	Function/institution of participants	Evaluation team	
8:30 – 10:00	1	Head of the Department		
	2	Member Management Board		
	3	Research Team Leader		
	4	Research Team Leader		
	5	Coordinator Observatory		
10:00 – 10:30	Br	eak		
4 10:30 – 12:10, 13:30 – 15:30 Individual interviews				
Time	#	Function/institution of participants	Evaluation team	
10:30 – 11:00	1	Head of the Department		
11:05 – 11:35	2	Research Team Leader		
11:40 – 12:10	3	Senior Researcher		
12:10 – 13:30	Lu	nch Break		
13:30 – 14:00	4	Junior Researcher		
14:05 – 14:35	5	Senior Researcher		
14:40 – 15:10	6	Coordinator Observatory		
15:15 – 15:45	7	Senior Researcher		
15:45 – 16:00	Bre	eak		

5 16:00 – 17:45 Group discussions with clients/business partners (group 1) and researchers (group 2)						
Time	#	Function/institution of participants	Evaluation team			
16:00 – 16:45	1	Ministère du Logement				
	2	Ministère de l'Énergie et de l'Aménagement du territoire				
	3	Ministère de l'Energie et de l'Aménagement du territoire				
16:45 – 17:00 Break						
17:00 – 17:45	1	PhD Student				
	2	PhD Student				
	3	PhD Student				
From 17:45	Dis	cussion of results and report writing	Evaluation team			
Friday, 2 September 2022						
6 8:30 – 12:30 Discussion of results and report writing			Evaluation team			
			MESR UDM Evaluation team			