European Investment Bank

Luxembourg

Overview

EIB INVESTMENT SURVEY

2023

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EIB Investment Survey Country Overview 2023: Luxembourg

About the EIB Investment Survey (EIBIS)
The EIB Group Survey on Investment, which has been administered since 2016, is a unique, annual survey of some 13 000 firms. It covers firms in all European Union Member States and also includes a sample of firms in the United States.

The survey collects data on firm characteristics and performance, past investment activities and future plans, sources of finance, financing issues and other challenges that firms face, such as climate change and digital transformation. The EIBIS, which uses a stratified sampling methodology, is representative across all 27 EU Member States and the United States, as well as across four classes of firm size (micro to large) and four main economic sectors (manufacturing, construction, services and infrastructure). The survey is designed to build a panel of observations, supporting the analysis of time-series data. Observations can also be linked back to data on firm balance sheets and profit and loss statements. The EIBIS was developed by the EIB Economics Department. It is managed by the department with the support of Ipsos.

About this publication
These reports provide an overview of data collected for the 27 EU Member States and the United States. They are intended to provide a snapshot of the data. For the purpose of these publications, data are weighted by value-added to better reflect the contribution of different firms to economic output. Contact: eibis@eib.org.

Download the findings of the EIB Investment Survey for each EU country or explore the data portal at www.eib.org/eibis.

About the Economics Department of the EIB
The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and in the definition of its positioning, strategy and policy. The department and its team of 40 economists is headed by Debora Revoltella, director of economics.

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For further information on the EIB's activities, please consult our website, www.eib.org. You can also contact our InfoDesk, info@eib.org.

Published by the European Investment Bank.
Printed on FSC® Paper.

pdf: QH-BL-23-021-EN-N ISBN 978-92-861-5673-1 ISSN 2599-8005 doi: 10.2867/358730

EIBIS 2023 – Luxembourg overview

KEY RESULTS

Investment dynamics and focus
In the context of decelerating economic growth and tightening monetary policy, firms in Luxembourg hold a negative investment outlook for 2023. The net balance of firms expecting an increase in investment minus those expecting a decrease is negative at -4%, well below the EU average of 14%. This outlook represents a substantial reduction from both EIBIS 2022 (19%), and EIBIS 2021 (17%). Construction shows the largest decrease in the investment outlook, with a net balance of -42% in 2023, compared to 7% in 2022.

Investment needs and priorities
Seven in ten Luxembourgish firms (74%) believe they invested about the right amount over the last three years. This is similar to EIBIS 2022 (76%) and slightly below the current EU average (82%). Looking at investment priorities for the next three years, Luxembourg's firms are almost evenly split between those prioritizing capacity expansion (24%), investment in new products or services (30%) and replacement (30%). These investment priorities are similar to firms across the EU.

Luxembourgish firms remain generally pessimistic about short-term drivers and constraints to investment. Expectations for economic climate are the lowest ever recorded in Luxembourg (net balance of -50%) but similar to EIBIS 2022 (net balance of -46%) and EIBIS 2020 (-49%). On balance, perceptions of the political/regulatory climate also remain negative (-23% versus -25% in EIBIS 2022). The net figures for availability of external finance (-38%) and for business prospects (-17%) are the lowest ever recorded since the survey started in 2016.

Energy market developments
The energy crisis hit Luxembourgish firms hard, and just as much as businesses throughout the EU. Energy prices are a major concern for 60%, while uncertainty about prices, availability and regulatory frameworks are a major concern for 54%. The majority (71%) are concerned about energy availability, but it was only a major concern for 26% of local firms.

Luxembourg's firms were less likely to those across the EU (81% versus 95%) to have responded to the energy shock by adopting one or more relevant strategies. The most common strategies adopted by local firms were passing increasing energy costs to customers (60%) and seeking energy savings/efficiencies (59%). Exceeding the EU average (24%), a third of Luxembourg's firms stopped or reduced production of certain goods (35%).

International trade
Almost all (96%) Luxembourgish firms trading internationally have experienced some kind of disruption. Difficulties with logistics and transport (70%), and access to commodities or raw materials (70%) were the main obstacles encountered.

Despite these difficulties, only just over half (52%) changed or are planning to change their sourcing strategy. Firms in Luxembourg are as likely as those in the overall EU to increase stocks and inventory (28% versus 31%) and to invest in digital inventory and inputs tracking (15% versus 20%). Luxembourg's importers are broadly in line with those across the whole EU to have reduced the share of goods or services imported from abroad (13% and 10%, respectively) and to have diversified or increased the number of countries from which they import (26% and 24%, respectively).

EIBIS 2023 – Luxembourg overview

Climate change and energy efficiency

While weather events have had a major impact on 28% of firms in Luxembourg, a figure higher than the EU average (19%), the overall share of firms impacted by climate change is lower than the EU average (46% as opposed to 64%). In response to these climate-risks, nearly a third (32%) of Luxembourg's businesses have taken or invested in measures to build resilience, in line with the EU average (36%).

In terms of strategic investments, local firms were as likely to invest in solutions to avoid or reduce the exposure to physical risks (14%), as to adapt their strategy (16%). Less than one in ten (8%) buy insurance products to offset climate-related losses, consistent with the EU average (13%).

While more than eight in ten (83%) Luxembourgish firms are taking actions to reduce their Greenhouse Gas (GHG) emissions, only a minority (39%) sets and monitors relevant targets. The main actions taken are waste minimization and recycling (68%), followed by sustainable transport options (45%) and investments in energy efficiency (43%). Firms in Luxembourg are less likely than those across the EU to invest in onsite/offsite renewable energy generation (26% versus 41%) and in energy efficiency (43% versus 59%).
In Luxembourg, 54% of firms have already invested in tackling the impacts of weather events and the process of reducing carbon emissions. This is close to the current EU average (56%) and more than double the percentage for EIBIS 2022 (22%). Four in ten (41%) firms plan to invest in these areas in the next three years, slightly below EIBIS 2022 (47%) and the EU average (54%).

Innovation activities

In 2022 four in ten (41%) local firms developed or introduced new products, processes or services as part of their investment activities. This is broadly in line with the EU average (39%) and EIBIS 2022 (36%). Nearly two in ten firms (18%) say the products, processes or services were new to either the country or global markets. This is more than three times the share reported in EIBIS 2022 (5%) and above the current EU average (13%).

Overall, approximately two thirds (67%) of firms in Luxembourg have implemented at least one advanced digital technology. This is consistent with the EIBIS 2022 figure of 68% and closely aligns with the EU average of 70%. Firms in Luxembourg are making more use of robotics (74%), the Internet of Things (43%), and Digital Platforms (42%) than other digital technologies.

Investment impediments

The long-term impediments to investment most frequently cited by Luxembourgish firms are the availability of skilled staff (91%), energy costs (84%), and uncertainty about the future (82%). These are also the main barriers for firms across the EU. Feedback was generally similar to that received in EIBIS 2022, but now fewer firms cite adequate transport infrastructure as an obstacle, down from 55% to 40%, the demand for products and services, down from 62% to 46%, and the access to digital infrastructure, down from 54% to 39%.

Access to finance

The proportion of firms that are finance constrained has increased since EIBIS 2022, from 2.4% to 10%, depicting a shift, with figures for Luxembourg above the EU average of 6.1%. This represents the highest level of financial constraint reported in Luxembourg since the inception of the survey in 2016. Following monetary policy tightening and deteriorating external finance conditions, local firms are increasingly dissatisfied with the cost of finance. Since EIBIS 2022, the share of firms dissatisfied with the cost of external finance has increased from 7% to 24%.

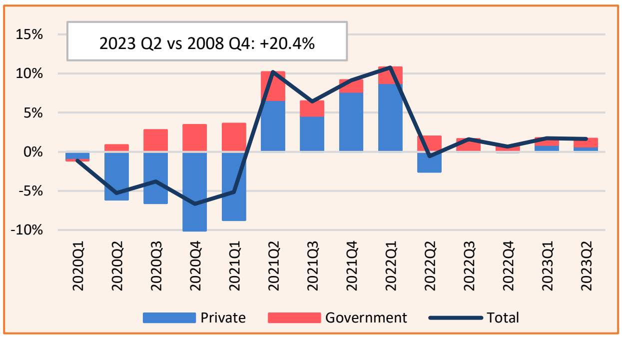
Note on how to read the results:

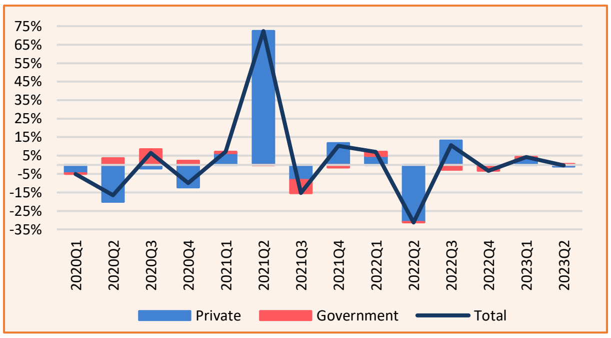
EIBIS 2023 overview presents the results of the survey run in 2023. Questions in the survey might point to "last financial year" (2022) or expectations for the current year (2023). The text and the footnote referring to the question will specify in each case which year is considered.

Investment dynamics and focus

INVESTMENT DYNAMICS BY INSTITUTIONAL SECTOR

- Due to the pandemic, total investment fell to an unprecedented level of -6.7% in Q4 2020, compared to Q4 2019, with the largest drop of more than 10% in private investment, partially offset by a 3.4% increase in public investment. Total investment started to recover in Q1 2021, exceeding its pre-pandemic level in Q2 2021.
- Despite a reduction in private and government investment in Q3 2021, in the following quarters, and until Q1 2022, total investment stayed on course above the pre-pandemic level.
- However, global headwinds, including high inflationary pressures and slower global growth, heightened financial volatility, uncertainty and tighter financial conditions, which subdued private investment. In the second quarter of 2022, aggregate investment fell sharply, driven by a contraction in private investment (down 31% in y-o-y terms). Both public and private investment continue to slow in 2023, meaning aggregate investment in Q2 2023 was at a level only 1.6% higher than in Q4 2019.

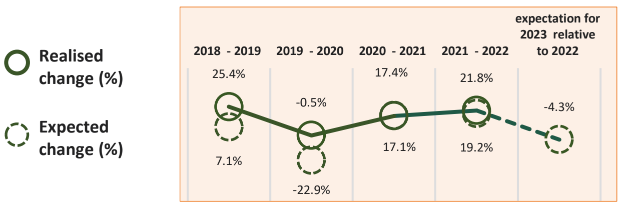




The LHS chart shows the evolution of total gross fixed capital formation (GFCF) by institutional sector, in real terms and non seasonally nor calendar adjusted. The nominal GFCF source data was transformed into four-quarter sums and deflated using the implicit deflator for total GFCF (2015=100 euro). The four-quarter sum of total GFCF in 2019Q4 is normalised to 0.
The RHS chart shows the y-o-y % change in total real GFCF by institutional sector. The implicit deflator for total GFCF (2015=100 euro) was used for deflating the nominal GFCF source data.
Source: Eurostat, authors' own calculations.

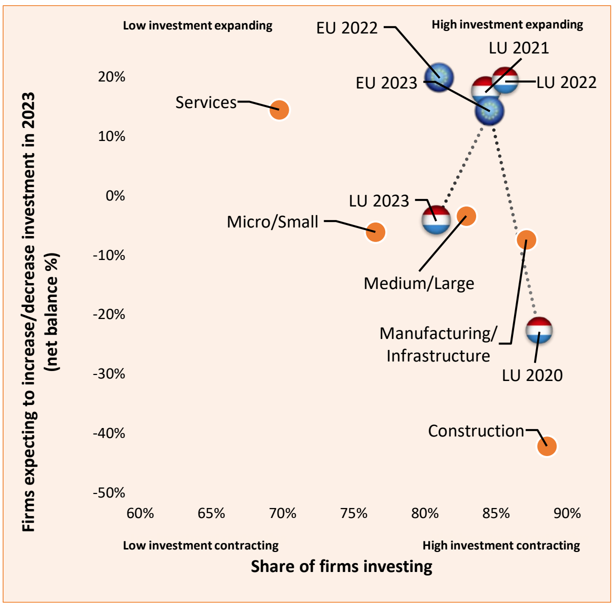
INVESTMENT CYCLE AND EVOLUTION OF INVESTMENT EXPECTATIONS

- Luxembourgish firms hold a negative investment outlook in 2023, with a net balance of -4% expecting to decrease rather than increase investment. This is lower than the average across the EU (positive net balance of 14%) and a significant decrease from EIBIS 2022 (positive net balance of 19%) and EIBIS 2021 (17%) and a return to the low expectations during the pandemic in 2020 (-23%)
- Services is the only sector that expects to increase rather than decrease their investment (net balance of 15%). Construction shows the most pessimistic investment outlook, with a net balance of -42% expecting to decrease rather than increase investment in 2023.



'Realised change' is the share of firms that invested more minus those that invested less; 'Expected change' is the share of firms that expect(ed) to invest more minus those that expect(ed) to invest less.

Base for expected and realised change: All firms



Share of firms investing shows the percentage of firms with investment per employee greater than €500.

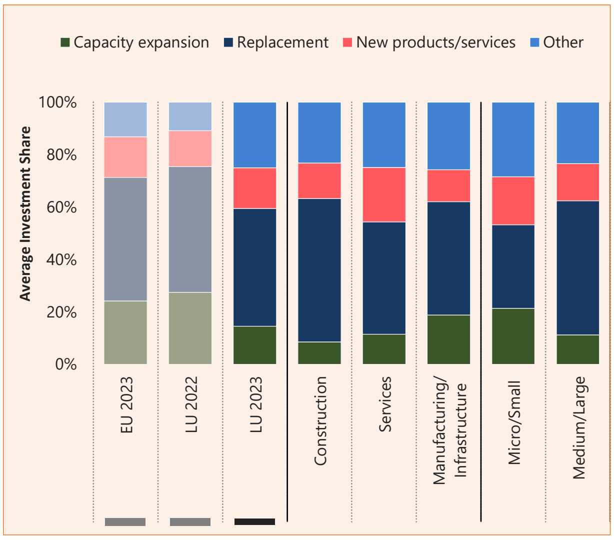
Base for share of firms investing: All firms (excluding don't know/refused responses)

Base for expected and realised change: All firms

Investment dynamics and focus

PURPOSE OF INVESTMENT IN LAST FINANCIAL YEAR (% of firms' investment)

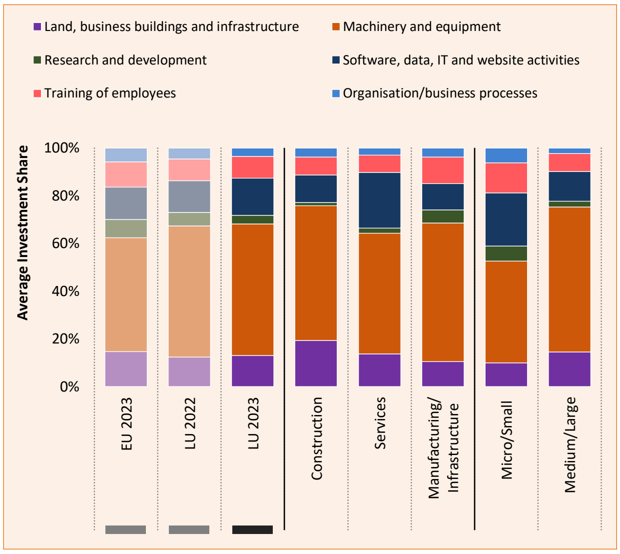
- On average, firms in Luxembourg spent 45% of their investment on replacement in 2022, almost the same as in EIBIS 2022 (48%) and in line with the current EU average (47%).
- Investments in both capacity expansion and new products or services stood at 15% in EIBIS 2023. This was lower than EIBIS 2022 (27%) and the current EU average (24%).
- Other investments constituted a quarter of the total investments (25%), an increase compared to 11% in EIBIS 2022 and the current EU average of 13%.
- Investment in new products or services was highest among service firms (21%).
- A majority of medium and large firms invested in replacement (51%) compared to a minority of micro and small businesses (32%).



Q. What proportion of total investment in the last financial year was for (a) developing or introducing new products, processes, services; (b) replacing capacity (including existing buildings, machinery, equipment and IT); (c) expanding capacity for existing products/ services?

Base: All firms that have invested in the last financial year (excluding don't know/ refused responses)

INVESTMENT AREAS



- Firms in Luxembourg have invested 32% in intangible assets, such as R&D, software, training, and business processes in line with EIBIS 2022 (33%). Their investment in research and development was half of the EU average (4% versus 8%).
- Investment activities varied depending on the sector and size of the business. Compared to medium and large firms, micro and small companies invested a higher share in intangible assets (47% versus 25%) and a lower share in tangible assets (land, buildings, infrastructure and machinery (53% versus 75%).
- Service firms were the most likely to invest in intangible assets (36%) while construction firms invested the lowest proportion (24%). Almost a quarter of service firms' investment was in software, data, IT and website activities (23%).

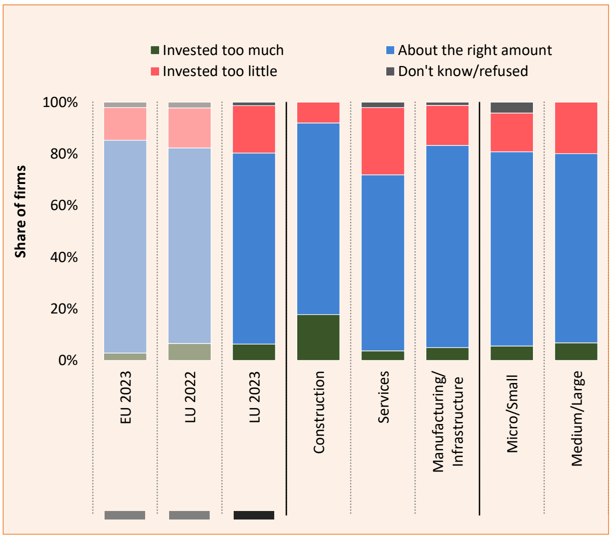
Q. In the last financial year, how much did your business invest in each of the following with the intention of maintaining or increasing your company's future earnings?

Base: All firms that have invested in the last financial year (excluding don't know/refused responses)

Investment needs and priorities

PERCEIVED INVESTMENT GAP

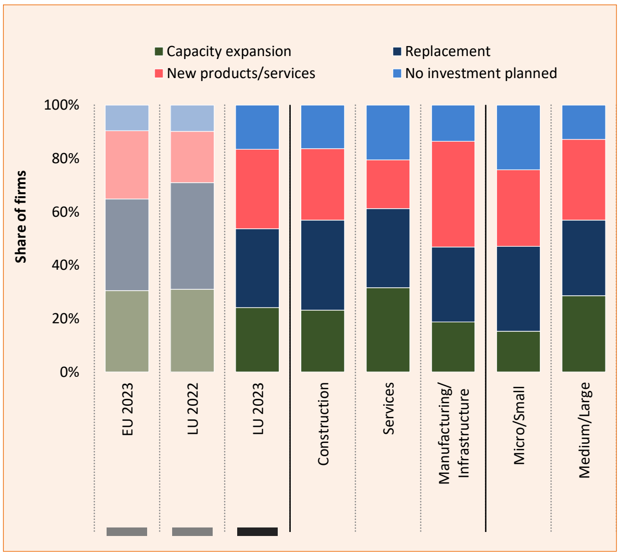
- Firms do not perceive major gaps in terms of investment. More than seven in ten local firms (74%) believe that their investment activities over the last three years were about the right amount. This share is similar to EIBIS 2022 (76%) and slightly lower than the current EU average (82%).
- Nearly one in five (18%) firms in Luxembourg believe they invested too little. Only 6% report too much investment, which is also in line with EIBIS 2022 (7%) and the EU average (3%).
- In Luxembourg, services (26%) and medium/large businesses (20%) are the most likely to say they have invested too little over the past three years.
- Nearly one in five (18%) firms in the construction sector believe they have over-invested in the past three years, compared to the 4% of service firms that share this sentiment.



Q. Looking back at your investment over the last three years, was it too much, too little, or about the right amount?

Base: All firms (excluding 'Company didn't exist three years ago' responses)

FUTURE INVESTMENT PRIORITIES



- In EIBIS 2022, investment in replacement (40%) was the most commonly cited priority for the next three years. In EIBIS 2023 firms in Luxembourg have slightly different priorities and are now divided between those prioritizing capacity expansion (24%), investment in new products or services (30%), and replacement (30%).
- Approximately one in six firms (17%) have no planned investments, a figure that exceeds both the EIBIS 2022 and EU average rates, which stand at 10%. When broken down by sectors and business size, the services sector (21%) and micro/small companies (24%) report the highest proportion of firms with no investments planned.
- Manufacture/Infrastructure firms will prioritize mostly investments in innovations (40%).
- Services (32%) and medium/large firms (29%) are most likely to invest in capacity expansion.

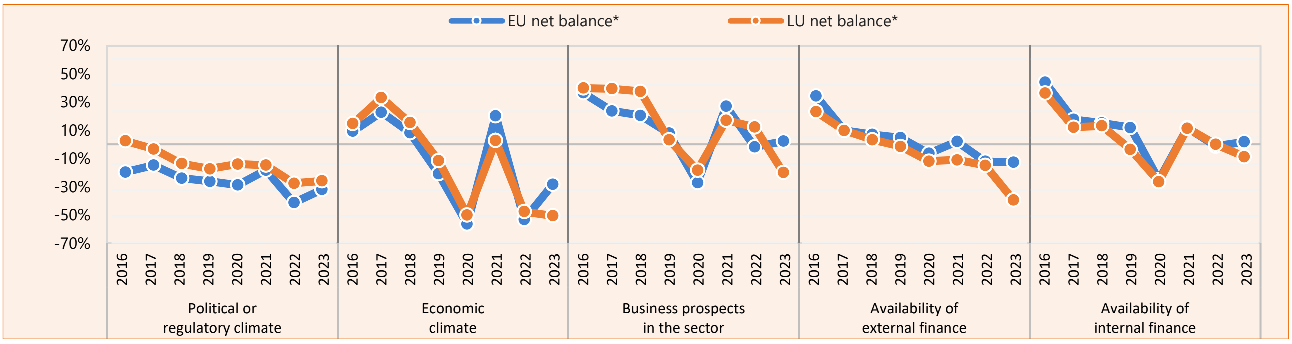
Q. Looking ahead to the next three years, which is your investment priority (a) replacing capacity (including existing buildings, machinery, equipment, IT) (b) expanding capacity for existing products/services (c) developing or introducing new products, processes or services?

Base: All firms (excluding don't know/refused responses)

Investment needs and priorities

SHORT-TERM DRIVERS AND CONSTRAINTS

- Firms in Luxembourg and the EU remain – on balance – pessimistic about the investment conditions in the next 12 months
- Net expectations for economic climate are the lowest ever recorded in Luxembourg (-50%) and are similar to EIBIS 2022 (-46%) and EIBIS 2020 (-49%).
- On balance, perception of the political/regulatory climate continues to be negative (-23%), close to the level in EIBIS 2022 (-25%). This is the only area where Luxembourg is slightly more positive than the EU average (-30%).
- The figures for availability of external finance (net balance of -38%) and for business prospects (net balance of -17%) are the lowest ever recorded in Luxembourg since the survey started in 2016.



Q. Do you think that each of the following will improve, stay the same, or get worse over the next 12 months?

Base: All firms

**Net balance is the share of firms expecting an improvement minus the share of firms anticipating a deterioration.*

SHORT-TERM DRIVERS AND CONSTRAINTS BY SECTOR AND SIZE (net balance %)

	Political / regulatory climate	Economic climate	Business prospects	External finance	Internal finance
Luxembourg	23%	50%	17%	38%	5%
Construction	36%	39%	26%	35%	4%
Services	18%	50%	37%	51%	17%
Manufacturing/ Infrastructure	23%	53%	3%	28%	2%
Micro/Small	20%	47%	12%	33%	6%
Medium/Large	25%	51%	19%	40%	4%

Please note: green figures represent a positive net balance,, while red figures represent a negative net balance.

Q. Do you think that each of the following will improve, stay the same, or get worse over the next 12 months?

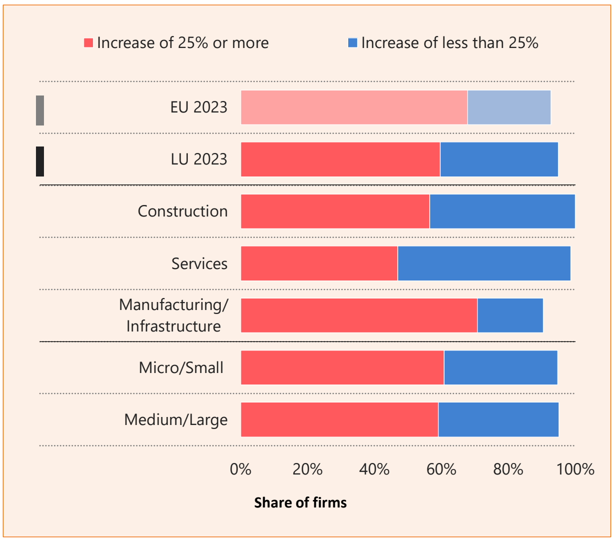
Base: All firms

- Across all sectors and businesses sizes, firms in Luxembourg remain consistently more negative than positive about the political and regulatory climate, the economic climate, and the availability of external finance.
- Service firms tend to hold, on balance, a more negative view, on all aspects except for political and regulatory climate, than other sectors.
- Manufacturing/Infrastructure is the only sector with a net positive view on future business prospects (3%). Both the construction and manufacturing/ infrastructure sectors hold a slightly net positive view on the availability of internal finance.
- Micro/small firms have broadly similar perceptions to medium/large firms.

Energy market developments

INCREASED SPENDING ON ENERGY

- Firms in Luxembourg are as likely as those across the EU to have faced increases in energy costs (95% vs 93%).
- In manufacturing/ infrastructure, which is more energy-intensive than services, 71% of companies reported energy cost increases of 25% or more, a higher share of firms than in other sectors.
- The majority of micro/small and medium/large firms report an increase in energy costs. Around six in ten businesses from both categories (61% and 59%, respectively) indicate a rise of 25% or more in energy spending.



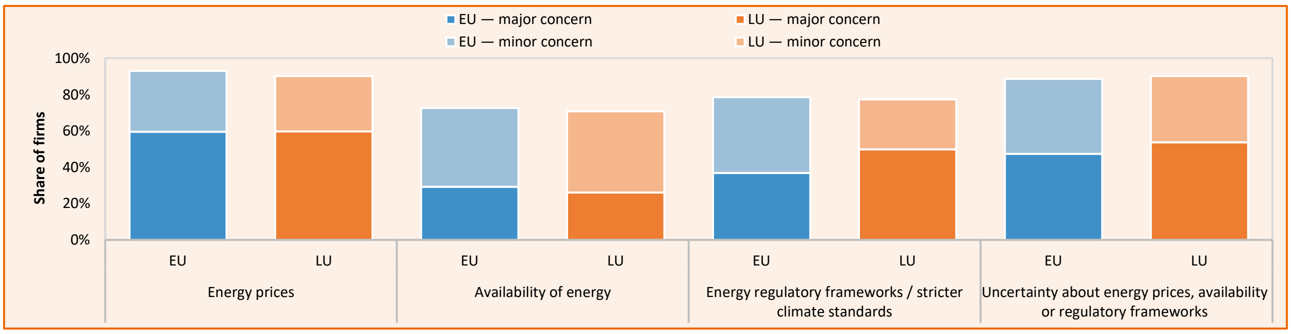
Q. Since the beginning of 2022, by how much has your company's spending on energy (including gas, electricity, oil) changed on average?

Please note: Responses of 'spending on energy stayed about the same' and 'spending on energy decreased' not shown on chart.

Base: All firms (excluding don't know/refused responses)

IMPACT OF ENERGY SHOCK

- The energy crisis hit firms in Luxembourg hard, similar to the EU as a whole. The major concerns for firms in Luxembourg are energy prices (88%) and uncertainty (90%). Energy prices are a major concern for 60% of firms in Luxembourg.
- Uncertainty about prices, availability and regulatory frameworks is a major concern for 54% of firms. Energy availability is a major concern for 26% of firms.
- Energy regulatory frameworks and stricter climate standards, are a major concern for 50% of firms in Luxembourg, above the EU average (37%).



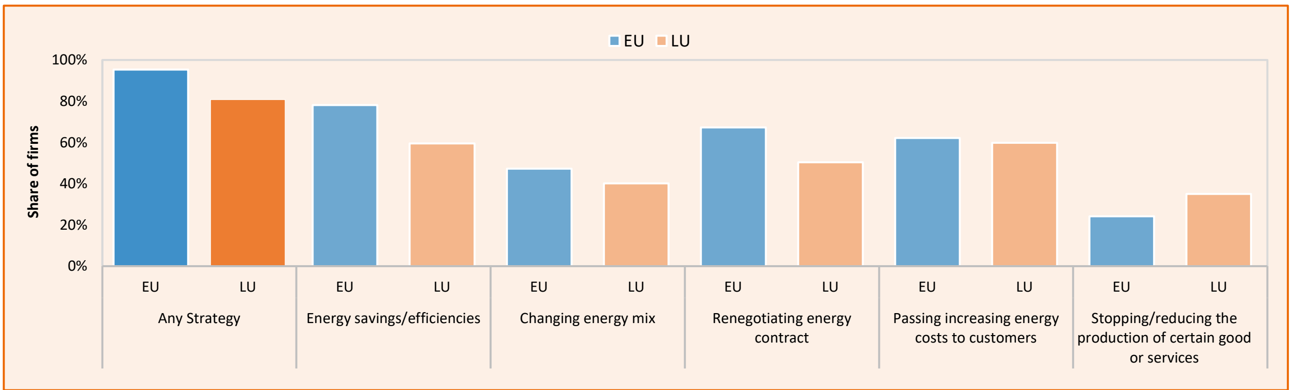
Q. Thinking about the energy shock, to what extent is your company concerned about …?

Base: All firms (data not shown for those that said not an obstacle at all/don't know/refused)

Energy market developments

STRATEGIES TO DEAL WITH THE ENERGY SHOCK

- Firms in Luxembourg are less likely than those across the EU (81% versus 95%) to have responded to the energy shock by adopting at least one of the strategies proposed.
- The most frequently adopted strategies or priorities were passing increasing energy costs to customers (60%) and seeking energy savings/efficiencies (59%).
- Half of the firms (50%) renegotiated their energy contract but relatively few firms stopped or reduced the production of certain goods or services (35%). However, Luxembourg firms are more likely to have stopped or reduced production of goods or services than EU firms (35% versus 24%).

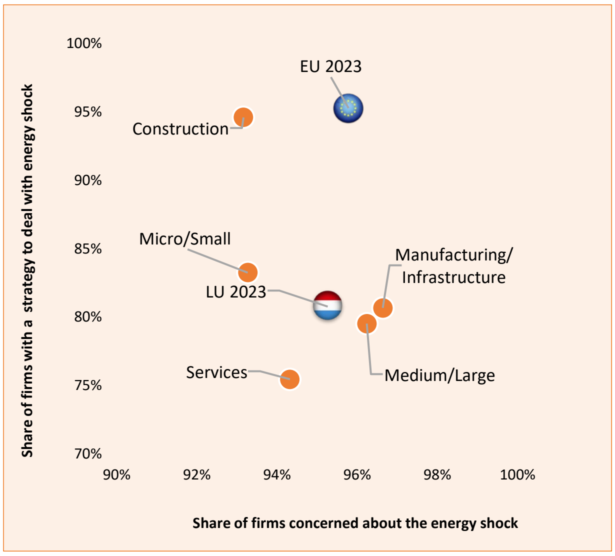


Q. Which, if any of the following, are your priorities/strategies to deal with the recent developments in the energy market?

Base: All firms (excluding don't know/refused responses)

IMPACT AND STRATEGIES TO DEAL WITH ENERGY SHOCK

- In Luxembourg, the level of concern of firms about the energy shock is similar to that in EU firms overall (95% versus 96%). However, compared to the EU average, the proportion of companies that had adopted strategies to cope with recent developments in the energy market is smaller (81% versus 95%).
- Firms in all sectors, ranging from 94% in services to 97% in manufacturing/infrastructure, expressed high levels of concern. There is a very high level of concern among both micro/small firms (93%) and medium/large business (96%).
- The share of firms that had adopted strategies in response to the energy shock varied across sectors and firm sizes. While 95% of construction firms had adopted strategies to deal with the recent developments in the energy market, only 75% of service firms have done so.



Q. Which, if any, of the following, are your priorities/ strategies to deal with the recent developments in the energy market?

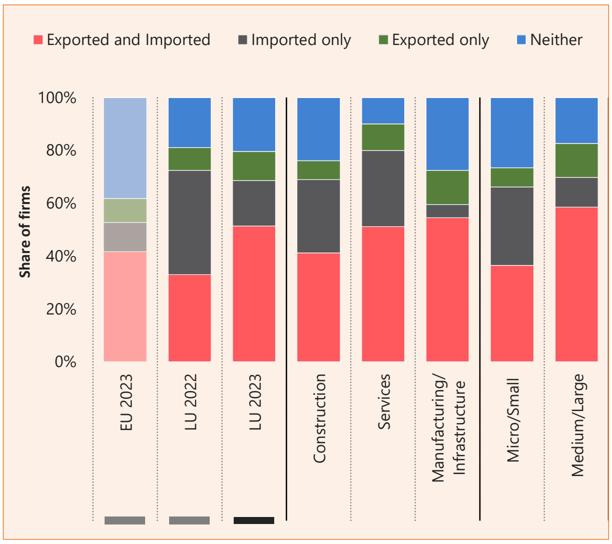
Q. Thinking about the energy shock, to what extent is your company concerned about …

Base: All firms for 'share of firms concerned about the energy shock'
Base: All firms (excluding don't know/refused responses) for 'share of firms with a strategy to deal with the energy shock'

International trade

ENGAGEMENT IN INTERNATIONAL TRADE

- In 2022, 80% of firms in Luxembourg were actively participating in international trade, maintaining the level of engagement seen in EIBIS 2022 (81%) and surpassing the current EU average of 62%.
- Around a half (51%) of firms were exporting and importing. This compares to 33% in EIBIS 2022.
- Service firms have the highest share of firms who were engaged in international trade (90%) and were both exporting and importing (51%).
- Luxembourg's medium/large firms were slightly more likely than its micro/small businesses to trade internationally (83% versus 73%).

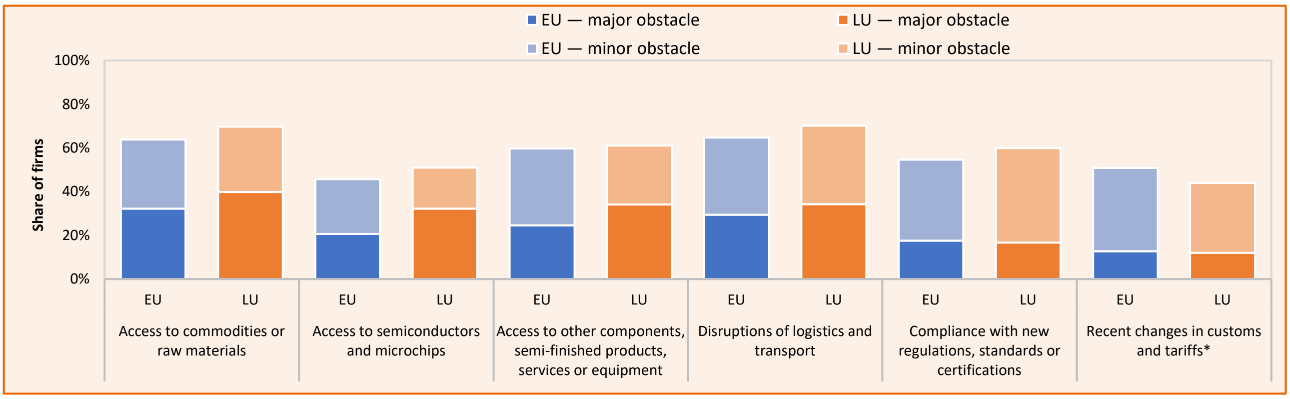


Q. In 2022, did your company export or import goods and/or services?

Base: All firms (excluding don't know/refused responses)

DISRUPTIONS RELATED TO INTERNATIONAL TRADE

- Seven in ten firms in Luxembourg consider disruption to logistics and transport and access to commodities or raw materials as the main obstacles to their business activities, in line with EU counterparts (65% and 64% respectively).
- Access to commodities is a major obstacle for four in ten Luxembourg traders (40%). In contrast, only 12% of them describe recent changes to customs and tariffs as a major obstruction.
- In general, these obstacles are being experienced by Luxembourgish firms to a similar extent as by those across the EU.



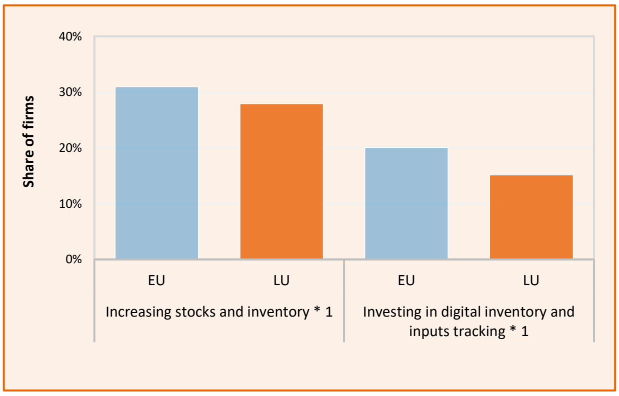
Q. Since the beginning of 2022, were any of the following an obstacle to your business's activities?

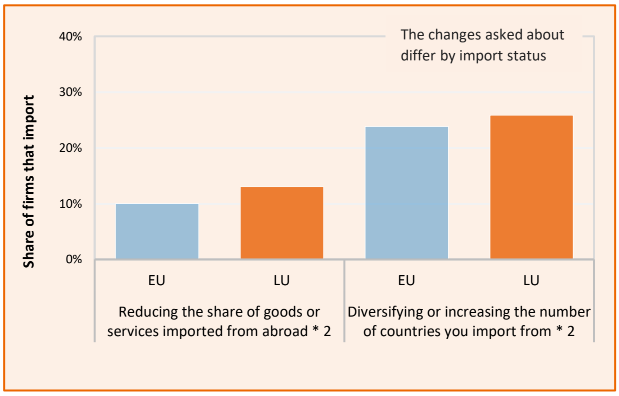
Base: All firms (excluding don't know/refused/not applicable responses)
**Base: All importers and exporters (excluding don't know/refused/not applicable responses)*

International trade

SOURCING STRATEGY

- When asked about potential changes to their sourcing strategy, a similar proportion of firms in Luxembourg as those across the whole EU have invested in digital tracking of stock and inputs (15% versus 20%) and to have increased stocks and inventory (28% versus 31%).
- Luxembourg importers are just as likely as those across the EU to have reduced the share of goods or services imported from abroad (13% versus 10%) and to have diversified or increased the number of countries from which they import (26% versus 24%).





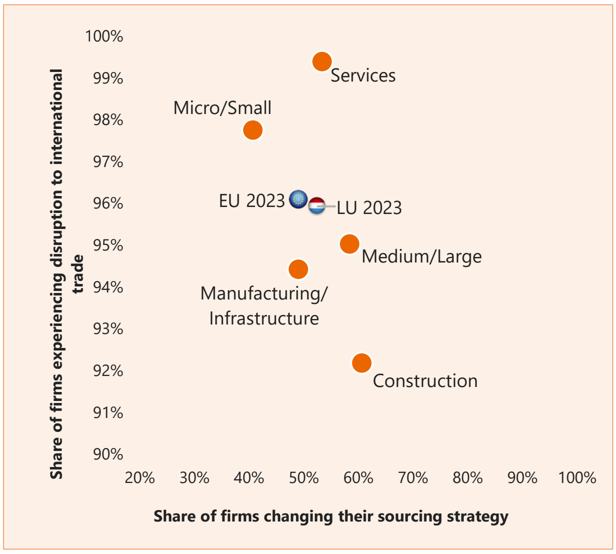
*** 1 = Asked to all, 2 = Asked to all importers**

Q. Since the beginning of 2022, has your company made or are you planning to make any of the following changes to your sourcing strategy?

Base: All firms (excluding don't know/refused responses)
Base: All firms that import (excluding don't know/refused responses)

DISRUPTIONS AND SOURCING STRATEGY

- While almost all Luxembourgish firms faced at least one of the international trade disruptions (96%), only around half (52%) have changed or plan to change their sourcing strategy, which is similar to the overall EU average (96% and 49% respectively).
- Construction firms are most likely to have changed or have plans to change their sourcing strategy (61%). Manufacturing/infrastructure and micro/small firms are the least likely to have done so (49% and 41%, respectively).



Q. Since the beginning of 2022, were any of the following an obstacle to your business's activities?

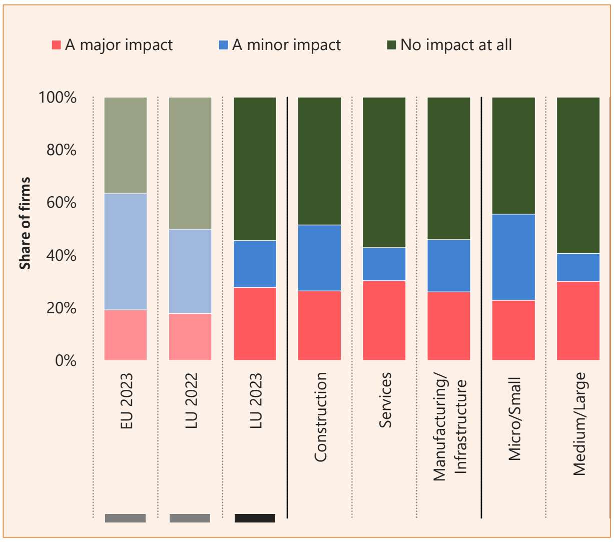
Q. Since the beginning of 2022, has your company made or are you planning to make any of the following changes to your sourcing strategy?

Base: All firms (excluding don't know/refused responses)

Climate change and energy efficiency

IMPACT OF CLIMATE CHANGE – PHYSICAL RISK

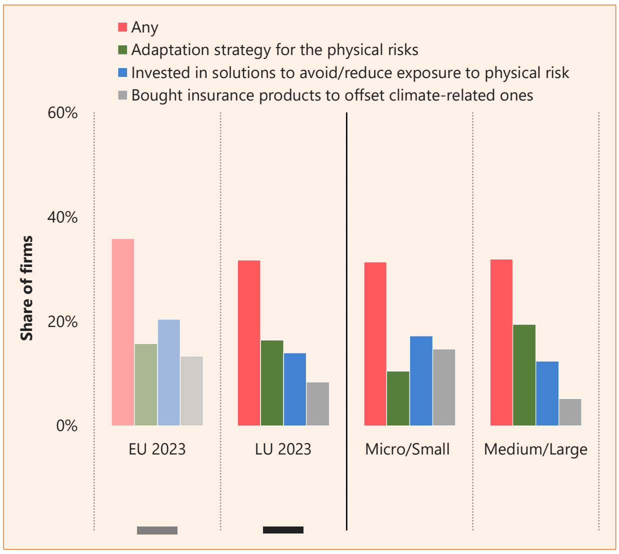
- Although more firms in Luxembourg report that weather events have had a major impact on their business, than those in the EU as a whole (28% versus 19%), the overall share of firms affected by climate change is significantly lower than the EU average (46% versus 64%).
- The figures are broadly consistent across all sectors, although construction firms are more likely than others to report that weather events have had an impact on their business (52%).
- The majority of micro/small firms (56%) report that weather events have impacted their business compared to 41% of medium/large firms.



Q. Thinking about the impact of climate change on your company, such as losses due to extreme climate events, including droughts, flooding, wildfires or storms or changes in weather patterns due to progressively increasing temperature and rainfall. What is the impact, also called physical risk, of this on your company?

Base: All firms (excluding don't know/refused responses)

BUILDING RESILIENCE TO PHYSICAL RISK



- Nearly a third (32%) of Luxembourg's firms have developed or invested in measures to increase their resilience to the physical risks caused by climate change. This is in line with the EU average (36%).
- Firms in Luxembourg are as likely to invest in solutions to avoid or reduce the exposure to physical risks (14%), as to adapt their strategy (16%). Fewer companies purchase insurance products to offset climate-related losses (8%). This is consistent with the EU average (20%, 16% and 13% respectively).
- Almost equal proportions of medium/large (32%) and micro/small firms (31%) have invested in resilience measures against physical risks.
- Three times as many micro/small businesses as medium/large firms have opted for insurance against climate-related losses (15% versus 5%). In contrast, medium/large firms are almost twice as likely to have adapted their strategies (19%) as micro/small firms (10%).

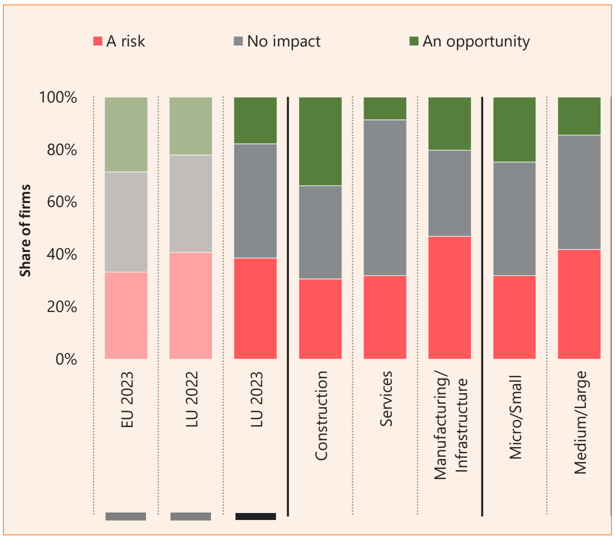
Q. Has your company developed or invested in any of the following measures to build resilience to the physical risks to your company caused by climate change?

Base: All firms (excluding don't know/refused responses)

Climate change and energy efficiency

IMPACT OF CLIMATE CHANGE – RISKS ASSOCIATED WITH THE TRANSITION TO A NET ZERO EMISSION ECONOMY OVER THE NEXT FIVE YEARS

- The share of firms in Luxembourg that see the transition to stricter climate standards and regulations as a risk is more than twice as high as the proportion that regards it as an opportunity (39% and 18%, respectively). This is in line with the data observed in EIBIS 2022.
- Nearly six in ten (59%) service firms believe that the transition to a net zero emission economy will have no impact on their business. In contrast, the transition is seen as a risk by around half of manufacturing/infrastructure companies. The construction sector is the most likely to see the transition as an opportunity (34%).
- Micro/small firms are more likely than medium/large firms to think the transition represents an opportunity (25% versus 15%).

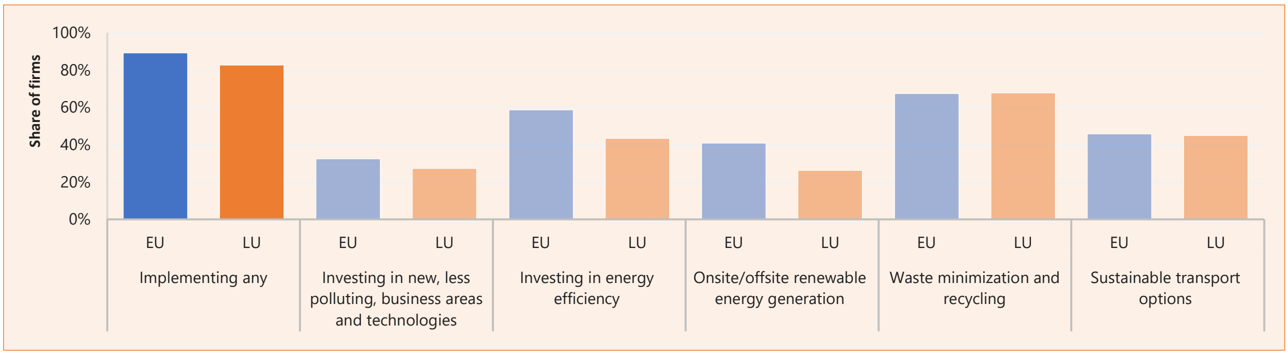


Q. Thinking about your company, what impact do you expect this transition to stricter climate standards and regulations will have on your company over the next five years?

Base: All firms (excluding don't know/refused responses)

ACTIONS TO REDUCE GREENHOUSE GAS EMISSIONS

- More than eight in ten firms in Luxembourg (83%) are taking actions to reduce Greenhouse Gas (GHG) emissions. The is slightly lower than the EU average (89%).
- The main action taken by local firms is waste minimization and recycling (68%), followed by sustainable transport options (45%) and investments in energy efficiency (43%).
- Luxembourgish firms are less likely than those across the EU to be investing in onsite/offsite renewable energy generation (26% versus 41%) and in energy efficiency (43% versus 59%).



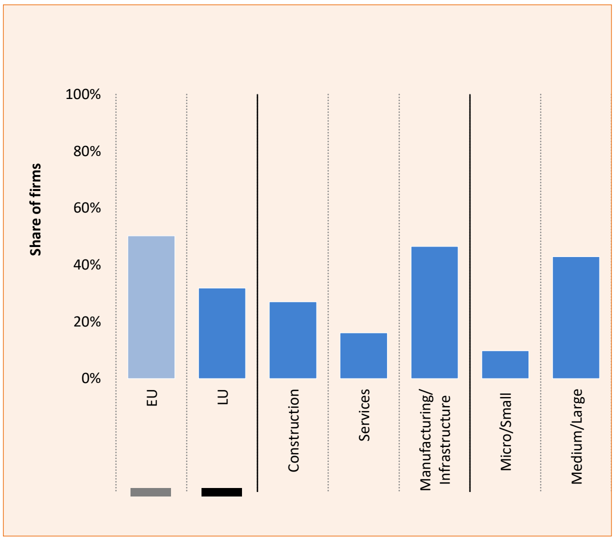
Q. Is your company investing or implementing any of the following, to reduce greenhouse gas (GHG) emissions?

Base: All firms (excluding don't know/refused responses)

Climate change and energy efficiency

ENERGY AUDIT

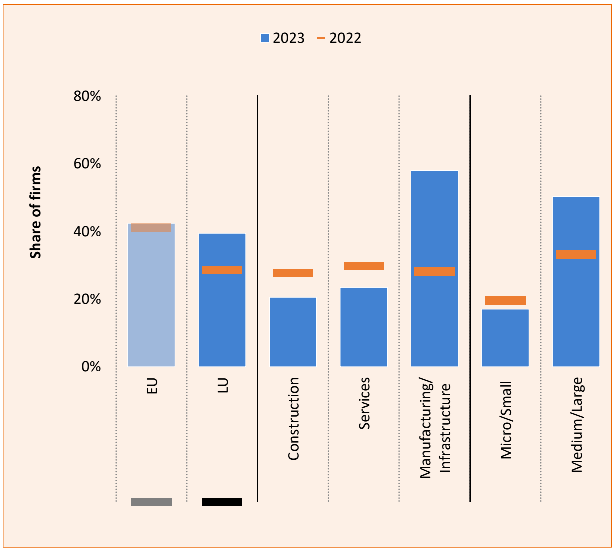
- Almost a third (32%) of Luxembourg's firms have had an energy audit carried out in the last three years. That is an assessment of the energy needs and efficiency of their company's building or buildings. This is lower than in the EU as a whole (50%).
- In Luxembourg, nearly half of the manufacturing/ infrastructure (46%) firms have had an energy audit, but relatively few services (16%) have taken this action.
- In the past three years, 43% of medium and large firms in Luxembourg have undergone an energy audit. This proportion is more than four times higher than among micro/small firms (10%).



Q. In the past three years, has your company had an energy audit (i.e. an assessment of the energy needs and efficiency of your company's building or buildings?

Base: All firms (excluding don't know/refused responses)

CLIMATE CHANGE TARGETS FOR OWN GREENHOUSE GAS EMISSIONS



- Four in ten (39%) firms in Luxembourg report that they set and monitor targets for their own GHG emissions. This is higher than in EIBIS 2022 (29%) and in line with the current EU average (42%).
- In EIBIS 2023, more than half of manufacturing/ infrastructure firms in Luxembourg (58%) are setting and monitoring their GHG targets. In EIBIS 2022, this figure was 28%.
- Medium/large firms are almost three times more likely than micro/small firms to say they set and monitor targets for their own GHG emissions (50% versus 17%).

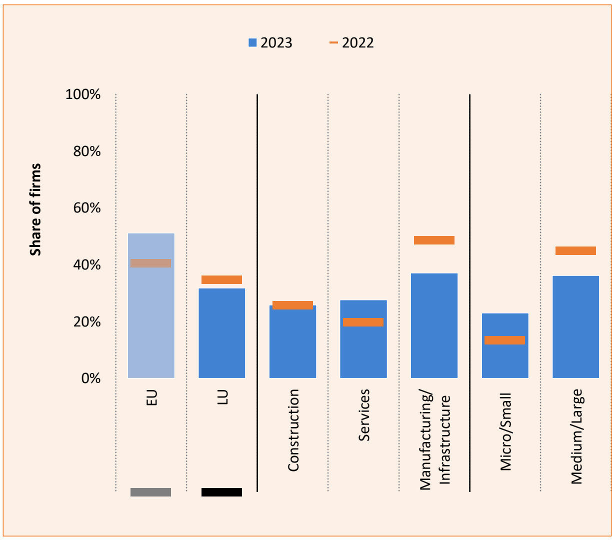
Q. Does your company… sets and monitors targets for its own greenhouse gas (GHG) emissions?

Base: All firms (excluding don't know/refused responses)

Climate change and energy efficiency

SHARE OF FIRMS INVESTING IN MEASURES TO IMPROVE ENERGY EFFICIENCY

- Nearly a third of (32%) firms in Luxembourg invested in measures to improve energy efficiency in 2022. This is similar to the figure reported in EIBIS 2022 (35%) but is below the EU average of 51%.
- Manufacturing/infrastructure firms (37%) were the most likely to invest in energy efficiency, while construction sector firms were the least likely to do so (26%).
- Luxembourg's medium/large firms (36%) remain more likely to have invested in energy efficiency than its micro/small businesses (23%).

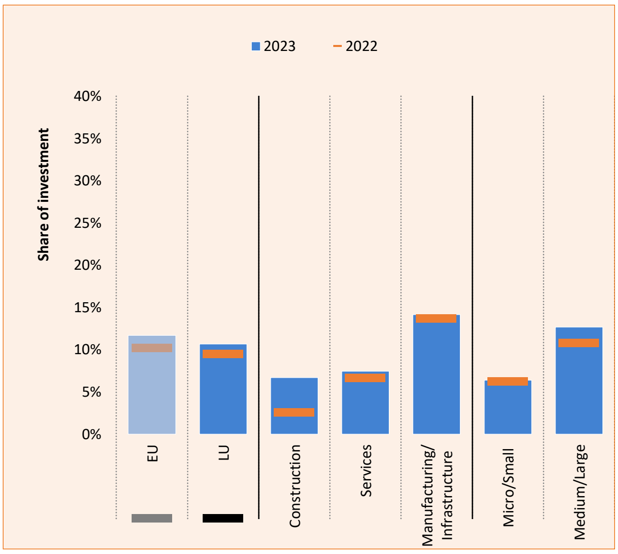


Q. What proportion of the total investment in the last financial year was primarily for measures to improve energy efficiency in your organisation?

Base: All firms

AVERAGE SHARE OF INVESTMENT IN MEASURES TO IMPROVE ENERGY EFFICIENCY

- In 2022 an average of 11% of the investment made by firms in Luxembourg was directed towards measures to improve the energy efficiency. This is similar to the proportion in EIBIS 2022 (10%) and almost identical to the current EU average (12%).
- The highest share of investments in energy efficiency was allocated by companies in the manufacturing/ infrastructure sector (14%). Services (7%) and construction sector (7%) firms spent less than a tenth of their total investment on energy efficiency measures.
- The share of medium/large firms investing in energy efficiency improvements was double that of the micro/small firms (13% and 6%, respectively).

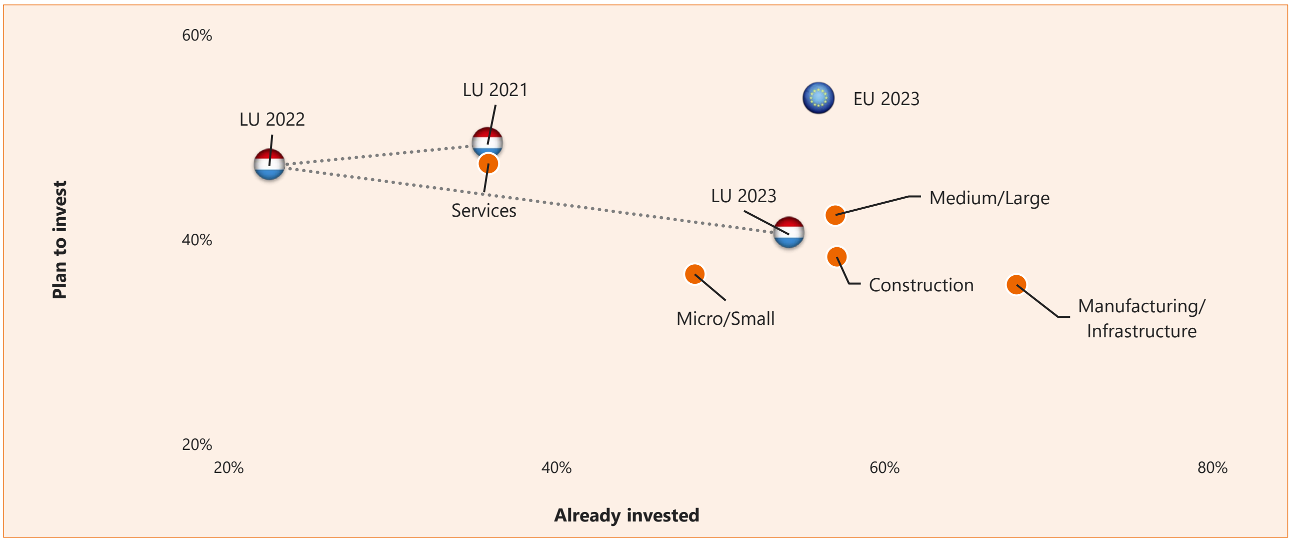


Q. What proportion of the total investment in the last financial year was primarily for measures to improve energy efficiency in your organisation?

Base: All firms that have invested in the last financial year (excluding don't know/refused responses)

Climate change and energy efficiency

INVESTMENT PLANS TO TACKLE CLIMATE CHANGE IMPACT



EIBIS 2022/2023:
Q. Which of the following applies to your company regarding investments to tackle the impacts of weather events and to help reduce carbon emissions?
EIBIS 2021:
Q. Now thinking about investments to tackle the impacts of weather events and to deal with the process of reduction in carbon emissions, which of the following applies?

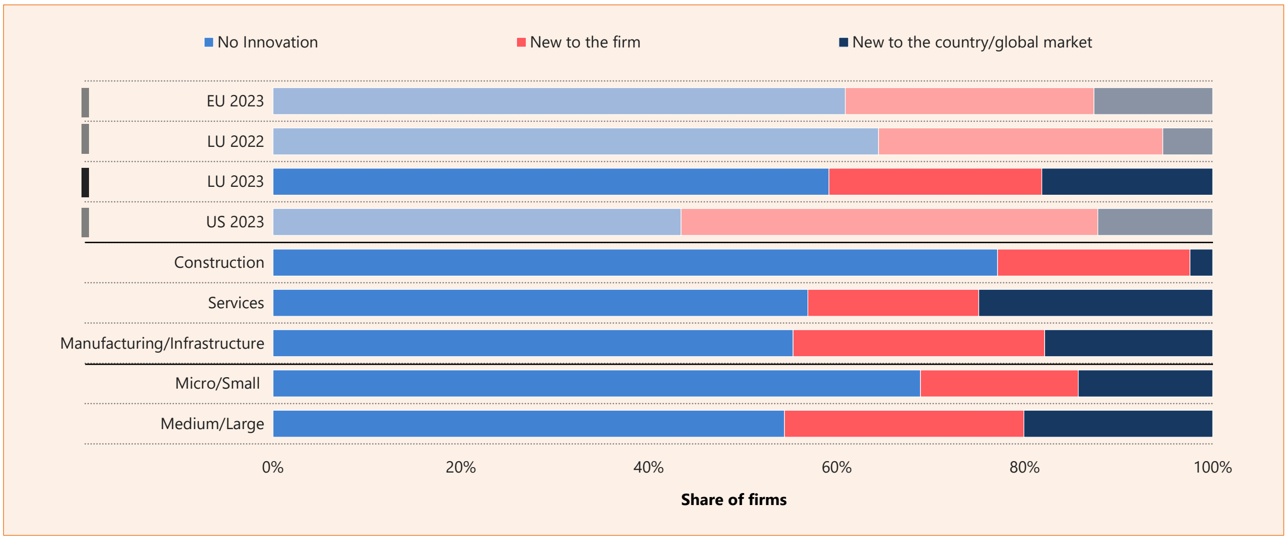
Please note: question change and an additional answer option was included in 2022, this may have influenced the data. Treat comparison to 2021 with caution.

Base: All firms (excluding don't know/refused responses)

- In Luxembourg, 54% of firms have already invested in tackling the impacts of weather events and addressing the process of reducing carbon emissions. This is significantly higher than in EIBIS 2022 (22%) and in line with reaches the current EU average (56%).
- Four in ten (41%) firms have plans to invest in these areas in the next three years. This is consistent with EIBIS 2022 (47%) but below the EU average (54%).
- A higher proportion of medium/large than micro/small firms have already invested (57% versus 48%) and also plan to make investments related to climate change (42% versus 37%).
- Manufacturing/Infrastructure has the highest share of firms that have already invested to tackle the impacts of weather events (68%), while services have the highest proportion that plans to invest (47%).

Innovation activities

INNOVATION ACTIVITY



Q. What proportion of total investment in the last financial year was for developing or introducing new products, processes or services?
Q. Were the products, processes or services new to the company, new to the country or new to the global market?

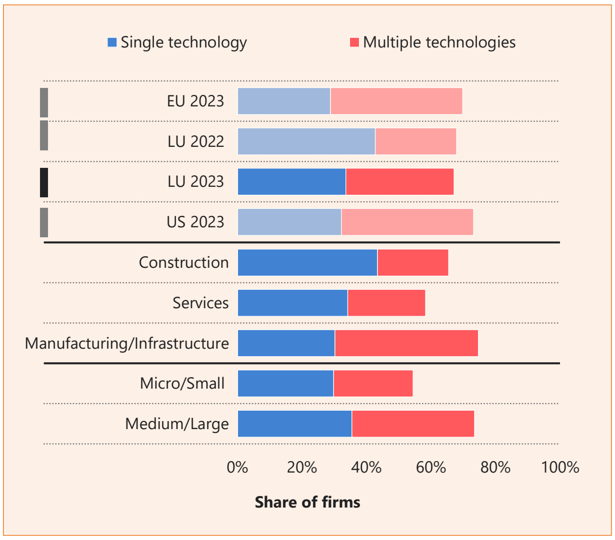
Base: All firms (excluding don't know/refused responses)

- Four in ten (41%) of the firms in Luxembourg developed or introduced new products, processes or services as part of their investment activities in 2022. This is consistent with EIBIS 2022 (36%) and the EU average of 39%. By contrast, more than half of US firms (57%) developed or introduced new products, processes or services.
- Nearly two in ten firms (18%) report the development or introduction of products, processes or services new to either the country or global market. This is more than three times the proportion seen in EIBIS 2022 (5%) and in line with the current EU average (13%).
- Manufacturing/infrastructure has the highest proportion of enterprises that invested in innovation (45%). The construction sector has the lowest share (23%).
- A larger share of medium/large firms have invested in innovation compared to their micro/small counterparts (46% against 31%). Notably, a fifth (20%) of these medium/large firms claim to have developed or introduced products, processes, or services that are new to either the national or global market.

Innovation activities

USE OF ADVANCED DIGITAL TECHNOLOGIES

- Approximately two thirds (67%) of local firms have implemented at least one advanced digital technology. This is consistent with the EIBIS 2022 (68%) and closely aligns with the EU's (70%). It falls slightly short of the US, where 73% of firms have adopted such technologies.
- Manufacturing/infrastructure firms (75%) are the most likely to have adopted at least one advanced digital technology and 45% have adopted multiple technologies.
- Medium/large companies are more likely than micro/small firms to have adopted such technologies (73% versus 54%) and are slightly more inclined to use multiple digital applications (38% versus 25%).
- Firms in Luxembourg are more likely to use robotics (74%), the Internet of Things (43%) and digital platform technologies (42%) than other technologies covered by the survey. The use of big data/AI by Luxembourg companies is relatively low compared to the EU average (13% versus 29%).



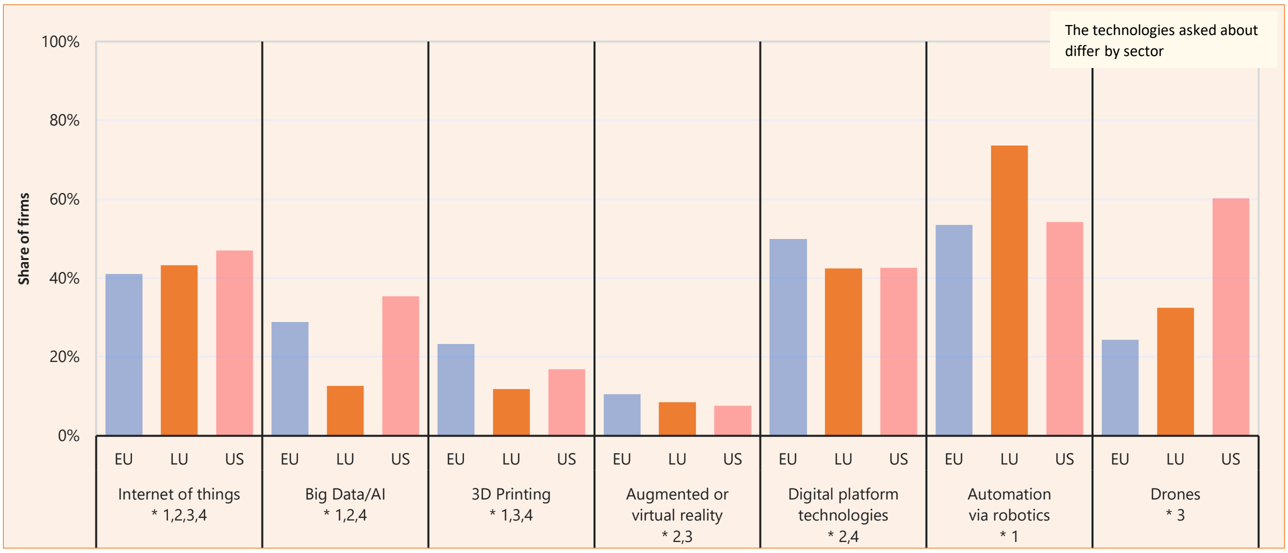
Reported shares combine "used" the technology "in parts of business" and "entire business organised around it."

Single technology is where firms have used one of the technologies asked about.
Multiple technologies is where firms have used more than one of the technologies asked about.

Q. To what extent, if at all, are each of the following digital technologies used within your business? Please say if you do not use the technology within your business.

Base: All firms (excluding don't know/refused responses)

ADVANCED DIGITAL TECHNOLOGIES



*** Sector: 1 = Asked to manufacturing firms, 2 = Asked to services firms, 3 = Asked to construction firms, 4 = Asked to infrastructure firms**

Q. To what extent, if at all, are each of the following digital technologies used within your business? Please say if you do not use the technology within your business.

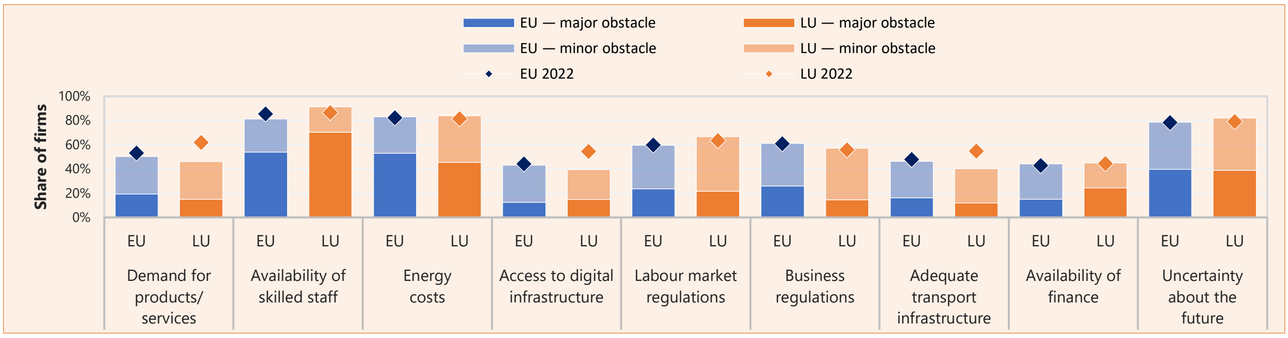
Reported shares combine used the technology 'in parts of business' and 'entire business organised around it'

Base: All firms (excluding don't know/refused responses);
Sample size LU: Manufacturing (24); Construction (46); Services (69); Infrastructure (40).

Investment impediments

LONG-TERM BARRIERS TO INVESTMENT

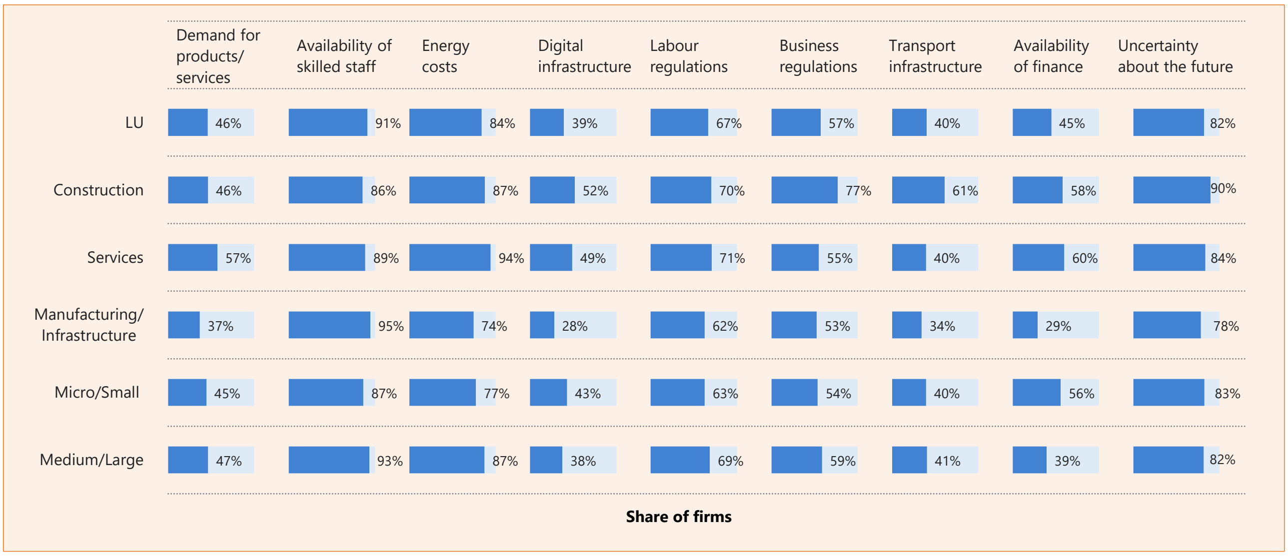
- As in EIBIS 2022, the most frequently mentioned long-term barriers to investment in Luxembourg are the availability of skilled staff (91%), energy costs (84%), and uncertainty about the future (82%). These are also the main barriers for firms across the EU.
- The results for Luxembourg in EIBIS 2023 are generally similar to those in EIBIS 2022. However, there are some notable exceptions: the share of firms citing adequate transport infrastructure as a barrier fell from 55% to 40%, the demand for products and services from 62% to 46%, and the access to digital infrastructure from 54% to 39%.
- The availability of skilled labour is seen as a long-term barrier to investment by at least 86% of companies across all sectors. At least 74% cite energy costs as a barrier, and this rises to 94% of service firms.
- Over half of companies (57%), rising to 77% among construction firms, see business regulation as a barrier to investment.



Q. Thinking about your investment activities, to what extent is each of the following an obstacle? Is it a major obstacle, a minor obstacle or not an obstacle at all?

Base: All firms (data not shown for those that said not an obstacle at all/don't know/refused)

LONG-TERM BARRIERS BY SECTOR AND SIZE



Reported shares combine 'minor' and 'major' obstacles into one category

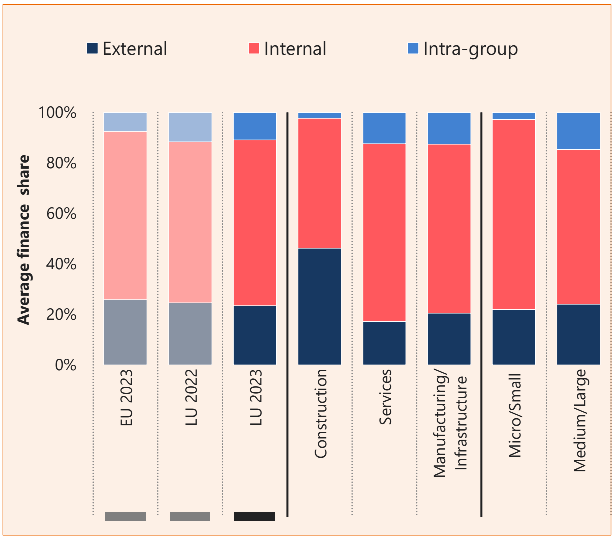
Q. Thinking about your investment activities, to what extent is each of the following an obstacle? Is it a major obstacle, a minor obstacle or not an obstacle at all?

Base: All firms (data not shown for those that said not an obstacle at all/don't know/refused)

Access to finance

SOURCE OF INVESTMENT FINANCE

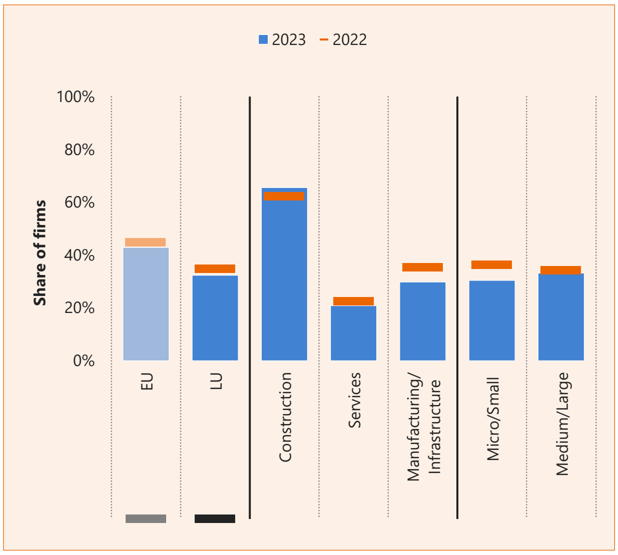
- Internal sources accounted for the largest share of investment finance for firms in Luxembourg (66%), followed by external finance (23%). The remainder (11%) came from intra-group financing. All proportions are similar to EIBIS 2022 and the EU average.
- Across all sectors, internal sources accounted for over half of investment finance. Compared to those in other sectors, construction firms exhibit a distinct pattern, with the lowest contribution from intra-group funding (2%), in stark contrast to the substantial share from external finance (46%).
- Medium/large firms financed a higher proportion of their investment through intra-group funding than micro/small firms (15% versus 3%).



Q. What proportion of your investment was financed by each of the following?

Base: All firms that invested in the last financial year (excluding don't know/ refused responses)

USE OF EXTERNAL FINANCE



- A third of the firms in Luxembourg (32%) who invested in the last financial year, financed at least some of this investment through external sources. This is similar to EIBIS 2022 (35%) but slightly below the EU average (43%).
- Construction firms (66%) are three times more likely to have used investment finance from external sources than services (21%).
- An almost identical share of micro/small firms and medium/large firms used external finance in 2022 (30% and 33%, respectively).

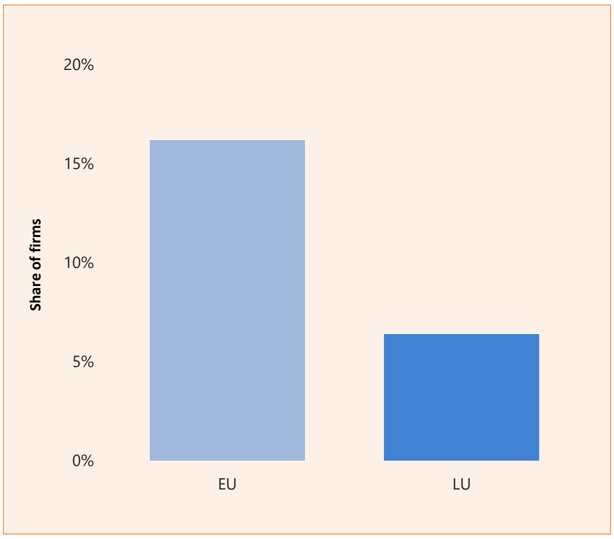
Q. Approximately what proportion of your investment in the last financial year was financed by each of the following

Base: All firms that invested in the last financial year (excluding don't know/ refused responses)

Access to finance

SHARE OF FIRMS WITH FINANCE FROM GRANTS

- Less than one in ten firms using external finance in Luxembourg received grants (6%), below the EU average (16%).

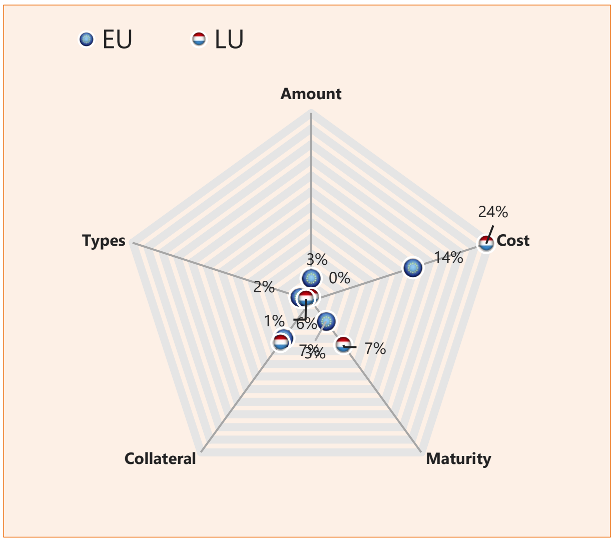


Q. What proportion of your total investment in the last financial year was financed by grants?

Base: All firms using external finance (excluding don't know/refused responses)
Data for sector and size splits not shown due to very low base size

DISSATISFACTION WITH EXTERNAL FINANCE RECEIVED (% of firms)

- Except for the cost of the external finance obtained, only a very small proportion of firms in Luxembourg that obtained external finance in the last financial year are dissatisfied with the conditions attached.
- Nearly a quarter (24%) of these firms expressed dissatisfaction with the cost of external finance, which is significantly higher than in EIBIS 2022 (7%). This may possibly reflect the impact of the tightening of financial and monetary conditions.
- Overall, the levels of dissatisfaction among firms in Luxembourg align closely with the EU average. However, it is noteworthy that dissatisfaction with the cost of external finance is somewhat higher in Luxembourg (24%) compared to the EU average (14%).



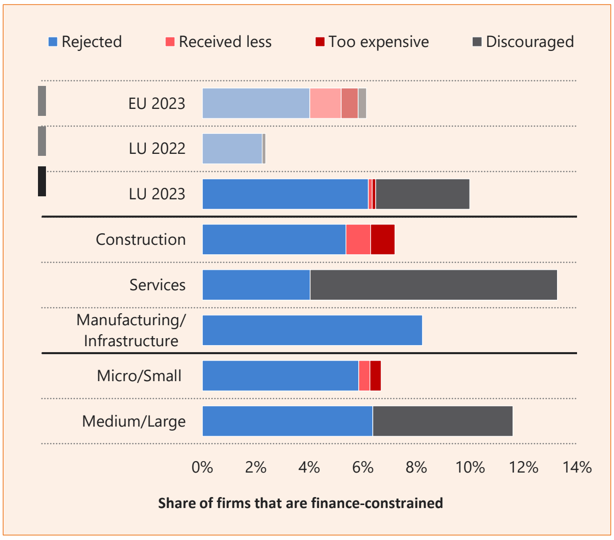
Q. How satisfied or dissatisfied are you with …?

Base: All firms that used external finance in the last financial year (excluding don't know/refused responses)

Access to finance

SHARE OF FIRMS THAT ARE FINANCE CONSTRAINED

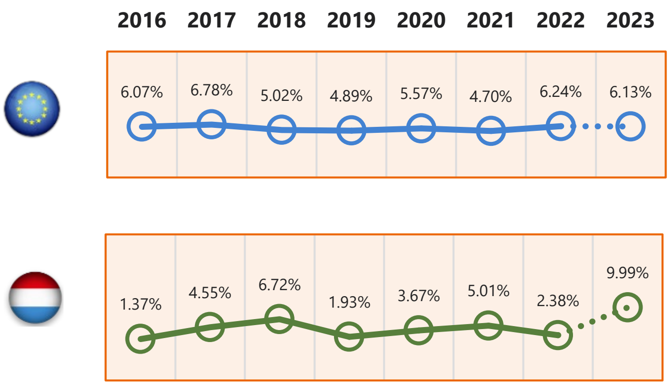
- The share of financially constrained firms in Luxembourg (10.0%) is above the EU average (6.1%) and EIBIS 2022 (2.4%).
- The share of finance-constrained firms is largest in the services sector (13.3%).
- As in EIBIS 2022, the main constraint reported by firms in Luxembourg is rejection (6.2%), followed by discouragement (3.5%).



Finance-constrained firms include: those dissatisfied with the amount of finance obtained (received less), firms that sought external finance but did not receive it (rejected) and those that did not seek external finance because they thought borrowing costs would be too high (too expensive) or they would be turned down (discouraged).

Base: All firms (excluding don't know/refused responses)

FINANCING CONSTRAINTS OVER TIME

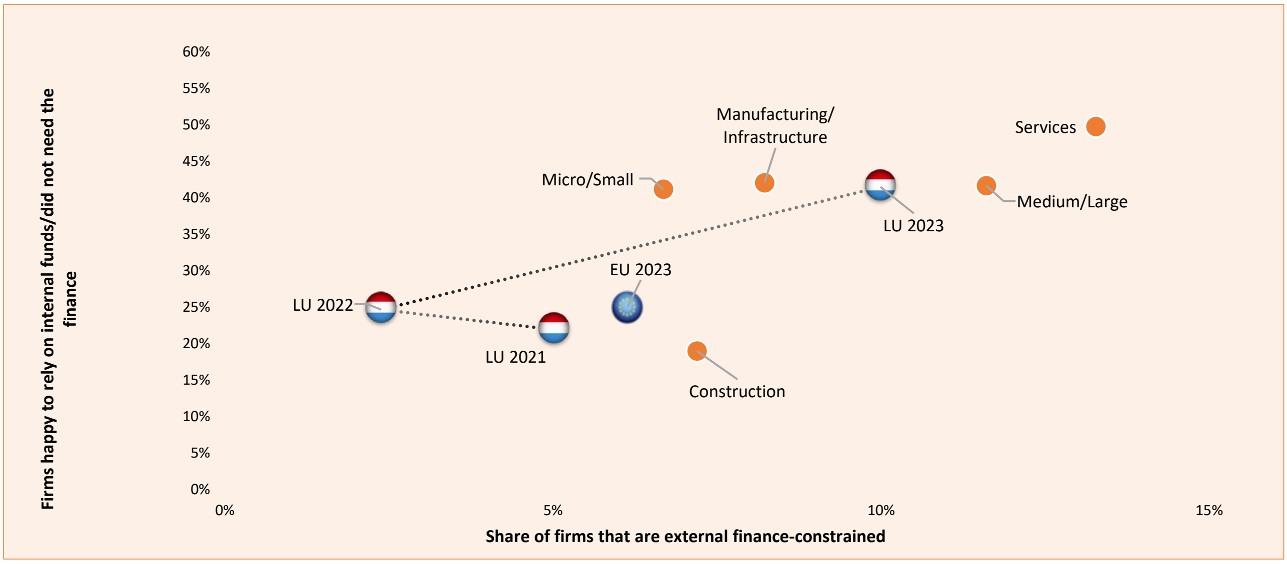


- The share of firms in Luxembourg that are financially constrained has increased substantially since the EIBIS 2022, rising from 2.38% to 9.99%. This represents the highest level of financial constraint reported since the inception of the survey in 2016.
- In EIBIS 2022 the proportion of finance constrained firms in Luxembourg was below the EU average (2.38% versus 6.24%). However, the current scenario represents a shift, with the figure for Luxembourg above the EU average (9.99% versus 6.13%).

Base: All firms (excluding don't know/refused responses)

Access to finance

FINANCING CROSS



Data derived from the financial constraint indicator and firms indicating main reason for not applying for external finance was 'happy to use internal finance/didn't need finance'

Base: All firms (excluding don't know/refused)

- While 10.0% of firms in Luxembourg can be considered finance constrained in EIBIS 2023, more than four in ten firms (42%) are happy to rely on internal finance.
- An increasing number of firms in Luxembourg are displaying a preference for relying on internal finance, as evidenced by the rise from 25% in EIBIS 2022 to 42% in EIBIS 2023.
- Focusing on differences across business sectors and size classes, services firms (13.3%) are the most likely to be financially constrained. Meanwhile, construction firms are the least satisfied with relying on internal finance (19%). Comparatively, a similar proportion of micro/small firms (41%) and medium/large firms (42%) is happy to rely on internal finance.

EIBIS 2023 – Country technical details

SAMPLING TOLERANCES APPLICABLE TO PERCENTAGES AT OR NEAR THESE LEVELS

The final data are based on a sample, rather than the entire population of firms in Luxembourg, so the percentage results are subject to sampling tolerances. These vary with the size of the sample and the percentage figure concerned.

	EU	US	LU	Man/Inf	Construction	Services	EU vs LU	Man/Inf vs Const	Micro/Small	Medium/Large
	(12030)	(802)	(181)	(64)	(47)	(69)	(12030 vs 181)	(64 vs 47)	(144)	(37)
10% or 90%	1.1%	3.9%	6.2%	9.5%	11.0%	10.6%	6.3%	14.5%	4.4%	9.0%
30% or 70%	1.8%	6.0%	9.5%	14.5%	16.8%	16.2%	9.6%	22.1%	6.7%	13.8%
50%	1.9%	6.5%	10.4%	15.8%	18.4%	17.6%	10.5%	24.1%	7.3%	15.1%

GLOSSARY

Investment	A firm is considered to have invested if it spent more than EUR 500 per employee on investment activities with the intention of maintaining or increasing the company's future earnings.
Investment cycle	Based on the expected investment in current financial year compared to last one, and the proportion of firms with a share of investment greater than EUR 500 per employee.
Manufacturing sector	Based on the NACE classification of economic activities: firms in group C (Manufacturing).
Construction sector	Based on the NACE classification of economic activities: firms in group F (Construction).
Services sector	Based on the NACE classification of economic activities: firms in group G (wholesale and retail trade) and group I (accommodation and food Services activities).
Infrastructure sector	Based on the NACE classification of economic activities: firms in groups D and E (utilities), group H (transportation and storage) and group J (information and communication).
Micro/Small	Firms with between 5 and 49 employees.
Medium/Large	Firms with at least 50 or more employees.

Note: the EIBIS 2023 country overview refers interchangeably to 'the past/last financial year' or to '2022'. Both refer to results collected in EIBIS 2023, where the question is referring to the past financial year, with the majority of the financial year in 2022 in case the financial year is not overlapping with the calendar year 2022.

EIBIS 2023 – Country technical details

The country overview presents selected findings based on telephone interviews with 181 firms in Luxembourg (carried out between April and July 2023).

BASE SIZES *(*Charts with more than one base; due to limited space, only the lowest base is shown)*

Base definition and page reference	EU 2023/2022	US 2023	Luxembourg 2023/2022	Construction	Services	Manufacturing/ Infrastructure	Micro/Small	Medium/Large
All firms, p. 5 (bottom left), p. 8 (top), p. 8 (bottom), p. 16 (top)	12030/12021	802	181/180	47	69	64	144	37
All firms (excluding don’t know/refused responses), p. 5 (bottom right)	11624/11682	776	180/177	46	69	64	143	37
All firms who have invested in the last financial year (excluding don’t know/refused responses), p. 6 (top)	10147/9704	692	149/148	41	58	49	117	32
All firms who have invested in the last financial year (excluding don’t know/refused responses), p. 6 (bottom)	9948/9501	704	153/151	42	59	51	120	33
All firms (excluding ‘Company didn’t exist three years ago’ responses), p. 7 (top)	12015/12005	802	180/179	47	69	63	143	37
All firms (excluding don't know/refused responses), p. 7 (bottom)	11880/11814	794	181/178	47	69	64	144	37
All firms (excluding don’t know/refused responses), p. 9 (top)	11812/NA	782	177/NA	46	68	62	140	37
All firms (data not shown for those that said not an obstacle at all/don’t know/refused), p. 9 (bottom)	12030/NA	802	181/NA	47	69	64	144	37
All firms (excluding don't know/refused responses), p. 10 (top)	11739/NA	786	178/NA	46	67	61	142	35
All firms (excluding don't know/refused responses), p. 10 (bottom)	11739/NA	786	178/NA	46	67	61	142	35
All firms (excluding don't know/refused responses) p. 11 (top)	11978/11975	800	180/178	47	69	63	143	37
All firms (excluding don’t know/refused/not applicable responses), p. 11 (bottom)	6692/NA	284	103/NA	26	35	36	79	24
All firms (excluding Don't know/refused responses), p. 12 (top left)	11918/NA	797	180/NA	47	69	63	144	36
All firms that import (excluding don’t know/refused responses), p. 12 (top right)	6151/NA	240	121/NA	27	52	41	94	27
All firms (excluding don’t know/refused responses), p. 12 (bottom)	10139/NA	717	159/NA	42	62	54	127	32
All firms (excluding Don't know / refused responses) p. 13 (top)	11930/11911	797	180/180	47	69	63	143	37
All firms (excluding Don't know / refused responses), p. 13 (bottom)	11944/11909	789	179/180	47	68	63	143	36
All firms (excluding don't know/refused responses), p. 14 (top)	11433/11172	771	174/174	45	68	60	138	36
All firms (excluding don’t know/refused responses), p. 14 (bottom)	11956/11964	800	180/179	47	68	64	143	37
All firms (excluding don't know/refused responses), p. 15 (top)	11549/NA	766	178/NA	47	68	62	142	36
All firms (excluding don’t know/refused responses), p. 15 (bottom)	11836/11712	791	180/175	47	69	63	143	37
All firms that have invested in the last financial year (excluding don’t know/refused responses), p. 16 (bottom)	10210/9752	707	150/148	40	58	51	118	32
All firms (excluding don’t know/refused responses), p. 17	11721/11685	770	178/174	47	68	62	142	36
All firms (excluding don’t know/refused responses), p. 18	11738/11735	780	179/176	47	67	64	142	37
All firms (excluding don't know/refused responses), p. 19 (top)	12009/11980	801	181/179	47	69	64	144	37
All firms (excluding don't know/refused responses), p. 19 (bottom)	11916/11844	800	180/177	46	69	64	143	37
All firms (data not shown for those who said not an obstacle at all/don’t know/refused), p. 20 (top)	12030/12021	802	181/180	47	69	64	144	37
All firms (data not shown for those who said not an obstacle at all/don’t know/refused), p. 20 (bottom)	12030/12021	802	181/180	47	69	64	144	37
All firms who invested in the last financial year (excluding don’t know/refused responses), p. 21 (top)	10517/10051	697	151/145	42	57	51	118	33
All firms who invested in the last financial year (excluding don’t know/refused responses), p. 21 (bottom)	10517/10051	697	151/145	42	57	51	118	33
All firms using external finance (excluding don't know/refused responses), p. 22 (top)	4269/4107	265	50/55	21	11	18	36	14
All firms that used external finance in the last financial year (excluding don’t know/refused responses), p. 22 (bottom)	4184/3988	264	50/54	22	10	18	36	14
All firms (excluding don’t know/refused responses), p. 23 (top)	11544/11504	729	174/168	46	65	62	138	36
All firms (excluding don’t know/refused responses), p. 23 (bottom)	11544/11504	729	174/168	46	65	62	138	36
All firms (excluding don’t know/refused responses), p. 24	11544/11473	729	174/168	46	65	62	138	36

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PDF: ISBN 978-92-861-5673-1

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Overview

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