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THE CROSS-BORDER HOUSEHOLD FINANCE AND CONSUMPTION SURVEY:
RESULTS FROM THE FOURTH WAVE IN 2021

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The Cross-border Household Finance and Consumption Survey:
Results from the fourth wave in 2021[*]

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Abstract:

This report presents the methodology and main descriptive results of the fourth wave of the Cross-border Household Finance and Consumption Survey (XB-HFCS) conducted in 2021. This is a household survey of employees in Luxembourg who live abroad and regularly commute across the border. We analyse the composition and level of their assets and liabilities, net wealth and income, and compare them to similar households (including at least one employee) that live and work in Luxembourg, Belgium, France or Germany. Compared to households who were employed in their country of residence, cross-border commuters were more likely to be homeowners and tended to enjoy higher gross income and net wealth.

Keywords: Cross-border commuters, households, survey, assets, liabilities, wealth, income.
JEL-Codes: G51, D31, D14, C81, C83, J61

Résumé non-technique

Ce rapport résume les principaux résultats de l'Enquête sur le comportement financier et de consommation des ménages des travailleurs frontaliers (XB-HFCS) conduite en 2021. Au Luxembourg, les travailleurs frontaliers représentent environ 45 % de l'emploi total et contribuent de manière significative à l'économie, que ce soit en termes de production, de consommation ou de recettes fiscales. Puisque les travailleurs frontaliers ne sont couverts que de manière lacunaire par les statistiques officielles, la BCL collecte régulièrement des informations détaillées sur leurs actifs, leurs passifs, leurs revenus et leur consommation, ainsi que des variables économiques et démographiques liées. L'enquête des ménages des travailleurs frontaliers est explicitement conçue pour permettre des comparaisons avec l'enquête analogue auprès des ménages résidents au Luxembourg (LU-HFCS).

L'édition de 2021 repose sur un échantillon représentatif de presque 2 000 ménages résidant dans la Grande Région autour du Grand-Duché. Les résultats sont pondérés pour représenter tous les ménages des travailleurs frontaliers. Les comparaisons avec les résultats des éditions antérieures de l'enquête doivent intégrer que, pour chaque édition, l'échantillon est sélectionné pour être représentatif de l'année en question, et que les ménages sélectionnés diffèrent généralement d'une édition à l'autre. Il faut également tenir compte de la croissance rapide du nombre de travailleurs frontaliers, qui a augmenté plus de 10 % entre 2018 et 2021.

Depuis que ces données ont été récoltées en 2021, le patrimoine et la dette des ménages ont subi la hausse rapide de l'inflation et celle des taux d'intérêt qu'elle a provoquée. L'impact de ces développements sur les finances des ménages sera analysé avec les données de la prochaine édition de l'enquête, qui a été conduite à la fin de 2023.

Changements méthodologiques

En 2021, pour la première fois, l'enquête auprès des ménages des travailleurs frontaliers (XB-HFCS) et celle auprès des ménages résidents (LU-HFCS) partagent le même questionnaire, la même méthode d'enquête (par internet) et la même période de collecte des données. De plus, le traitement des données et l'imputation des réponses manquantes ont été effectués en combinant les deux enquêtes. De plus, des règles d'anonymisation identiques ont été appliquées.

Effet de la pandémie de COVID-19 sur le revenu, la consommation et l'épargne des ménages

Dans l'ensemble, les effets économiques de la pandémie de COVID-19 ont touché les travailleurs frontaliers autant que travailleurs résidents. Toutefois, certains secteurs ont été plus durement touchés que d'autres. Les différences entre type d'emploi, compétences et secteur d'emploi peuvent largement expliquer les différents effets entre travailleurs résidents frontaliers. En général, les ménages des travailleurs frontaliers ont moins souffert des effets économiques de la pandémie que les ménages travaillant dans leur pays de résidence.

Pendant la pandémie, les dépenses de consommation ont diminué parmi les ménages des travailleurs résidents, comme parmi les ménages des travailleurs frontaliers. Les frontaliers provenant d'Allemagne ont enregistré la plus forte baisse de consommation, mais aussi la plus forte augmentation de revenu. Par conséquent, la part qui a déclaré une hausse de l'épargne a été plus élevée que parmi les travailleurs résidant au Luxembourg.

Principales caractéristiques structurelles

Les travailleurs frontaliers interrogés en 2021 vivaient principalement dans leur pays de naissance, la plupart avec un partenaire. En général, ils avaient atteint un niveau élevé d'éducation et étaient employés avec un contrat permanent. Par rapport aux travailleurs résidant au Luxembourg, les travailleurs frontaliers étaient légèrement plus jeunes (en moyenne 41 ans) et mieux éduqués. Près de 60 % des travailleurs frontaliers ont terminé des études de niveau tertiaire, contre seulement 52 % des travailleurs résidents, un écart qui s'est accru depuis 2018. Seulement 10 % des travailleurs frontaliers étaient employés dans le secteur public, contre 27 % des travailleurs résidents. Comme en 2018 et 2014, les travailleurs

frontaliers étaient surtout employés dans i) le commerce, le transport et l'hébergement, ii) l'industrie, y compris l'énergie, et iii) activités financières et d'assurance. En 2018, la voiture privée était toujours le principal moyen de transport pour se rendre au travail au Luxembourg. Le temps de trajet moyen (aller simple) était de 50 minutes en 2021, une diminution de 2 minutes par rapport à 2018.

Patrimoine net des ménages

La valeur médiane du patrimoine net des ménages des travailleurs frontaliers était de 291 000 euros en 2021. Pour ceux venant de Belgique (345 000 euros) et d'Allemagne (327 000 euros), elle était nettement plus élevée que pour ceux qui viennent de France (250 000 euros). Si cette valeur était presque deux fois plus élevée pour les ménages des travailleurs résidents (561 000 euros), le patrimoine net des frontaliers était nettement plus élevé que celui des ménages travaillant dans leur pays de résidence. Cette différence reflète des revenus et des taux de propriété plus élevés parmi les travailleurs frontaliers que parmi les ménages travaillant dans leur pays de résidence. Entre 2018 et 2021, le patrimoine net a augmenté dans presque tous les quintiles de la distribution du patrimoine, quelle que soit le pays des travailleurs frontaliers. Les différences entre les travailleurs frontaliers et les travailleurs résidents au Luxembourg augmentent sensiblement à des niveaux plus élevés du patrimoine.

Actifs bruts des ménages

Les actifs réels (objets de valeur, véhicules, activités indépendantes, immobilier) sont restés la composante la plus importante pour tous les groupes de ménages. Parmi les travailleurs frontaliers, la part qui était propriétaire de sa résidence principale a diminué depuis 2018. Elle était plus élevée pour ceux venant de Belgique (76 %) que pour ceux venant de France (68 %) ou d'Allemagne (64 %). En revanche, pour les travailleurs résidents, cette part (64 %) n'a guère changé depuis 2018, mais un écart subsiste entre ceux de naissance étrangère (51 %) et ceux de naissance luxembourgeoise (83 %). La réduction du taux de propriété parmi les travailleurs frontaliers est liée à des changements dans la structure de cette population. En 2021, elle contenait plus de ménages célibataires, qui sont moins susceptibles d'être propriétaires. Le taux de propriété a diminué quelque peu pour les ménages célibataires comme pour les couples. Néanmoins, les travailleurs frontaliers sont toujours plus susceptibles d'être propriétaires que les ménages travaillant dans leurs leur pays de résidence.

Parmi les actifs financiers, les dépôts bancaires étaient le plus courant pour tous les groupes de ménages. Par rapport à 2018, la part détenant des actifs risqués (actions et fonds communs de placement) a augmenté sensiblement dans tous les groupes de ménages, qu'il s'agisse de travailleurs frontaliers ou de résidents nés au Luxembourg ou à l'étranger. Cela est probablement lié au niveau faible des taux d'intérêt jusqu'en mi-2022. Comme en 2018, les actifs risqués étaient plus fréquents parmi les ménages des travailleurs frontaliers venant d'Allemagne et moins fréquents chez ceux venant de France.

Dettes des ménages

Parmi les ménages de tous ceux qui travaillaient au Luxembourg en 2021, la dette était plus fréquente qu'en moyenne dans la zone euro (43 %). Parmi les travailleurs résidents, 64 % détenaient des dettes. Parmi les travailleurs frontaliers, cette part était de 56 % pour ceux venant de France ou d'Allemagne et 70 % pour ceux venant de Belgique. En ce qui concerne le type de dette, presque 37 % des travailleurs frontaliers détenaient une dette hypothécaire et 36 % détenaient une dette non hypothécaire. Parmi les travailleurs résidents, 41 % détenaient une dette hypothécaire et 40 % détenaient une dette non hypothécaire. La dette hypothécaire représentait de 72 % à 78 % de la dette totale pour les travailleurs frontaliers et les travailleurs résidents nés à l'étranger et 89 % pour ceux nés au Luxembourg.

Revenu brut des ménages

La valeur médiane du revenu brut des ménages des travailleurs frontaliers était d'environ 70 000 euros en 2021. Elle était plus faible pour les travailleurs frontaliers venant de France (60 800 euros) et plus élevée pour ceux venant de Belgique (79 400 euros) ou d'Allemagne (79 500 euros). La valeur médiane du revenu brut des travailleurs résidant au Luxembourg était de 93 100 euros. En général, le revenu brut a augmenté entre 2018 et 2021 dans tous les quintiles de la distribution du revenu.

Non-technical summary

This report summarises the main results of the 2021 Cross-border Household Finance and Consumption Survey (XB-HFCS). In 2021, cross-border commuters accounted for around 45% of total employment in Luxembourg, contributing substantially to the economy, be it in terms output, consumption or tax revenue. However, cross-border commuters are not well covered by official statistics and reliable information on their financial situation and economic behaviour is scarce. Therefore, the BCL regularly collects detailed information on their assets, liabilities, income and consumption, as well as related economic and demographic variables. This cross-border commuter survey is explicitly designed to allow comparisons with the analogous survey of households resident in Luxembourg (LU-HFCS).

The 2021 wave is based on a representative sample of almost 2,000 households living in the Greater Region surrounding the grand duchy. The results are weighted to represent all cross-border commuters working in Luxembourg. When comparing results from different survey waves, it should be noted that each sample is selected to be representative of the year in question and that the households selected generally differ from one wave to the next. In addition, the number of cross-border commuters grew more than 10% from 2018 to 2021.

Since this data was collected in 2021, households' wealth and debt have been affected by the dramatic increase in inflation and the accompanying rise in interest rates. The impact of these developments on household finances is being studied with data from the next wave, which was conducted in 2023 Q4.

Methodological changes

For the first time, the 2021 edition of the cross-border commuter survey (XB-HFCS) and the resident household survey (LU-HFCS) share the same questionnaire, survey method and fieldwork period. In addition, the data treatment and imputation of missing data were carried out together for both surveys. Identical anonymisation rules were also applied.

Effect of the COVID-19 pandemic on household income, consumption and savings

Overall, the economic effects of the COVID-19 pandemic were similar for cross-border commuters and for resident employees. However, certain sectors suffered more than others. Differences in job types and skills across sectors can explain many of the differences across

households. In general, cross-border commuter households suffered less from the economic effects of the pandemic than employed households working in their country of residence.

During the pandemic, consumption expenditure declined among cross-border commuter households much as it declined among employed residents in Luxembourg. Commuters from Germany reported the biggest decline in consumption, but also the highest increase in income. As a result, this group of commuters reported higher savings more often that employed residents in Luxembourg.

Main structural characteristics

Cross-border commuters participating in 2021 mainly lived in their country of birth, most of them with a partner. They generally had a high level of education and a permanent employment contract. Compared to employed households residing in Luxembourg, cross-border commuters tended to be slightly younger (41 years old on average) and better educated. Almost 60% of cross-border commuters had completed tertiary level of education, compared to only 52% of employed residents, a gap that widened further between 2018 and 2021. Only 10% of cross-border commuters worked in Luxembourg's public sector, compared to 27% of employed residents. As in 2018 and 2014, cross-border commuters in 2021 were more likely to be employed in sectors such as i) trade, transport and accommodation, ii) industry including energy and iii) financial and insurance activities. In 2021, the private car was still the main means of transport for commuting to work in Luxembourg. The average commuting time (one-way) was 50 minutes in 2021, a decrease of 2 minutes compared to 2018.

Household net wealth

The median value of net wealth among cross-border commuter households was €291,000 in 2021. It was substantially higher for commuters from Belgium (€345,000) and from Germany (€327,000), compared to those from France (€250,000). The median value of net wealth was nearly twice as high among employed households resident in Luxembourg (€561,000), but net wealth among cross-border commuters was significantly higher than that of households working and living in their country of residence. This reflects higher incomes and homeownership rates among cross-border commuters than among their neighbours who do not commute to Luxembourg. Compared to 2018, net wealth increased in almost all net wealth quintiles, regardless of country of residence. Differences between cross-border commuters and

employed residents in Luxembourg increased substantially at higher quintiles of the net wealth distribution.

Gross household assets

Real assets (valuables, vehicles, self-employed business wealth, real estate) remained the most important component for all groups of households. For all cross-border commuters, the homeownership rate declined since 2018. It was 76% for those from Belgium, 68% for those from France and 64% for those from Germany. For employed residents the homeownership rate (64%) barely changed since 2018, but the gap remained between those born in Luxembourg (83%) and those born abroad (51%). The decline in homeownership among cross-border commuters is linked to changes in their population structure. In 2021, more commuters were single households, who are less likely to be homeowners. In addition, ownership decreased somewhat both among singles and among couples. Nonetheless, cross-border commuters are still more likely to be homeowners than employed households living and working in their country of residence.

Among financial assets, bank deposits were the most common for all household groups. Compared to 2018, the share of households holding riskier assets (stocks and mutual funds) increased substantially across all groups, whether cross-border commuters, foreign-born residents or native-born residents. This may be linked to the low level of interest rates until mid-2022. As in 2018, riskier assets were most common among commuters from Germany and least common among those from France.

Household debt

Irrespective of their country of residence, households working in Luxembourg in 2021 were more likely to hold debt than the average in the euro area (43%). Among cross-border commuters, the share of households with debt ranged from 56% for those living in France to 70% for those living in Belgium. Among employed residents, 64% held debts. Regarding the type of debt, nearly 37% of cross-border commuter households held mortgage debt, while 36% held non-mortgage debt. Among employed residents, 41% held mortgage debt and 40% held non-mortgage debt. Mortgage debt accounted for between 72% to 78% of total debt for cross-border commuters and foreign-born employed residents, whilst it was 89% for employed

native-born resident households, resulting from the combination of a higher homeownership rate and the elevated house prices in Luxembourg.

Gross household income

The median value of gross household income for cross-border commuters was about €70,000 in 2021. It was lower for commuters from France (€60,800) and higher for those from Belgium (€79,400) or Germany (€79,500). Among employees resident in Luxembourg, the median value of gross household income was €93,100. From 2018 to 2021, income generally increased in all quintiles of the gross income distribution.

Nicht-technische Zusammenfassung

Dieser Bericht fasst die wichtigsten Ergebnisse der Erhebung von 2021 über die Finanzen und den Konsum der Grenzgänger-Haushalte (XB-HFCS) zusammen. Die Grenzgänger machten rund 45% der Gesamtbeschäftigung in Luxemburg aus. Sie trugen wesentlich zur Wirtschaft bei, sei es in Form von Produktion, Konsum oder Steuereinnahmen. Allerdings werden Grenzgänger in den amtlichen Statistiken nur unzureichend erfasst. Die BCL erhebt daher regelmäßig detaillierte Informationen über ihre Vermögen, ihre Verbindlichkeiten, ihre Einkommen und ihre Konsumausgaben, sowie wirtschaftliche und demografische Variablen. Die Umfrage der Grenzgänger-Haushalte ist ausdrücklich so konzipiert, dass sie Vergleiche mit der entsprechenden Erhebung der in Luxemburg lebenden Haushalte (LU-HFCS) ermöglicht.

Die Erhebungswelle von 2021 basiert auf einer repräsentativen Stichprobe von fast 2,000 in der Großregion um das Großherzogtum herum wohnenden Haushalten. Die Ergebnisse sind gewichtet, um alle Grenzgänger-Haushalte zu repräsentieren. Bei Vergleichen mit den Ergebnissen früherer Erhebungen ist zu beachten, dass die Stichprobe für jede Erhebung so ausgewählt wird, dass sie für das betreffende Jahr repräsentativ ist, und dass sich die ausgewählten Haushalte in der Regel von einer Erhebung zur nächsten unterscheiden. Dies ist auch auf die Tatsache zurückzuführen, dass die Anzahl der Grenzgänger seit 2018 um mehr als 10% gewachsen ist.

Seit der Erhebung der Daten in 2021 haben das Vermögen und die Verschuldung der Haushalte den raschen Anstieg der Inflation und den dadurch verursachten Anstieg der Zinssätze zu verkraften. Die Auswirkungen dieser Entwicklungen auf die Finanzen der Haushalte werden mit den Daten der nächsten Erhebung, die Ende 2023 durchgeführt wurde, analysiert.

Methodische Änderungen

Im Jahr 2021 haben die Haushaltsbefragung der Grenzgänger (XB-HFCS) und die Haushaltsbefragung der ansässigen Haushalte (LU-HFCS) zum ersten Mal denselben Fragebogen, dieselbe Erhebungsmethode (internetbasiert) und denselben Datenerhebungszeitraum. Darüber hinaus wurden die Datenverarbeitung und die Imputation

fehlender Antworten durch die Kombination der beiden Erhebungen durchgeführt. Darüber hinaus wurden identische Anonymisierungsregeln angewandt.

Auswirkungen der COVID-19 Pandemie auf Haushaltseinkommen, Konsum und Ersparnisse

Insgesamt waren Grenzgänger von den wirtschaftlichen Auswirkungen der COVID-19-Pandemie ebenso betroffen wie ansässige Erwerbstätige. Einige Sektoren waren jedoch härter betroffen als andere. Unterschiede in der Art der Beschäftigung, den Qualifikationen und dem Beschäftigungssektor können die unterschiedlichen Auswirkungen zwischen ansässigen Erwerbstätigen und Grenzgängern weitgehend erklären. Im Allgemeinen litten die Haushalte von Grenzgängern weniger unter den wirtschaftlichen Auswirkungen der Pandemie als die Haushalte von Erwerbstätigen, die in ihrem Wohnsitzland arbeiteten.

Während der Pandemie sanken die Konsumausgaben sowohl bei den Haushalten der ansässigen Erwerbstätigen als auch bei den Grenzgänger-Haushalten. Grenzgänger aus Deutschland verzeichneten den stärksten Konsumrückgang, aber auch den stärksten Einkommensanstieg. Folglich war der Anteil, der einen Anstieg der Ersparnisse angab, höher als bei den erwerbstätigen Einwohnern Luxemburgs.

Wichtigste Strukturmerkmale

Die im Jahr 2021 befragten Grenzgänger lebten hauptsächlich in ihrem Geburtsland, die meisten mit einem Partner. Im Allgemeinen hatten sie ein hohes Bildungsniveau und hatten einen unbefristeten Beschäftigungsvertrag. Im Vergleich zu den in Luxemburg ansässigen Erwerbstätigen waren die Grenzgänger etwas jünger (im Durchschnitt 41 Jahre) und besser gebildet. Fast 60% der Grenzgänger hatten eine Ausbildung auf Tertiärniveau abgeschlossen, verglichen mit nur 52% der ansässigen Erwerbstätigen, ein Unterschied, der sich seit 2018 vergrößert hat. Nur 10% der Grenzgänger waren im öffentlichen Sektor beschäftigt, verglichen mit 27% der ansässigen Erwerbstätigen.

Wie in den Jahren 2018 und 2014 waren Grenzgänger vor allem in i) Handel, Transport und Beherbergung, ii) Industrie, einschließlich Energie und iii) Finanz- und Versicherungswesen beschäftigt. 2018 war der Privat-Pkw immer noch das wichtigste Verkehrsmittel, um in

Luxemburg zur Arbeit zu kommen. Die durchschnittliche Fahrzeit (einfache Fahrt) betrug 2021 50 Minuten, ein Rückgang um 2 Minuten im Vergleich zu 2018.

Nettovermögen der Haushalte

Der mittlere Wert (Median) des Nettovermögens der Grenzgänger-Haushalte betrug im Jahr 2021 €291,000 Euro. Für diejenigen, die aus Belgien (€345,000) oder Deutschland (€327,000 Euro) kamen, war er deutlich höher als für diejenigen, die aus Frankreich (€250,000) kamen. Während dieser Wert für die Haushalte der ansässigen Erwerbstätigen fast doppelt so hoch war (€561,000), war das Nettovermögen der Grenzgänger-Haushalte deutlich höher als das der Haushalte von Erwerbstätigen, die in ihrem Wohnsitzland arbeiteten. Dieser Unterschied spiegelt höhere Einkommen und Eigentumsquoten unter den Grenzgängern wider im Vergleich zu Haushalten von Erwerbstätigen, die in ihrem Wohnsitzland arbeiteten. Zwischen 2018 und 2021 stieg das Nettovermögen in fast allen Quintilen der Vermögensverteilung, unabhängig davon, aus welchem Land die Grenzgänger kamen. Die Unterschiede zwischen Grenzgängern und den in Luxemburg ansässigen Erwerbstätigen nehmen bei höheren Vermögensniveaus deutlich zu.

Bruttovermögen der Haushalte

Reale Vermögenswerte (Wertgegenstände, Fahrzeuge, selbstständige Tätigkeiten, Immobilien) blieben für alle Haushaltsgruppen die wichtigste Komponente. Unter den Grenzgängern ist der Anteil, der Eigentümer seines Hauptwohnsitzes war, seit 2018 gesunken. Er war bei denen, die aus Belgien kamen, höher (76%) als bei denen, die aus Frankreich (68%) oder Deutschland (64%) kamen. Bei den ansässigen Erwerbstätigen hingegen hat sich dieser Anteil (64%) seit 2018 kaum verändert, es besteht jedoch weiterhin ein Unterschied zwischen den im Ausland (51%) und den in Luxemburg Geborenen (83%).

Der Rückgang der Eigentumsquote unter den Grenzgängern hängt mit Veränderungen in der Struktur dieser Bevölkerungsgruppe zusammen. Im Jahr 2021 enthielt sie mehr alleinstehende Haushalte, die weniger wahrscheinlich Eigentümer sind. Auch die Eigentumsquote ging sowohl bei den alleinstehenden Haushalten als auch bei den Paaren etwas zurück. Dennoch sind Grenzgänger immer noch eher Eigentümer als erwerbstätige Haushalte, die in ihrem Wohnsitzland arbeiten.

Unter den finanziellen Vermögenswerten waren Sichteinlagen bei allen Haushaltsgruppen am häufigsten anzutreffen. Im Vergleich zu 2018 stieg der Anteil, der risikobehaftete Vermögenswerte (Aktien und Investmentfonds) hielt, bei allen Haushaltsgruppen deutlich an, unabhängig davon, ob es sich um Grenzgänger, in Luxemburg oder im Ausland geborene Erwerbstätige handelte. Dies hängt wahrscheinlich mit den niedrigen Zinssätzen bis Mitte 2022 zusammen. Wie schon 2018 waren risikobehaftete Vermögenswerte häufiger bei Grenzgänger-Haushalten aus Deutschland und seltener bei Grenzgänger-Haushalten aus Frankreich anzutreffen.

Schulden der Haushalte

In den Haushalten aller Personen, die 2021 in Luxemburg arbeiteten, waren Schulden häufiger anzutreffen als im Durchschnitt des Euroraums (43 %). Unter den ansässigen Erwerbstätigen besaßen 64% Schulden. Unter den Grenzgängern betrug dieser Anteil 56% bei denjenigen, die aus Frankreich oder Deutschland kamen, und 70% bei denjenigen, die aus Belgien kamen. Hinsichtlich der Art der Schulden hatten fast 37% der Grenzgänger Hypothekenschulden und 36% nicht-hypothekarische Schulden. Von den ansässigen Erwerbstätigen hatten 41% Hypothekenschulden und 40% nicht-hypothekarische Schulden. Bei Grenzgängern und im Ausland geborenen ansässigen Erwerbstätigen machten Hypothekenschulden zwischen 72% und 78% der Gesamtschulden aus, bei in Luxemburg geborenen ansässigen Erwerbstätigen waren es 89%.

Brutto-Haushaltseinkommen

Der Medianwert des Bruttoeinkommens der Grenzgänger-Haushalte lag im Jahr 2021 bei etwa €70,000. Er war niedriger für Grenzgänger aus Frankreich (€60,800) und höher für Grenzgänger aus Belgien (€79,400) oder Deutschland (€79,500). Der Medianwert des Bruttoeinkommens von in Luxemburg ansässigen Erwerbstätigen lag bei €93,100. Insgesamt stieg das Bruttoeinkommen zwischen 2018 und 2021 in allen Quintilen der Einkommensverteilung.

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1. Introduction

In 2021, more than 210,000 cross-border commuters worked in Luxembourg, an increase of more than 10% compared to 2018, when the previous HFCS survey was conducted. Cross-border commuters account for around 45% of Luxembourg employment and play an integral part in Luxembourg's economy, contributing significantly to total output, consumption and tax revenue. In 2021, cross-border commuters in Luxembourg earned more than €14 billion in wages and salaries (STATEC, 2023). In addition, they spend about 17% of their gross income on products and services in Luxembourg (e.g. Mathä, Porpiglia and Ziegelmeyer, 2017). Despite their importance for Luxembourg, detailed information on the economic and financial situation of these households is quite limited because cross-border commuters are not usually identified in official statistics.

To improve our knowledge of this population, the Cross-Border Household Finance and Consumption Survey (XB-HFCS), a complementary survey to the LU-HFCS of households resident in Luxembourg, regularly collects detailed information on the economic and financial situation of households with (at least) one member working in Luxembourg but living abroad in the Greater Region (cross-border commuter households). In 2021, for the first time, the two surveys were conducted simultaneously, using the same questionnaire, survey method and data treatment, which greatly improves comparability of results between these two populations.

This report discusses key findings of the 2021 wave of the XB-HFCS, focusing on households' financial balance sheets and economic and financial behaviour. It also compares the results on cross-border commuters with those on residents collected as part of the LU-HFCS. To increase comparability, the only resident households considered are those in which at least one household member is employed or self-employed. By definition, all cross-border commuter households contain at least one member who is either employed or self-employed (in Luxembourg). This report also compares the 2021 results with XB-HFCS waves of 2018 and 2014 and discusses changes in the financial situation and behaviour of cross-border commuters.

Since the data was collected in 2021, several developments affected household wealth and debt, in particular the rapid rise in inflation and interest rates. The impact of these

developments on household finances will be assessed using the data from the 5th wave, which was conducted from the end of October to mid-December 2023.

The main structural characteristics of cross-border commuter households barely changed across the various HFCS waves. In 2021, most cross-border commuters lived in their country of birth. Most lived with a partner. In general, they were highly educated, employed with a permanent contract and slightly younger than employed residents. Compared to employed residents, cross-border workers were less likely to be employed in the "public sector" (NACE Rev.2 sections O, P and Q) and more likely to be employed in "financial and insurance activities" (K) or "industry including energy" (B, C, D, E). For cross-border commuters, the private car remained the main means of transport to work. The average one-way commuting time was 50 minutes in 2021.

In 2021, 69% of cross-border commuter households were homeowners. This share was 76% for commuters from Belgium, 68% for commuters from France and 63% for commuters from Germany. Cross-border commuter households were more likely to be homeowners than employed households resident in Luxembourg whose reference person was born abroad ("foreign-born") (51%). However, cross-border commuters were less likely to be homeowners than employed households resident in Luxembourg whose reference person was born in Luxembourg ("native-born") (83%). Among employed households resident in Luxembourg, almost half of the foreign-born were renters, while only 17% of native-born were renters.

In 2021, the median value of household net wealth among employed residents (€561,000) was almost twice that among cross-border commuters (€291,000). This reflects higher property values in Luxembourg than in neighbouring regions. Among cross-border commuters, the median value of household net wealth was €345,000 among those from Belgium, €250,000 among those from France and €327,000 among those from Germany. For commuters from Belgium and Germany, median net wealth was similar to that of employed residents in Luxembourg who are foreign-born (€346,000), reflecting lower homeownership among employed residents who are foreign-born (51%) than among those who are native-born (83%). Given high property prices in Luxembourg and higher homeownership rates, employed residents who are native-born reported the highest net wealth (€813,000).

Among cross-border commuters, the median value of household net wealth was significantly higher than that of households in neighbouring countries who work in their country of

residence (Belgium, France or Germany). This is particularly true for France and Germany, since households from these countries who commuted to work in Luxembourg enjoyed homeownership rates and main residence values that were above their national average. Median household net wealth was significantly higher in 2021 than in 2018 for most net wealth quintiles and all countries of residence. Comparing net wealth of employed residents in Luxembourg to that of cross-border commuters, differences are greater at higher wealth quintiles, especially for native-born residents, but also for foreign-born residents.

The composition of household wealth remained largely unchanged. Real assets continued to be the most important wealth component regardless of country of residence. Across all groups, employed residents who were native-born reported the highest homeownership rate in 2021 and the highest median value for their main residence.

In 2021, riskier assets were more common than in 2018. This may not only reflect the low interest rates on current and deposit accounts, but also technological progress easing access to online bank accounts and investments in stocks or mutual funds. Overall almost 30% of employed resident households held riskier assets in 2021, with relatively large differences between countries of residence. The highest median amount (€51,000) was reported by employed residents who were foreign-born, among whom 29% owned riskier assets. The lowest median amount (€16,000) was reported by commuters from France, who were also least likely (17%) to hold riskier assets. Commuters from Belgium and Germany had corresponding shares of 28% and 42%, with median amounts of €21,000 and €26,000.

Whether living in Luxembourg or abroad, about two-thirds of households employed in Luxembourg held debt in 2021. Among cross-border commuter households, the share with debt ranged from 56% for those from France to 70% for those from Belgium, while among employed residents the share with debt was 64%. In 2021, the median debt-to-income ratio was significantly lower for cross-border commuter households than for employed residents. However, the debt-to-asset ratio, debt-service-to-income ratio and current loan-to-value ratio only show slight differences.

In 2021, household gross income among cross-border commuters had a median value of €70,000. In comparison, for employed residents in Luxembourg the median value of gross income was €93,100, with native-born residents earning almost €20,000 more than foreign-born residents. Among cross-border commuters, the median value of gross income was nearly

the same for those from Belgium (€79,400) and from Germany (€79,500), but it was considerably lower for those from France (€60,800). Still, all these cross-border commuters earned substantially more than households living and working in their country of residence. From 2018 to 2021, gross income increased for most cross-border commuters regardless of their country of residence.

This report is structured as follows: Section 2 provides a brief general overview. The main results are presented in Sections 3 to 6. Section 3 focuses on cross-border commuters' general characteristics and employment. Section 4 presents their assets and liabilities and Section 5 discusses their income. Section 6 explores effect of the COVID-19 pandemic on income, consumption and savings. Section 7 describes the methodology and data treatment, encompassing editing, imputation and weighting of the collected information. Section 9 concludes.

2.   General overview and interpretation of results

The XB-HFCS is conducted by the Banque centrale du Luxembourg (BCL) in cooperation with the Luxembourg Institute of Socio-Economic Research (LISER). It is specifically designed to complement the Luxembourg Household Finance and Consumption Survey (LU-HFCS), which collects data on households resident in Luxembourg, as part of the Eurosystem Household Finance and Consumption Survey (HFCS) coordinated by the European Central Bank (ECB).[1]

The XB-HFCS is a cross-sectional survey. Starting with the first wave in 2010, each wave aims to be representative of the population of commuters crossing the border into Luxembourg from the Greater Region in the reference year. Therefore, participants differ between waves, as do the associated weights applied to individual households. When comparing assets or liabilities over time, one should bear in mind that the households in a given sub-group (e.g. income quintile) will differ from wave to wave. Individual characteristics refer to the cross-border commuter in the household.[2] In the 2021 wave, the reference year for the household

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[1]   https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html

[2]   When several cross-border commuters live in the same household, the reference person is the person was invited to participate in the survey. To the extent possible, the sampling design tried to avoid inviting more than one cross-border commuter within the same household. When this did happen, the financially most knowledgeable member was asked to answer on behalf of the whole household.

characteristics, assets and liabilities is 2021 (based on the time of the interview). However, for variables related to income, the reference year is 2020. All monetary figures in the text, tables or graphs are rounded depending on the amount. Values in tables and figures below €1,000 are rounded to the nearest 10 euro, values above €1,000 and below €100,000 are rounded to the nearest €100 and values above €100,000 are rounded to the nearest €1,000.

The report distinguishes between the extensive and intensive margin. The extensive margin reflects the participation rate, meaning whether a household holds a particular type of asset or liability. The intensive margin, referred to as conditional value, is the value of a particular type of asset or liability for those households that hold this particular type of asset or liability. Instead, unconditional values refer to the whole (sub-)population considered, including those who do not hold the particular type of asset or liability in question. Furthermore, we report the shares of various asset and liability types relative to the total value of assets and liabilities. The composition of assets and liabilities reflects both participation decisions and conditional values. Our discussion focuses on the 2021 findings and the changes relative to 2018.

2.1. The 2021 survey and comparability to previous waves

Unlike previous waves of the XB-HFCS, the 2021 wave is fully harmonised with the 2021 LU-HFCS. For the first time, the two surveys were conducted at the same time, using the same methodology and a fully harmonised questionnaire. The 2021 XB-HFCS was conducted as an online survey, i.e. as a Computer Assisted Web-based Interview (CAWI), which was also the case in 2018 or 2014. However, for the first time the 2021 XB-HFCS contained the same questions as the 2021 LU-HFCS. This greatly improves comparability of the two surveys. Some questions in the XB-HFCS now differ compared to the past and we cannot exclude that this may have affected some answers and the resulting statistics. As the XB-HFCS was conducted as an online survey already in 2018 and 2014, the survey mode should not affect comparisons across years.[3]

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[3] The first survey in 2010 was a traditional self-administered paper-and-pencil survey (PAPI). It asked much less detailed questions about the household balance sheet, which limits its comparability to the more recent surveys conducted in 2014 and 2018 by CAWI.

2.2.   Inflation adjustment

Unless explicitly stated, the text, tables and figures in this report present nominal comparisons over time. This is because local inflation rates are generally not available for the regions across the Luxembourg border in Belgium, France and Germany. It may be misleading to simply use the respective national inflation rates, as inflation in these neighbouring regions may differ from the overall inflation in the respective countries.

2.3.   Multiple imputation and statistical uncertainty

The survey data are multiply imputed, so point estimates, such as proportions, means and medians, are calculated separately for five implicates and then averaged. Standard errors and confidence intervals are calculated using the Rao-Wu rescaled bootstrap method and applying 1,000 replicate weights to the five implicates. This properly accounts for sampling uncertainty and sampling design. The confidence interval provides the lower and upper bounds of the interval within which we expect the true value to lie with a 95% probability. The confidence associated with a reported value depends on, among other things, the sampling variability of the outcome variable and on the sample size.

Unless explicitly stated, the results discussed in this report are mainly based on the medians, which are more robust to outliers in the sample than arithmetic averages, and are therefore more suitable for describing the central tendency when the distribution may be skewed. The median, its standard error and confidence interval are calculated using the STATA command MEDIANIZE, version 0.4.[4]

3.   Main characteristics of cross-border commuters

Table 1 reports the main characteristics of cross-border commuters in 2021 by country of residence. It also reports the characteristics of households resident in Luxembourg where at least one member is employed or self-employed (henceforth labelled "employed residents"). Employed residents are further divided into "native-born" (i.e. born in Luxembourg) and "foreign-born" (i.e. born abroad).

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[4]   We would like to thank Sébastien Perez-Duarte from the ECB for sharing his program with us.

Table 1: General household characteristics in 2021

Characteristic	Cross-border commuters				Employed residents			
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total	
Total (%)	23.0	52.9	24.3	100	41.2	58.8	100	
Age (mean)	41.5	40.2	43.8	41.4	44.8	43.1	43.8	*
	(0.6)	(0.3)	(0.7)	(0.1)	(0.6)	(0.5)	(0.3)	
Household size (mean)	2.8	2.7	2.5	2.7	2.6	2.8	2.7	
	(0.1)	(0.1)	(0.1)	(0.0)	(0.1)	(0.1)	(0.0)	
Male (%)	68.0	61.3	63.9	63.6	55.1	66.6	61.9	
	(2.1)	(1.3)	(1.8)	(1.0)	(2.5)	(2.3)	(1.7)	
Residing in country of birth (%)	83.2	89.1	80.4	85.8	100.0	0.0	41.2	
	(2.4)	(1.4)	(2.4)	(1.1)	(0.0)	(0.0)	(1.5)	
Marital Status (%)								
Single	31.3	33.3	35.4	33.2	36.4	35.7	36.0	
	(3.1)	(2.2)	(3.1)	(1.4)	(2.3)	(2.2)	(1.5)	
Couple	57.7	55.1	54.9	55.7	48.0	53.9	51.5	*
	(3.2)	(2.3)	(3.1)	(1.6)	(2.5)	(2.2)	(1.5)	
Divorced	10.6	10.9	9.4	10.5	13.3	9.6	11.1	
	(2.0)	(1.4)	(1.9)	(1.0)	(1.8)	(1.5)	(1.2)	
Widowed	0.5	0.7	0.3	0.6	2.3	0.9	1.5	*
	(0.4)	(0.4)	(0.3)	(0.3)	(0.9)	(0.4)	(0.4)	
Level of education (%)								
Low	5.9	3.0	18.3	7.4	13.8	20.2	17.6	*
	(1.7)	(0.9)	(2.7)	(0.9)	(2.0)	(2.3)	(1.6)	
Middle	23.6	34.3	37.3	32.5	44.6	20.5	30.4	
	(3.0)	(2.2)	(3.3)	(1.5)	(2.6)	(2.2)	(1.7)	
High	70.5	62.7	44.4	60.1	41.6	59.3	52.0	*
	(3.1)	(2.2)	(3.2)	(1.5)	(2.4)	(2.4)	(1.7)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the two "Total" columns are significantly different at the 5% level of significance.

Note that individual characteristics relate to the reference person of the household. In the XB-HFCS, the reference person is the cross-border commuter, while in the LU-HFCS it is the financially knowledgeable person as identified by the household. The cross-border commuter sample only includes employees and self-employed workers affiliated to the Luxembourg social security system (IGSS). Instead, resident households can be sampled either through the IGSS or the *Registre National des Personnes Physiques* (RNPP).

To improve comparability between cross-border commuters and employed residents, resident households not affiliated with the IGSS are excluded from the analysis. These households represent about 10% of the resident population, work mainly for EU institutions or other extra-territorial organisations and differ substantially from the population sampled

through the IGSS. Further information can be found in the technical report of the resident survey (Mathä, Montes-Viñas, Pulina and Ziegelmeyer, 2023), which presents results for the entire population of resident households.

3.1.   General characteristics

Cross-border commuters to Luxembourg are typically male (64%) and live in their country of birth (86%) (See Table 1). The reference person is 41 years old on average, which is 2.4 years younger than for employed residents. These general characteristics remained similar to those reported for the 2018 and 2014 waves (Mathä, Pulina and Ziegelmeyer, 2018; Chen, Mathä, Pulina and Ziegelmeyer, 2021). Other characteristics, however, changed between waves 2018 and 2021, such as the share of cross-border commuter households made up of couples or with higher education. The share of single households increased by around 10 percentage points to 33%, with a corresponding decrease in the share of couples.

The educational attainment of cross-border commuters remains well above that of the employed residents and this 'education' gap increased further between 2018 and 2021. The share of cross-border commuters that is highly educated increased by 11 percentage points to reach 60% in 2021, while among employed residents this share only increased 9 percentage points to reach 52%. Among cross-border commuters, 70% of those from Belgium are highly educated, compared to 63% of those from France and 44% of those from Germany. Only 18% of commuters from Germany had a low level of education, while this share was only 6% for those from Belgium and 3% for those from France.

Among employed residents, there is a substantial difference between those born in Luxembourg and those born abroad. The share of highly educated households was 59% among foreign-born residents, but only 42% among native-born residents. This 18 percentage point gap widened by 7 percentage points compared to 2018.

3.2.   Employment and commuting characteristics

Almost all cross-border commuters were employees (90%) with a permanent contract (97%) (Table 2). Only 4.6% were self-employed, which is somewhat less than among residents

(7.2%).[5] The average working time per week was nearly 40 hours per week, so that most cross-border commuters had full-time work contracts.

Table 2: Employment characteristics in 2021

Characteristic	Cross-border commuters				Employed residents			
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total	
Employment Status (%)								
Employee	91.3	90.6	89.6	90.5	84.3	88.4	86.7	*
	(2.1)	(1.5)	(2.2)	(1.1)	(2.0)	(1.6)	(1.2)	
Self-employed	4.1	4.4	5.5	4.6	8.3	6.4	7.2	*
	(1.4)	(1.2)	(1.8)	(0.8)	(1.6)	(1.3)	(1.0)	
Type of contract (%)								
Permanent contract	96.5	97.3	97.5	97.1	95.2	93.3	94.1	*
	(1.4)	(0.9)	(1.1)	(0.6)	(1.5)	(1.5)	(1.1)	
Main means of transport (%)								
Car or private vehicle	89.4	78.1	91.1	83.9	74.5	61.9	67.0	*
	(2.0)	(1.8)	(1.6)	(1.2)	(2.5)	(2.4)	(1.7)	
Public transport	9.5	21.8	8.9	15.8	13.9	26.5	21.4	*
	(1.8)	(1.9)	(1.6)	(1.1)	(2.0)	(2.3)	(1.6)	
By bike or on foot	1.0	0.1	0.0	0.3	11.6	11.6	11.6	*
	(1.0)	(0.1)	(0.0)	(0.2)	(1.8)	(1.6)	(1.2)	
Working hours per week (mean)	39.9	40.2	39.3	39.9	39.3	41.5	40.6	*
	(0.4)	(0.4)	(0.5)	(0.2)	(0.6)	(0.4)	(0.3)	
Commuting time (mean in minutes)	48.2	53.9	44.6	50.3	24.7	27.1	26.1	*
	(1.6)	(1.0)	(1.0)	(0.7)	(1.0)	(1.1)	(0.8)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
*Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the two "Total" columns are significantly different at the 5% level of significance.*

In 2018 and 2021 cross-border commuters worked in similar sectors, suggesting that the COVID-19 pandemic did not lead to major changes in employment composition, likely because of government support schemes (see also Section 6, which analyses COVID-19 effects in more detail). However, among Luxembourg residents the composition of employment changed between 2018 and 2021, with 46% of the native-born being employed in the public sector (-6 pp.) and 13% the financial sector (+4 pp.) (Figure 1).

Public sector employment was less common among cross-border commuters and foreign-born residents than among native-born residents, reflecting Luxembourg language and/or nationality requirements.

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[5] These statistics are based on the primary occupation of the reference person. In addition to being employed or self-employed, the reference person could be retired, unemployed or a student at the time of the survey, and work as a secondary occupation.

Figure 1: Employment sectors, shares in %, in 2021
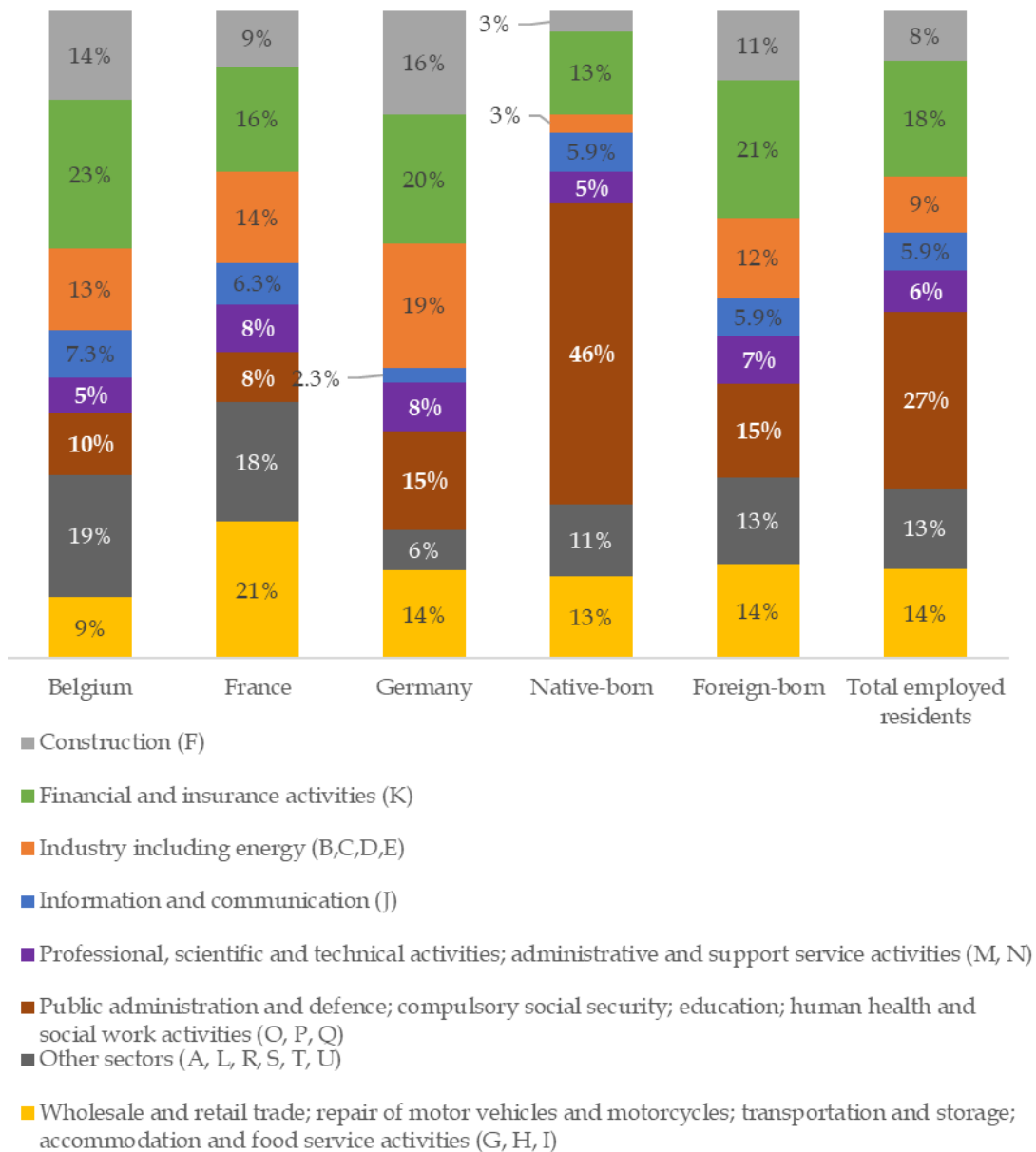
Source: Own calculations based on XB-HFCS, LU-HFCS, wave 2021; data are multiply imputed and weighted.
*Note: Employment sector refers to the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). If the financially knowledgeable person was not employed, we use an employed household member for this graph. Sectors based on the NACE Rev.2 A*10 classification in the European System of Accounts.*

Among cross-border commuters, the sectoral employment composition varies considerably by country of residence. For example, among commuters from Belgium a relatively high share were employed in the financial and insurance sector (23%), which is similar to the share of foreign–born residents employed in this sector. Among commuters from France, 21% were employed in wholesale and retail trade. Instead, among commuters from Germany, the share employed in this sector was only 14% and among those from Belgium it was only 9%. Among

commuters from Germany, the share of employment in industry was exceptionally high (19%).

Next we turn to commuting characteristics. The car or private vehicle remained the main means of commuting (84%), although this figure is slightly lower than in 2018 or 2014 (Mathä, Pulina and Ziegelmeyer, 2018; Chen, Mathä, Pulina and Ziegelmeyer, 2021). From 2018 to 2021, the use of public transport increased slightly from 14% to 16%. This could be the start of a shift in the main transport mode away from private vehicles, in particular because the observed shift was larger for employed residents.

According to the 2021 resident survey (LU-HFCS), 23% of the employed resident households used public transport as their main transport mode, an increase of almost 6 percentage points compared to 2018. In addition, 11% cycled or walked to work. The use of private vehicles decreased from 73% in 2018 to 67% in 2021. Likely reasons for this shift are the improved public infrastructure (e.g. extension of the tram line and bicycle lanes), the free public transport from April 2020 onwards and the COVID-19 pandemic, which led to a widespread increase in flexible working arrangements, including work from home. Since the start of free public transport (April 2020) nearly coincided with the COVID-19 pandemic (mid-March 2020), it is impossible to evaluate their relative contributions.

Average cross-border commuting time generally increased between 2010 and 2018. For example, it was 46 minutes in 2014 and 53 minutes in 2018.[6] This does not come as surprise, since total employment in Luxembourg grew by 2.7% on average from 2010 to 2018, and the number of cross-border commuters grew by 3.0% on average. From 2018 to 2021, average cross-border commuting time decreased slightly (to 50 minutes). However, average commuting time for employed residents remained virtually unchanged (from 25 minutes in 2018 to 26 minutes in 2021). This could result from two opposing forces. First, employed residents are more likely to use public transport to get to work, which could lengthen commuting times. Second, improved public transport infrastructure and reduced traffic due to more work from home could reduce commuting times, especially for those commuting by car. This second effect seems to dominate for cross-border commuters, who use their private vehicle as main mode of transport. For employed residents, the two effects may cancel each

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6   Average commuting time from Belgium increased from 45 minutes in 2014 to 51 minutes in 2018. From France it increased from 48 to 55 minutes and from Germany it increased from 46 to 49 minutes.

other out. Some commuters may have swapped their private vehicles for free public transport, as the two alternatives have similar commuting times.

3.3. Housing tenure

Results from previous waves of the XB-HFCS (Mathä, Pulina and Ziegelmeyer, 2018; Chen, Mathä, Pulina and Ziegelmeyer, 2021) indicated high rates of homeownership among cross-border commuters. While homeownership appeared to increase between 2014 and 2018, new results from 2021 suggest a decrease (Figure 2). The largest decline was among commuters from France (9 percentage points to 68% in 2021), followed by commuters from Germany (7 percentage points to 63%) and commuters from Belgium (5 percentage points to 76%). Among employed residents in Luxembourg, the homeownership rate remained stable between 2018 and 2021.

The decline among cross-border commuters may be related to differences in the reporting population. In 2021, a larger share of cross-border commuters were single households, who are generally less likely to be homeowners. However, homeownership rates declined both for single households (3 percentage points) and for couples (6 percentage points). Age differences between 2018 and 2021 do not contribute to observed differences in housing tenure, since the average age hardly differs between 2018 and 2021.[7] However, if house price increases outstrip income increases, which available data suggests to be the case, households may be required to save longer for a down payment, raising the age at which they could buy their first home.[8] This may have contributed to the observed decline in homeownership rates.

Commuters from France were more likely to be outright homeowners than those from Germany or Belgium (Figure 2). Among employed residents, 83% of the native-born were homeowners in 2021, but only 52% of the foreign-born.

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[7] Survey weights are calibrated so that the age structure of reporting cross-border commuter households closely matches the age structure of the total cross-border commuter population, which is taken from social security (IGSS) administrative data and used for the underlying sampling design.

[8] Between 2018 and 2021, there was a rise in real estate prices in Rheinland-Pfalz (40%) and Saarland (36%) according to the IWH European Real Estate Database (Koetter & Felix, 2022). Meanwhile, based on data from STATBEL, the province of Liège in Belgium witnessed a notable uptick of 17% in real estate prices, while the Belgian province of Luxembourg experienced an increase of 23%.

Figure 2: Housing tenure in 2014, 2018 and 2021
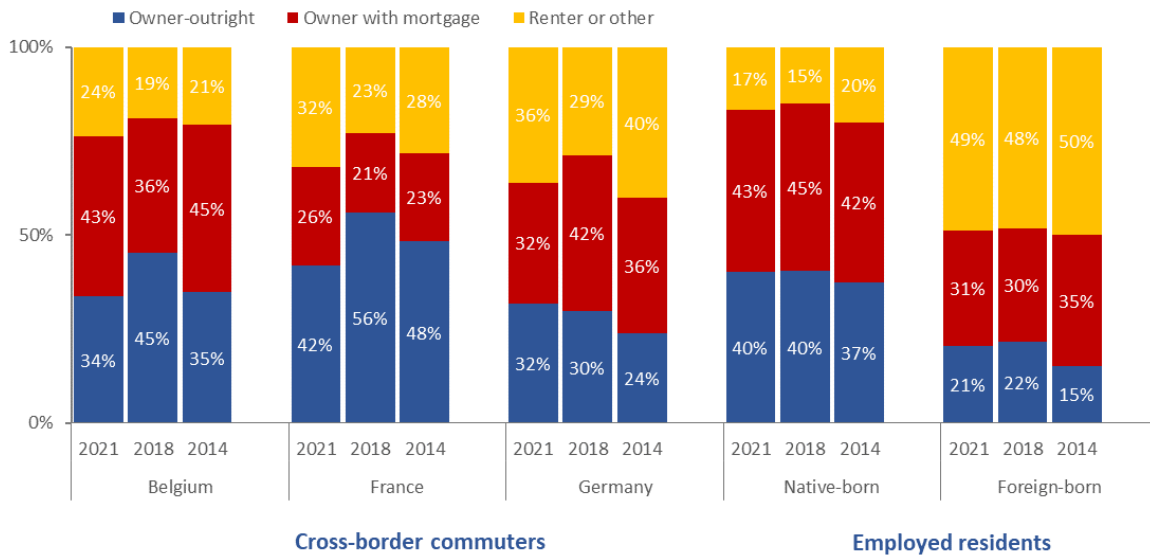
Source: Own calculations based on XB-HFCS, LU-HFCS, waves 2014, 2018, and 2021; data are multiply imputed and weighted.

4. Assets and liabilities

4.1. Assets

4.1.1. Composition of assets

Figure 3 reports the composition of main assets and liabilities in 2021 by country of residence. For employed households resident in Luxembourg, the breakdown is shown separately for native-born and foreign-born. Total assets are separated into real and financial assets, while total liabilities are separated into mortgage and non-mortgage debt. Real assets (including real estate, but also vehicles and valuables) represented the most important asset category for cross-border commuters and residents, ranging from 72% to 90% of mean total assets. On the liability side, mortgage debt always accounted for more than 85% of mean total household liabilities.

Figure 3: Composition of household assets and liabilities, in 2021
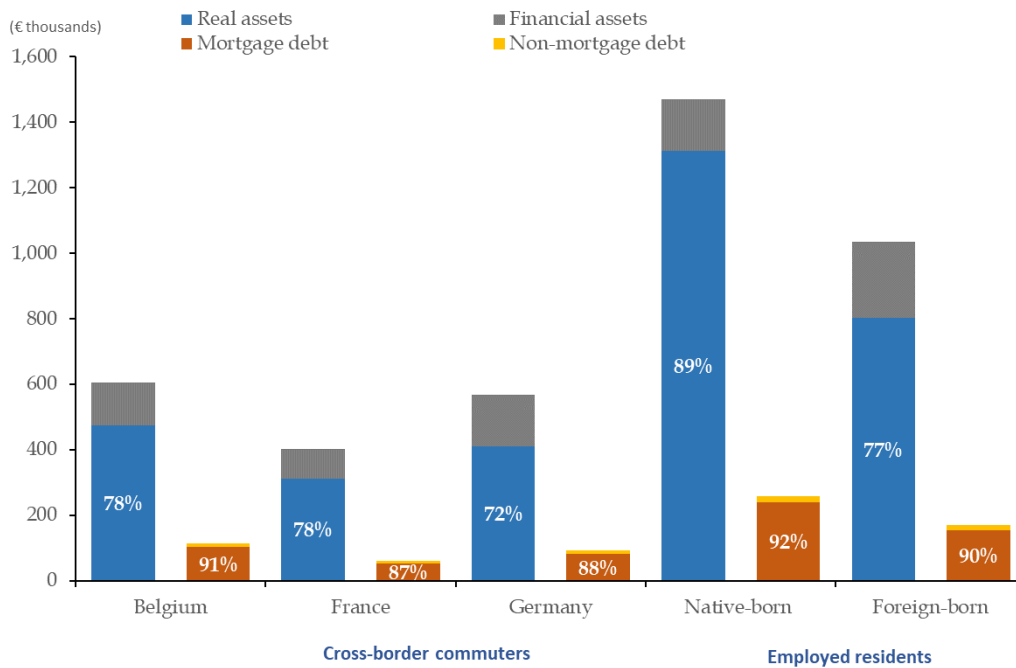
Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: The left axis shows the mean value.

Overall, the composition of household assets and liabilities appears relatively stable between 2018 and 2021 (figures not shown). However, for cross-border commuters the share of real assets decreased by around 10 percentage points, except for commuters from Belgium, who reported a 6 percentage point decline. The share of mortgage debt in total liabilities increased around 7 percentage points for commuters from France and 6 percentage points for those from Belgium, while declining 2 percentage points for those from Germany. For employed residents, the composition of household debt changed only marginally.

4.1.2. Real assets and their components

Real assets include the following: household main residence (HMR), other real estate property (OREP), business wealth (from self-employment and participations), vehicles and valuables (such as jewellery, works of art or antiques).

Table 3 reports household participation rates across real assets in 2021. Figure 4 presents the conditional median, meaning the median value taken only across households that held the given asset. Since the ownership rate for vehicles is very high (94.6% for cross-border

commuters and 90.8% for employed residents), almost all households held at least one type of real asset.

Table 3: Real asset categories, participation rates in 2021

(percent)	Cross-border commuters				Employed residents			
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total	
Total real assets	97.9	98.0	98.3	98.1	97.9	91.0	93.8	*
	(1.0)	(0.8)	(0.9)	(0.5)	(0.8)	(1.7)	(1.0)	
HMR	76.2	68.0	63.8	68.8	83.4	51.0	64.3	
	(2.9)	(2.2)	(3.2)	(1.5)	(2.1)	(2.6)	(1.8)	
OREP	30.4	18.7	26.8	23.4	24.7	23.6	24.0	
	(1.5)	(1.0)	(1.3)	(0.7)	(1.6)	(2.1)	(1.4)	
Business wealth	7.4	5.1	3.8	5.3	8.2	9.4	8.9	*
	(1.0)	(0.8)	(0.9)	(0.5)	(0.8)	(1.7)	(1.0)	
Vehicles	92.2	94.0	95.0	93.8	91.6	80.5	85.1	*
	(1.6)	(1.0)	(1.3)	(0.7)	(1.6)	(2.1)	(1.4)	
Valuables	18.5	16.6	22.7	18.5	34.5	20.0	26.0	*
	(1.6)	(1.1)	(1.1)	(0.7)	(1.5)	(1.4)	(1.0)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
*Note: Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the two "Total" columns are significantly different at the 5% level of significance.*

The median value of total real assets was much lower for cross-border commuters than for employed residents, whether native-born or foreign-born (Figure 4). This primarily reflects lower values of the HMR which is the second most common real asset. However, ownership rates and median values varied substantially across countries of residence. The share of homeowners was lower among commuters from Germany (64%) than among those from Belgium (76%) or France (68%), but noticeably higher than among employed residents who were foreign-born (51%). Besides, the median HMR values for employed residents, whether native-born (€850,000) or foreign-born (€798,000), were more than twice the median value for cross-border commuters. Commuters from Germany reported a median value of €390,000, slightly higher than commuters from Belgium (€379,000) and much higher than commuters from France (€300,000).

Figure 4: Real asset categories, conditional median in 2021
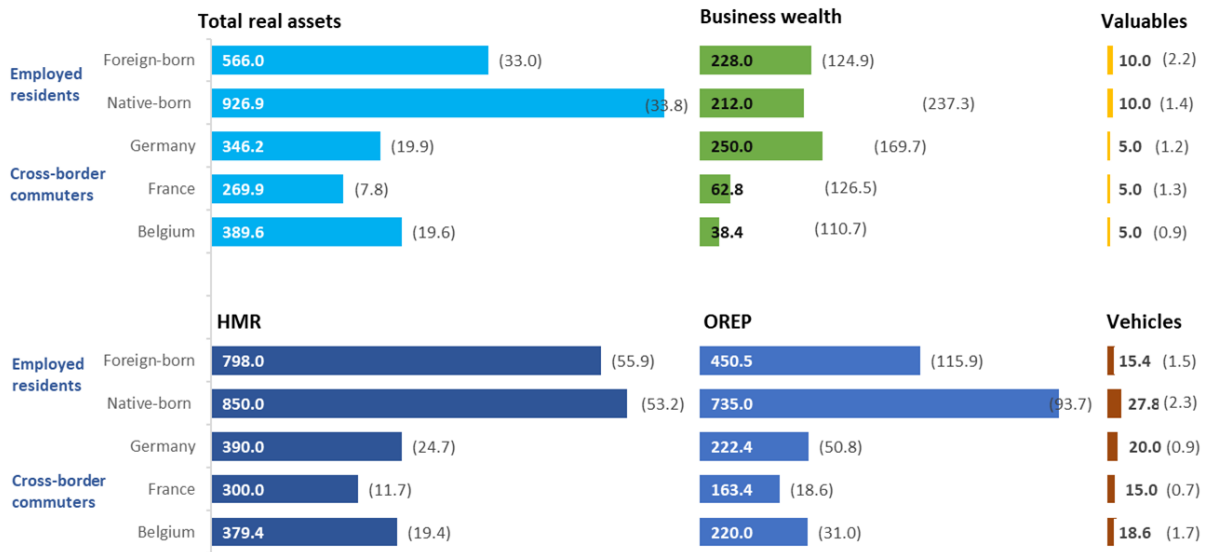
Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

In addition, 30% of cross-border commuter households from Belgium owned other real estate property (OREP) while ownership rates were lower for cross-border commuters from France (19%) or Germany (27%). Among cross-border commuter households, the median value of OREP was similar for those commuting from Belgium and Germany (~€220,000), but less for commuters from France (€163,400). However, this difference is not statistically significant. Ownership of OREP was as common among employed residents as in most other groups, but the median value of OREP among native-born residents (€735,000) was considerably higher than that observed among cross-border commuters or foreign-born employed residents (€450,500). This difference can largely be attributed to higher real estate prices in Luxembourg. A plausible explanation for the lower median OREP value among foreign-born residents is that they own retain real estate property in their country of birth (where house prices are generally lower), for example their former HMR before they moved to Luxembourg.

Regarding the changes between 2018 and 2021, the median value of total real assets increased significantly for cross-border commuters (by €51,000 or +20%) and for employed residents (€140,000 or +24%). For cross-border commuters, the conditional median value of the HMR increased by almost 30% between 2018 and 2021. Among homeowners who commute from Germany, the increase was 32%, similar to the 30% increase in residential property prices in

Germany over this period, but substantially more than in France or Belgium.[9] Since 2018, the homeownership rate of cross-border commuters from Germany decreased by 7.4 percentage points, so house price increases benefited fewer households. In Luxembourg, employed residents who are native born also benefited from a significant increase in the median value of their HMR (€150,000).

Growth in the value of other real estate property (OREP) was less pronounced. The increase in value was 11% for commuters from Belgium and 14% for those from Germany, with no significant change for commuters from France. In Luxembourg, OREP values increased substantially for employed residents, whose participation rate also increased slightly to 27%.

4.1.3. Financial assets and their components

Financial assets were held by most households. Table 4 reports the shares of households holding deposits (sight and savings accounts), riskier assets (mutual funds and stocks), bonds (corporate or sovereign), other financial investments, or voluntary pension plans or life insurance contracts.

Table 4: Financial asset components, participation rates in 2021

(percent)	Cross-border commuters				Employed residents			
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total	
Total financial assets	99.7	96.8	99.9	98.2	98.1	98.0	98.0	
	(0.3)	(1.0)	(0.1)	(0.5)	(0.9)	(0.9)	(0.6)	
Deposits	99.0	92.2	97.8	95.1	92.5	91.2	91.7	*
	(0.5)	(1.3)	(1.0)	(0.7)	(1.7)	(1.5)	(1.1)	
Bonds	2.0	0.3	0.5	0.8	0.4	1.3	1.0	
	(0.9)	(0.2)	(0.3)	(0.2)	(0.2)	(0.4)	(0.3)	
Risky assets	28.2	17.2	41.7	25.5	28.3	29.1	28.8	
	(2.7)	(1.6)	(3.2)	(1.3)	(2.3)	(2.1)	(1.5)	
Other financial investments	4.1	2.3	4.3	3.2	2.4	4.6	3.7	
	(1.2)	(0.6)	(1.2)	(0.5)	(0.7)	(1.1)	(0.7)	
Voluntary pension/life insurance	78.0	69.3	82.2	74.3	72.0	69.1	70.3	
	(2.8)	(2.7)	(2.7)	(1.7)	(2.3)	(2.7)	(1.9)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
*Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Note: Riskier assets are defined as mutual funds and stocks. Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the two "Total" columns are significantly different at the 5% level of significance.*

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9   See ECB Statistical Data Warehouse: Residential Property Price series, e.g.
    RESR.Q.DE._T.N._TR.TVAL.10.TB.N.IX for Germany.

The participation rate for total financial assets increased from 93% in 2018 to 98% in 2021 for the whole cross-border commuter sample.[10] Among employed residents, it remained at 98%. In 2021, bank deposits were the most common financial asset among cross-border households, especially for commuters from Belgium (99%). Similar shares are observed for employed residents. Voluntary pension or life insurance is the second most common financial asset both among cross-border commuters (74%) and among employed residents (70%).

Riskier assets were more common in 2021 than in 2018. This may not only reflect the low interest rates on current and deposit accounts, but also technological developments that made it easier to invest in stocks or mutual funds through online banking. The positive performance of stock markets between 2018 and 2021 enhanced the appeal of investments in mutual funds or in Exchange Traded Funds (ETFs).[11]

As in previous waves, cross-border commuters from Germany were the most likely to invest in riskier assets (stocks and mutual funds). Their participation rate in this asset class was more than 10 percentage points higher than that of employed residents who were foreign-born, and 24 percentage points higher than that of the commuters from France.

Participation rates in voluntary pension plans or life insurance policies also varied by country of residence. This type of asset was more common among cross-border commuters from Germany (82%) and Belgium (78%), but less popular among employed residents who were born abroad (69%). For the latter group, this may also be linked to plans to return to their country of birth.

Conditional median of total financial assets increased substantially from 2018 to 2021, by almost €27,000 for cross-border commuters and €34,000 for employed residents. Figure 5 reports the conditional median for each category of financial assets. The median value of deposits was highest among employed residents that were native-born, followed by cross-border commuters from Belgium. The median value of bonds was highest among commuters from Belgium (€82,000) and lowest among commuters from France (€10,000). With regard to

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[10] The detailed statistics by country of residence for wave 2014 can be found in Mathä, Pulina and Ziegelmeyer (2018) and for wave 2018 in Chen, Mathä, Pulina and Ziegelmeyer (2021).
[11] According to a recent report, the global value of ETFs increased more than twofold between 2018 and 2021. Information from https://www.nasdaq.com/articles/assets-invested-in-the-global-etfs-industry-reached-a-new-milestone-of-%2411.73-trillion-at, last accessed on 27/02/2024.

riskier assets, the highest median value was reported by employed residents who were foreign-born (€51,000) and the lowest value among commuters from France (€ 16,000).

Figure 5: Financial asset components in 2021, conditional median
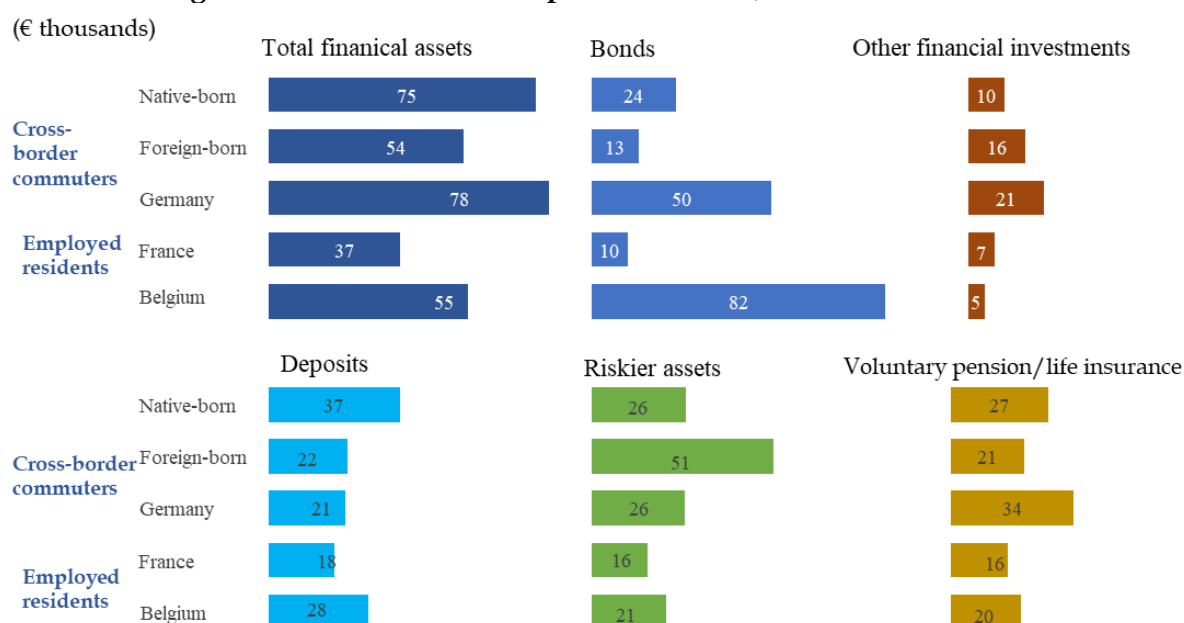
(€ thousands)

	Total finanical assets	Bonds	Other financial investments
Cross-border commuters	Native-born 75	24	10
	Foreign-born 54	13	16
	Germany 78	50	21
Employed residents	France 37	10	7
	Belgium 55	82	5

	Deposits	Riskier assets	Voluntary pension/life insurance
Cross-border commuters	Native-born 37	26	27
	Foreign-born 22	51	21
	Germany 21	26	34
Employed residents	France 18	16	16
	Belgium 28	21	20

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Note: Riskier assets are defined as mutual funds and stocks. Standard errors reported in parentheses are based on 1,000 replicate weights.

Figure 6 shows the share of riskier assets in households' financial portfolios in 2018 and 2021. Among households with riskier assets, employed residents who were foreign-born held 33% of their financial portfolio in this category in 2021, followed by commuters from Germany (28%), Belgium (22%) and France (20%). The share of riskier assets in the financial portfolio was lowest among employed residents who were native-born (19%).

While, the participation rate increased in both for cross-border commuters and employed residents, the conditional median of riskier assets as well as their share in total financial assets declined for employed resident born in Luxembourg (Figure 6).

Figure 6: Riskier assets, share in total financial assets in 2018 and 2021 (in %)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2018 and 2021; data are multiply imputed and weighted.
Note: Riskier assets are defined as mutual funds and stocks.

4.2. Liabilities

Most employed resident households held debt (Table 5). This is also true for cross-border commuters. Commuters from France were the least likely to hold debt (56%), although they were more likely to hold debt than the average household in the euro area (43%, see HFCN, 2023). The amount of total outstanding debt varied according to the country of residence. Employed residents who were native born held much more debt (median €205,000) than employed residents who were foreign born (€134,000). Among cross-border commuters, those from Belgium held the most debt (€93,200) and those from France held the least (€58,000).

The main component of total household debt is mortgage debt, although this was held by less than half of the households in each group. The share of households with outstanding mortgage debt was highest among commuters from Belgium (49%) and employed residents who were native-born (48%) and it was lowest among employed residents who were foreign-born (36%) and commuters from France (30.5%).The conditional median for mortgage debt was €300,000 for employed residents who were native-born and €354,000 for employed residents who were foreign-born. Among cross-border commuters, those from Belgium held the most mortgage debt (€154,000) and those from France held the least (€134,000).

Table 5: Total debt and debt components in 2021

	Cross-border commuters				Employed residents			
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total	
Participation rate (percent)								
Total debt	69.7	55.8	56.5	59.2	67.1	61.3	63.7	
	(2.9)	(2.3)	(3.4)	(1.7)	(2.5)	(2.5)	(1.8)	
Mortgage debt	49.1	30.5	38.2	36.7	48.4	36.0	41.1	
	(3.3)	(2.0)	(3.1)	(1.5)	(2.8)	(2.6)	(1.9)	
Non-mortgage debt	41.4	37.4	29.3	36.4	39.0	40.6	39.9	
	(3.2)	(2.3)	(3.0)	(1.6)	(2.6)	(2.5)	(1.8)	
Conditional Median(€ thousands)								
Total debt	93.2	58.4	88.0	73.6	205.3	134.0	165.0	*
	(17.6)	(10.5)	(17.9)	(8.0)	(29.5)	(27.9)	(24.4)	
Mortgage debt	154.0	134.4	152.0	146.0	300.0	354.2	328.2	*
	(17.5)	(10.9)	(22.5)	(9.8)	(22.9)	(30.1)	(21.6)	
Non-mortgage debt	14.4	12.0	15.6	13.1	20.5	14.3	17.3	*
	(2.3)	(1.3)	(4.1)	(1.0)	(2.7)	(3.2)	(1.7)	

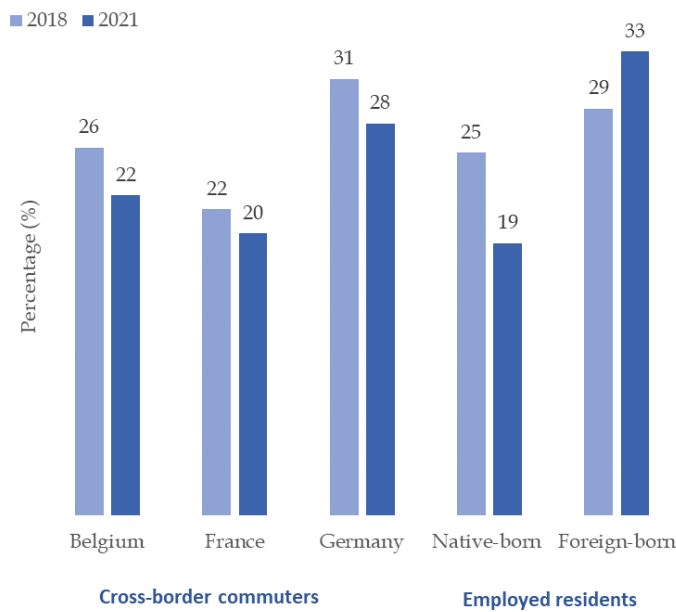*Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the two "Total" columns are significantly different at the 5% level of significance.*

For most homeowners, their main mortgage debt was on their HMR. According to Figure 7, in 2021, the share of employed residents with an HMR mortgage was 36%, 43% for the native-born and 31% for the foreign-born. Among cross-border commuters, this share was 31%, 43% for those from Belgium, 32% for those from Germany and only 26% for those from France. Not surprisingly, among households with an HMR mortgage, the median outstanding amounts were far larger for residents than for cross-border commuters.

Compared to 2018, the share of commuters with an HMR mortgage increased by nearly 7 percentage points for those from Belgium and 5 percentage points for those from France, while it decreased by nearly 10 percentage points for those from Germany. The median value of outstanding mortgage debt increased by almost €48,000 for commuters from Germany and nearly €38,000 for commuters from Belgium, but only €10,000 for commuters from France.

Non-mortgage debt are usually neither secured by real estate property nor backed by other assets. This kind of debt was most common among commuters from Belgium and least common among those from Germany (Table 5). The median amount of outstanding non-mortgage debt was highest among employed residents who were native-born (€20,500) and lowest among those who were foreign-born (€14,300). Similar amounts were held by cross-border commuters from Germany (€15,600), Belgium (€14,400) and France (€12,000).

Figure 7: HMR mortgage in 2021
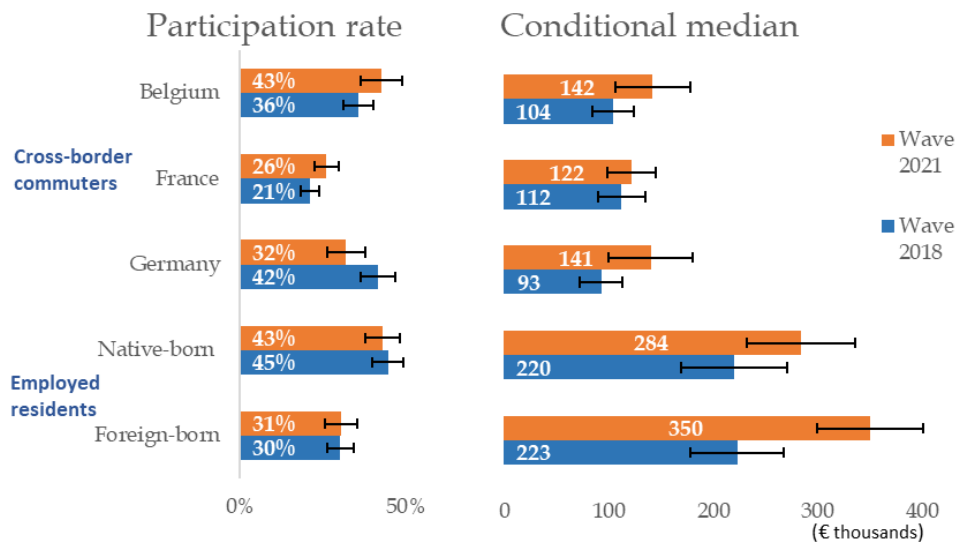
Source: Own calculations based on XB-HFCS and LU-HFCS, waves 2018 and 2021; data are multiply imputed and weighted.
Note: Error bars indicate the 95% confidence interval.

4.2.1. Debt burden and financial vulnerability

The HFCS data is regularly used to generate various household debt and vulnerability measures. These measures can help to assess whether changes in macroeconomic conditions or shocks, such as rapidly increasing house prices, mortgage rates or job loss affect the financial situation of households and their ability to service their debt. Table 6 presents selected debt burden and financial vulnerability indicators for cross-border commuter and employed resident households. The debt-to-asset ratio, which relates total debt to total assets, provides an indication of households' ability to pay off outstanding debt when all their assets are converted into cash. In 2021, the median ratio was quite similar across groups, ranging from 20% for commuters from Germany to nearly 24% for commuters from France. Employed residents who were native-born had a low debt-to-asset ratio, although they had a higher level of outstanding debt (Table 5), as well as higher levels of real and financial assets (Figure 4 and Figure 5).

The debt-to-income ratio assesses households' ability to pay off debt in the medium to long term. Commuters from France had a debt-to-income ratio of nearly 87%, 9 percentage points lower than commuters from Germany and 13 points lower than those from Belgium. Debt-to-income ratios were much higher for employed residents, approximately 179% for the native-born and 145% for the foreign-born.

The debt-service-to-income ratio provides a view on whether household income is sufficient to cover debt servicing obligations. According to Table 6, there was little difference in the median debt-service-to-income ratio among employed residents and cross-border commuters with this ratio ranging from 14% to 17%.

The last indicator shown in Table 6 is the current loan-to-value ratio on the HMR, which captures the outstanding amount of debt relative to the value of the household main residence at the time of the survey. Commuters from France had the highest loan-to-value ratio (nearly 46%) followed by employed residents who were foreign-born (41%) and commuters from Belgium and Germany (both 38%). The current loan-to-value ratio on the HMR was lowest among employed residents who were native-born (30%).

Table 6: Debt burden and financial vulnerability for 2021

	Cross-border commuters				Employed residents			
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total	
Debt-to-asset ratio	23.1	23.6	20.0	22.8	20.1	22.7	21.5	
	(2.9)	(3.2)	(3.8)	(2.2)	(1.7)	(2.8)	(1.6)	
Debt-to-income ratio	100.5	86.8	95.9	92.7	178.9	144.9	159.2	*
	(16.2)	(10.3)	(20.7)	(7.2)	(21.3)	(23.5)	(15.2)	
Debt-service-to-income ratio	17.5	16.3	13.9	16.1	15.9	15.4	15.6	
	(0.9)	(1.3)	(1.3)	(0.7)	(1.3)	(1.2)	(0.8)	
Loan-to-value of HMR	37.8	45.9	37.7	42.3	30.2	40.8	35.5	*
	(3.9)	(3.6)	(6.3)	(2.6)	(2.8)	(3.0)	(2.6)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

4.3. Net Wealth

4.3.1. Net wealth in 2021

In 2021, the median value of net wealth among cross-border commuter households was €291,000, almost €270,000 less than for employed residents. This difference is mainly explained by the household main residence (HMR) whose value is higher in Luxembourg as shown below in Figure 4. Comparing the mean to the median of household net wealth, their ratio was 1.4 for cross-border commuters and 1.8 for employed residents. As the mean is heavily influenced by the right tail of the distribution, this difference indicates a more even distribution of household net wealth across cross-border commuters than across employed residents (as in previous waves of the survey).

Figure 8: Median household net wealth in 2021
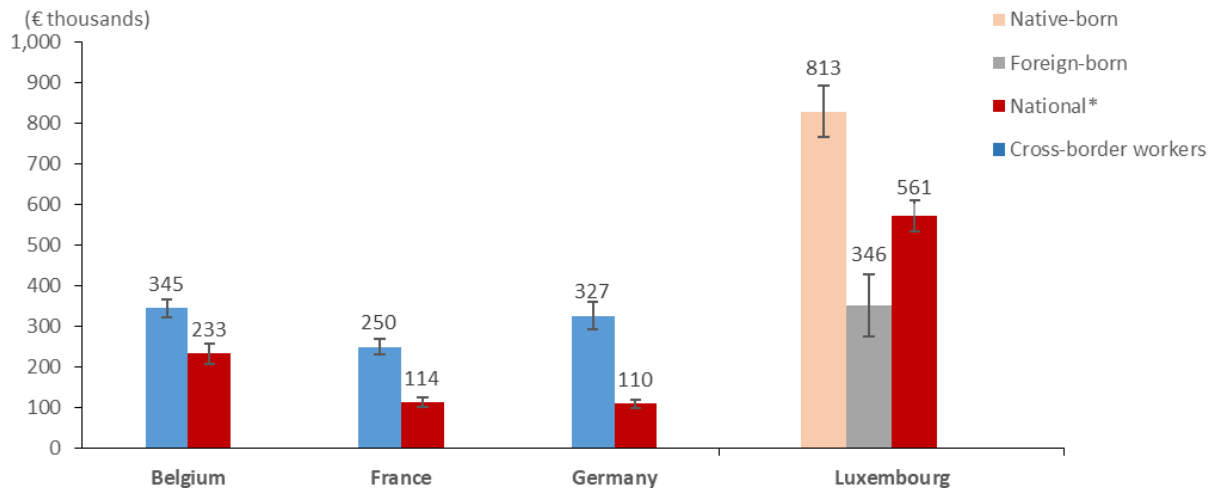
Note: Error bars indicate the 95% confidence interval. *National medians are calculated only across households who were (self-)employed in the 2021 Eurosystem HFCS data for Luxembourg, Belgium, France or Germany. Figures are NOT adjusted for differences in the timing of fieldwork (from July 2020 to June 2021 in Belgium, from September 2020 to March 2021 in France and from April 2021 to January 2022 in Germany).

Figure 8 compares the median value of household net wealth among cross-border commuters and Luxembourg residents to the *national* results for employed residents based on data collected separately by the national central banks of Belgium, France, Germany and Luxembourg. Among cross-border commuters, those from Belgium reported the highest net wealth (€345,000), which was almost €95,000 more than that of commuters from France and €18,000 more than that of commuters from Germany. This partly reflects differences in ownership of the HMR and other real estate property (see Table 3). The median value of household net wealth among employed residents who are foreign-born was similar to that of commuters from Belgium, but significantly lower than that of employed residents who are native-born.

Commuters from Belgium, France and Germany enjoyed significantly higher net household wealth than their national median. This is particularly the case for Germany, where cross-border commuters reported almost three times more net wealth than households working and living in Germany. As shown in Figure 9, this difference reflects both a higher homeownership rate and a higher HMR value. In 2021, the share of homeowners among commuters from Germany was 18 percentage points higher than for households living and working in Germany. Among homeowners, the median HMR value of cross-border commuters from

Germany was around €90,000 higher than the national median among employed households in Germany.

Figure 9: Homeownership participation rate and conditional median value in 2021

The level of net wealth tends to vary with household characteristics (Table 7). Net wealth tends to increase with the age of the reference person in the household. This is the case for all sub-groups considered and reflects the decision to limit the analysis to employed households only.

The gap between cross-border commuters and employed residents varies across age groups. For cross-border commuters under the age of 35 years, the median value of household net wealth was around €126,000 while it was €230,000 for employed residents. In the next age group (35-44 years old), the difference widens to €213,000. Between 45 and 54 years of age, the gap widens further to €410,000. For households aged 55 years and over the median value of net wealth was €403,000 for cross-border commuters and €1,003,000 for employed residents.

This increase in the wealth gap at higher ages reflects faster growth in HMR values in Luxembourg than in its neighbouring regions (e.g. Mathä, Porpiglia and Ziegelmeyer, 2018). Another important factor is that households of employed residents earned more than cross-border commuter households (see Section 5). High-income households are likely to save more than low-income households, which increases their wealth over time.

**Table 7: Household net wealth, by household characteristic
(2021 median value in € thousands)**

Characteristic	Cross-border commuters	Employed residents	
Age Group			
Younger than 35	126.2	229.6	
	(20.4)	(62.0)	
35-44	300.6	513.2	*
	(23.4)	(56.6)	
45-54	374.0	784.2	*
	(25.0)	(83.2)	
55 or older	403.5	1003.5	*
	(29.0)	(125.6)	
Level of Education			
High	320.5	567.8	*
	(18.1)	(58.2)	
Middle	246.5	662.5	*
	(17.3)	(55.4)	
Low	328.4	370.6	
	(53.3)	(92.4)	
Housing Status			
Owner-outright	450.5	1092.8	*
	(17.4)	(83.8)	
Owner with mortgage	320.8	755.5	*
	(22.7)	(55.1)	
Renter or other	51.1	51.1	
	(7.3)	(8.4)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
*Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the columns "cross-border commuters" and "employed residents" are significantly different at the 5% level of significance.*

Regardless of the country of residence, cross-border commuters with higher education (tertiary or higher) reported the highest household net wealth (Table A1 in the appendix). Differences between cross-border commuters and employed residents vary according to the education category. For households with a low level of education, the difference in net wealth between cross-border commuters and employed residents is limited. However, for households with a medium or high level of education, employed residents reported much higher net wealth than cross-border commuters. The increase in net wealth with additional educational attainment was greater for employed residents than for cross-border commuters. Among employed residents, the native born have substantially more net wealth than those

born abroad. This gap is most evident for employed residents with a medium level of education.

From the point of view of housing status, renters had the lowest net wealth, as could be expected. For both cross-border commuters and employed residents, the median net wealth for households that rented their main residence was €51,000. For homeowners with a mortgage, employed residents reported more than twice as much net wealth as cross-border commuters, although they had larger mortgages (Table 5). As explained above, higher net wealth among employed residents mainly reflects the difference in property values between Luxembourg and neighbouring regions.

Figure 10: Median household net wealth (€ thousands) in 2018 and 2021, by net wealth quintile
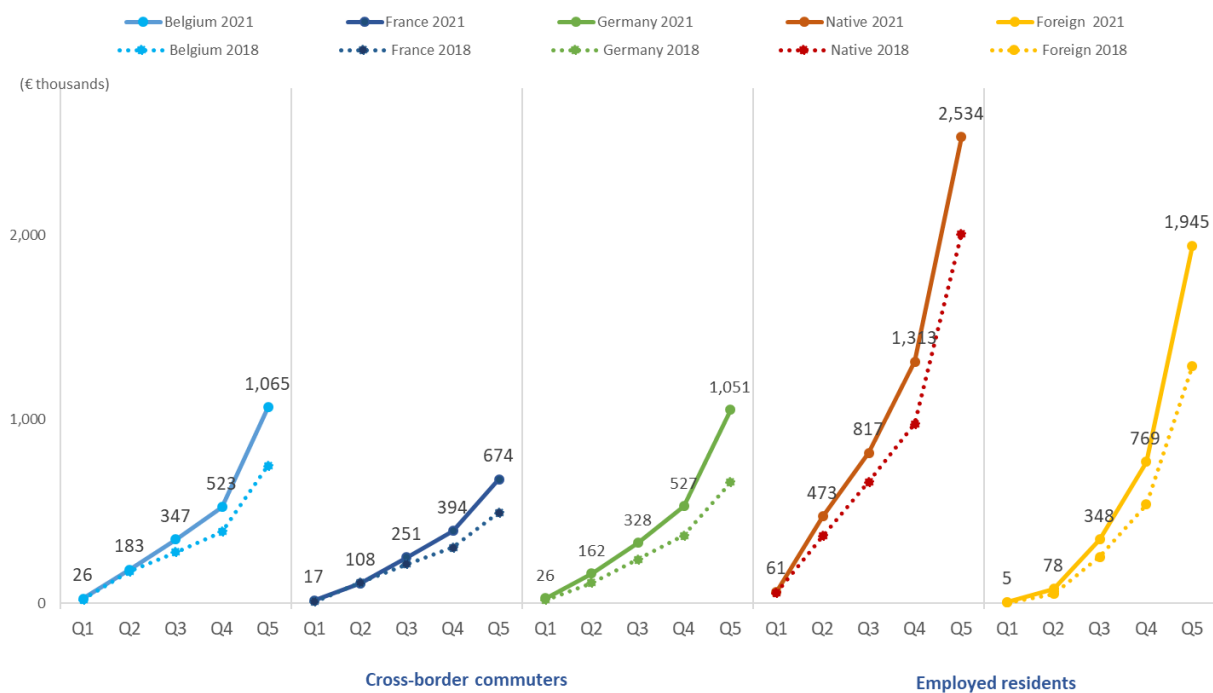
Source: *Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.*

In Figure 10, we report the median value for each household net wealth quintile by country of residence to provide more detail on the distribution. In 2021, the median value of household net wealth in the bottom quintile (the poorest 20%) was €26,000 for commuters from Belgium, which was €9,000 higher than for commuters from France, but very similar to the median for commuters from Germany. Instead, the median in the top quintile (richest 20%) was €1,065,000 for commuters from Belgium, which was more than for those from France but similar to the median for those from Germany. This suggests that household net wealth was

more equally distributed among commuters from France than among those from Belgium and Germany.

Among poorer households in the lowest quintile of the net wealth distribution, employed residents do not appear to be much wealthier than cross-border commuters (Figure 10). In particular, among foreign-born residents the median value of household net wealth was close to €5,000. However, differences between cross-border commuters and employed residents increase as we move to higher quintiles in the net wealth distribution. For the richest 20%, employed residents are more than twice as wealthy as cross-border commuters from all three neighbouring countries. In the top quintile, the median value of household net wealth was about €2,534,000 for native-born residents and €1,945,000 for foreign-born residents.

4.3.2. Changes in net wealth from 2018 to 2021

For both cross-border commuters and employed residents, the median value of household net wealth increased in nominal terms between 2018 and 2021 (Figure 11). The increase in median net wealth was highest for commuters from Germany (€27,000 or +38%). This partly reflected higher values of real assets (Figure 11). For commuters from France, the 18% increase in median net wealth was not statistically significant.

Figure 11: Median value of household net wealth, % changes 2018-2021
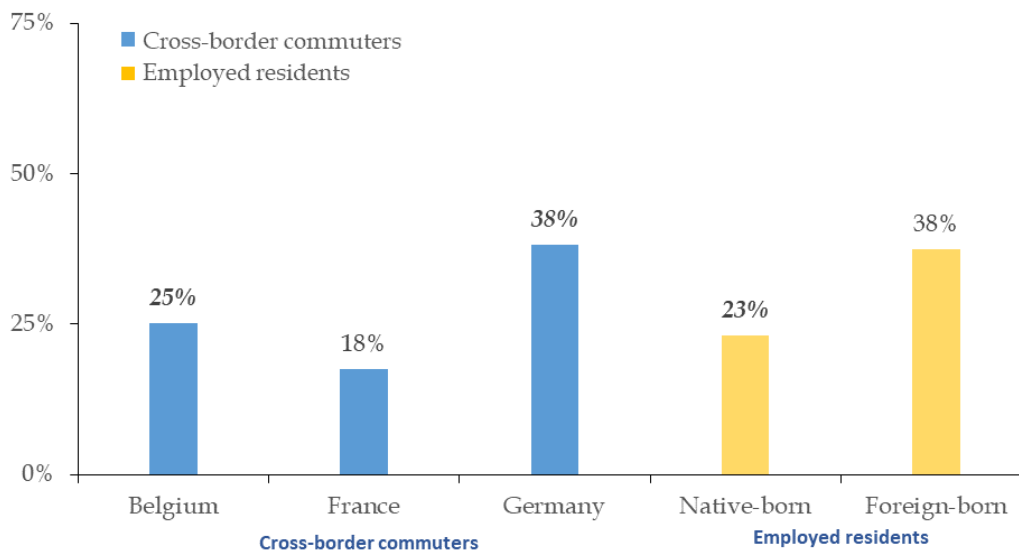
Source: Own calculations based on XB-HFCS and LU-HFCS, waves 2018 and 2021; data are multiply imputed and weighted.
Note: Bold and Italic font denotes that the median difference between 2018 and 2021 is statistically significant from 0 at the 5% level of significance.

Between 2018 and 2021, changes in net wealth are also observed by other household characteristics (figures not shown). For example, cross-border commuters over 35 years of age saw their net wealth increase, with those between 45 and 54 experiencing the highest gains, with of the median value rising €98,100 (+36%). Instead, young (<35 years old) cross-border commuters saw their net wealth decline. In general, household net wealth increased for all levels of education, but most strongly for cross-border commuters with low educational attainment. By housing tenure, the median value of net wealth rose by €143,000 among outright homeowners (+47%), while it rose by €99,000 for homeowners with a mortgage and by €30,000 for renters.

5. Income

XB-HFCS survey respondents were asked about the total gross income their household earned in Luxembourg or elsewhere in 2020. This includes employee and self-employment income, income from financial assets, income from real estate property and income from pensions (public or private). Figure 12 reports the median household gross income by country of residence, comparing that of cross-border commuters working in Luxembourg to the national level among all employed households by country of residence.

Figure 12: Median gross income in 2020
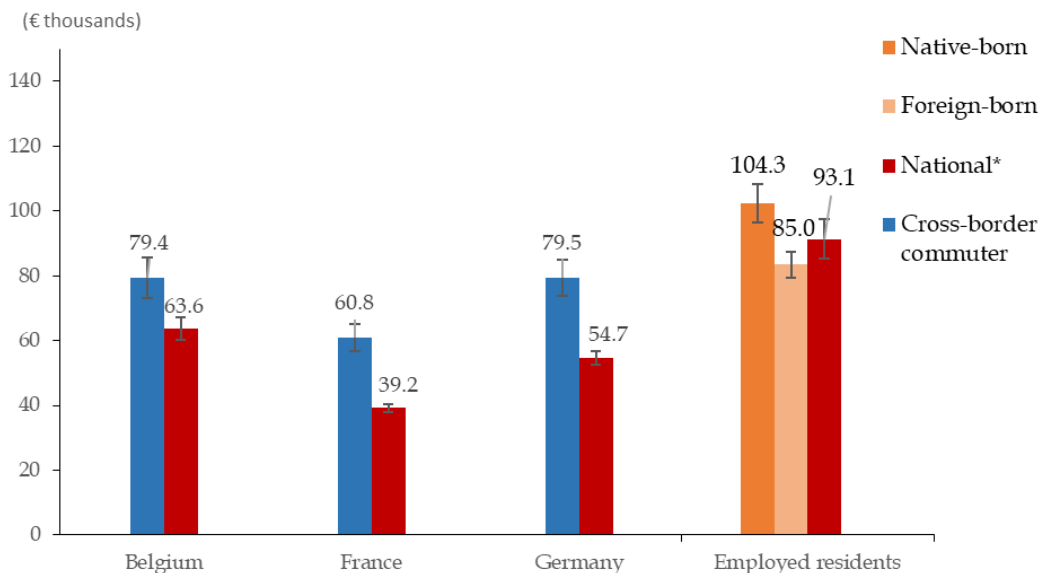
Source: Own calculations based on XB-HFCS, LU-HFCS, wave 2020, and Eurosystem HFCS, wave IV; data are multiply imputed and weighted.
*Note: Error bars indicate the 95% confidence interval. * National medians are calculated only across households who were employed in the 2021 Eurosystem HFCS data for Luxembourg, Belgium, France or Germany. . The reference year for income is 2019 in Belgium and 2020 for France, Germany and the LU- and XB-HFCS. Figures for Belgium are NOT inflation adjusted to 2020 levels using the national consumer price index.*

The median value of household gross income was lowest among commuters from France, who reported nearly €19,000 less than commuters from Germany or Belgium. The median was substantially higher among employed residents who were native-born. This income gap can be partly explained by the sector of employment, as native-born residents are more likely to work in the "public sector" (Figure 1) where salaries are usually higher. Compared to households working and living in Belgium, Germany or France, the median level of gross income among cross-border commuters working in Luxembourg was significantly higher, especially for commuters from France (55% higher than for those employed in France) and commuters from Germany (45% higher than for those employed in Germany)

The XB-HFCS also asked households to estimate their net income after taxes and transfers (Figure 13). The ratio of net to gross income was higher for commuters from Germany and France (75%) than for employed residents in Luxembourg (70%).

Figure 13: Median net income in 2020
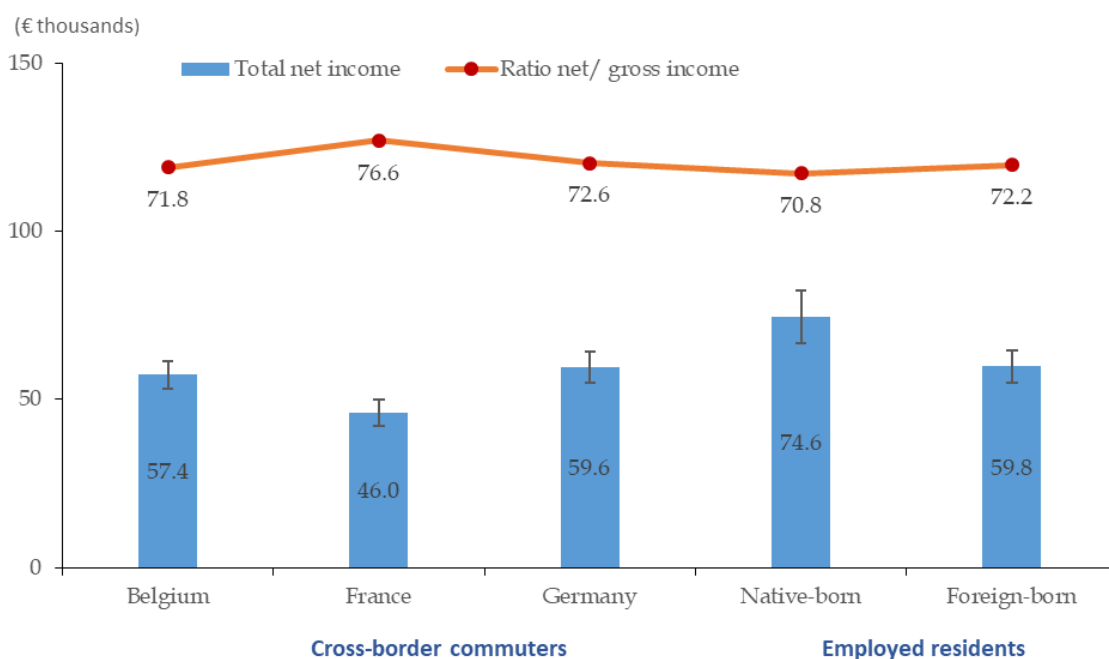
Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Error bars indicate the 95% confidence interval.

Figure 14 reports the median level of household gross income for different gross income quintiles. In the bottom quintile, the median value of gross income was comparable across groups. However, the gap between cross-border commuters and employed residents widens as we move to higher quintiles of the gross income distribution. For both native-born and

foreign-born employed residents, the median gross income in the top quintile is substantially larger than for cross-border commuters from Belgium, France or Germany.

The figure also shows the changes in median gross income between 2017 and 2020 for different quintiles. Households in the top quintiles experienced the greatest increase in their gross income. In the lowest two income quintiles, commuters from France saw their gross income decline. There was also a slight decline for employed residents who were native-born. Among the employed residents who were foreign-born, the median value of gross income increased in most quintiles, with a 30% increase (nearly €52,000) in the top quintile. Among the employed residents who were native-born, gross income rose substantially in quintiles 4 and 5, but remained rather stable in quintiles 1-3.

**Figure 14: Median gross income in 2020 - 2017, by gross income quintile**
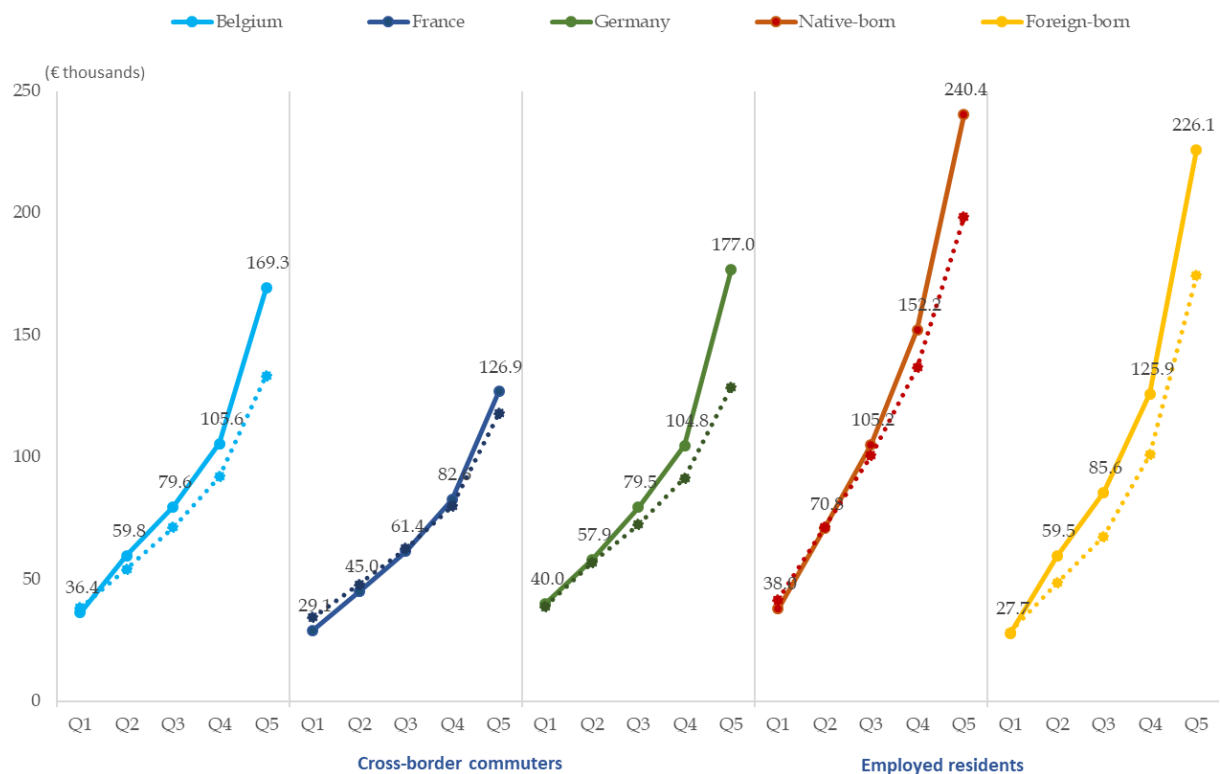
Source: Own calculations based on XB-HFCS and LU-HFCS, waves 2018 and 2021; data are multiply imputed and weighted.
Note: Dashed lines refers to the median gross income in 2017.

Age and education had an important positive impact on household gross income (Table 8). Overall, cross-border commuters aged 55 years or older earned around €21,000 more than those aged 35 years or younger. For employed residents this difference was €41,000. In every age category, the median level of household gross income was significantly lower among

cross-border commuters than among employed residents. This income gap increases as we move to higher age categories. Among employed residents, gross income increases at each of the four age groups, while for cross-border commuters it peaks among those between 45 and 54 years of age.

The median level of gross income among cross-border commuters with a high level of education was €20,000 higher than among those with a low level of education. This difference was even greater among employed resident households. Differences in gross income between cross-border commuters and employed residents were statistically significant at middle and high levels of education.

Table 8: Median gross income in 2020, by household characteristic

Characteristic	Cross-border commuters	Employed residents	
(€ thousands)			
Age Group			
Younger than 35	54.5	74.0	*
	(2.7)	(5.7)	
35-44	72.4	90.6	*
	(2.6)	(5.7)	
45-54	79.8	103.2	*
	(3.9)	(7.1)	
55 or older	75.4	115.0	*
	(5.1)	(9.2)	
Level of Education			
High	78.7	109.2	*
	(2.3)	(4.6)	
Middle	60.5	88.0	*
	(2.6)	(4.8)	
Low	58.4	60.3	
	(5.8)	(8.6)	
Housing Status			
Owner-outright	77.2	97.3	*
	(2.3)	(6.1)	
Owner with mortgage	80.8	120.8	*
	(3.0)	(5.6)	
Renter or other	48.6	70.7	*
	(2.4)	(5.1)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
*Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. * indicates that values in the two columns are significantly different at the 5% level of significance.*

Table 8 also shows that household gross income varies by housing tenure. In general, renters earned less than homeowners. The difference between outright owners and renters was €29,000 among cross-border commuters and €26,000 among employed residents. Differences between cross-border commuters and employed residents were statistically significant in all housing tenure categories.

Between 2017 and 2020, gross income increased for all groups employed in Luxembourg regardless of their country of residence. The largest increase was among commuters from Belgium (12%), followed by commuters from Germany (10%) and commuters from France (nearly unchanged). Among employed residents, gross income increased moderately (4%) among the native-born, but nearly 25% among the foreign-born.

6. COVID-19 effects on income, consumption and saving

The outbreak of the COVID-19 pandemic led to a series of government measures designed to contain its spread, such as social distancing, sanitary restrictions, travel restrictions and border controls and closures (e.g. Haist & Novotný, 2023). These affected the daily lives of cross-border commuters. For many, household income was affected by containment polices affecting business practices in specific sectors but also border closures.

Luxembourg's borders remained partially open during the pandemic, allowing entry for work or other reasons, including medical appointments or treatment.[12] Cross-border commuters from France, Belgium and Germany were allowed to work from home without changes to their tax status, thanks to "temporary" agreements that the Luxembourg government negotiated with each of these neighbouring countries from 2020 until mid-2022. However, while the policies to limit the spread of COVID-19 had only a limited effect on cross-border mobility into Luxembourg, they had a more serious effect on the Luxembourg economy. Real gross domestic product contracted by 6.3% in the second quarter of 2020. Unemployment increased rapidly from 5.5% in February 2020 to 7.0% in June 2020. Throughout 2020, total hours worked declined by 4.0%, plunging in sectors such as "accommodation and food service activities" (-31%) and manufacturing (-9%) that employed an important number of cross-border commuters (Figure 1).

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[12] Germany temporarily implemented border controls for those entering from Luxembourg and France.

How did COVID-19 affect cross-border commuters, and did the impact differ compared to resident employees? During the Great Recession of 2008-2009, employment growth of cross-border commuters was more adversely affected than that of employed residents, due to their over-representation in sectors that were more sensitive to cyclical fluctuations and exposed to international competition (BCL, 2012). Fromentin and Tadjeddine (2020) suggest that cross-border commuters are more vulnerable to shocks in equity markets. Also, during the COVID-19 pandemic, employment growth slowed more among cross-border commuters and foreign-born residents than among native-born residents, again reflecting the sectoral composition of employment (BCL, 2021).

To explore the impact of COVID-19 on household finances (income, consumption and savings), we gathered information from cross-border commuters through specific questions added to the 2021 HFCS questionnaire. We also examine data from households who work in their country of residence, whether Luxembourg, Belgium or France, and compare their situations with those of the cross-border commuters. Unfortunately, data for Germany were not available.

6.1.   Changes in income

Most cross-border commuter households reported that their income was stable during the COVID-19 pandemic, as was also the case for most employed residents in Luxembourg.[13] This reflects the success of various support policies introduced by the government, such as the extension of short-time work arrangements to all sectors during the COVID-19 pandemic.

Nevertheless, some households employed in Luxembourg reported changes to their gross income. On average, 15% of cross-border commuters reported that their gross income declined in 2020 due to the COVID-19 pandemic. Among employed residents, this share was 13%. This difference reflects the different employment shares in those sectors that were especially hard hit by the sanitary restrictions, such as "Wholesale and retail trade" and "Accommodation and food service activities". These sectors employ about 17% of cross-border commuters, but only 14% of employed residents.

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[13]   See Mathä, Montes-Viñas, Pulina and Ziegelmeyer (2023).

Using HFCS data for employed households who were resident in Belgium, France or Germany, we can compare cross-border commuters to their counterparts in their country of residence. Cross-border commuters were less likely to report income declines (see Figure 15).[14] For example, nearly 20% of employed households in Belgium reported a decline in their gross income, 8-percentage points more than among cross-border commuters from Belgium. Similarly, a much larger share of employed households in France reported a decline in gross income (35%) than among cross-border commuters from France (17%). Our findings are in line with those by Christl et al. (2023), who find by using microsimulation and nowcasting methods a steeper decline in disposable income of households in Belgium and France compared to those in Luxembourg. Overall, cross-border commuters appear to have benefited more from Luxembourg's government generous support policies.

Figure 15: Reported changes in gross income 2019-2020
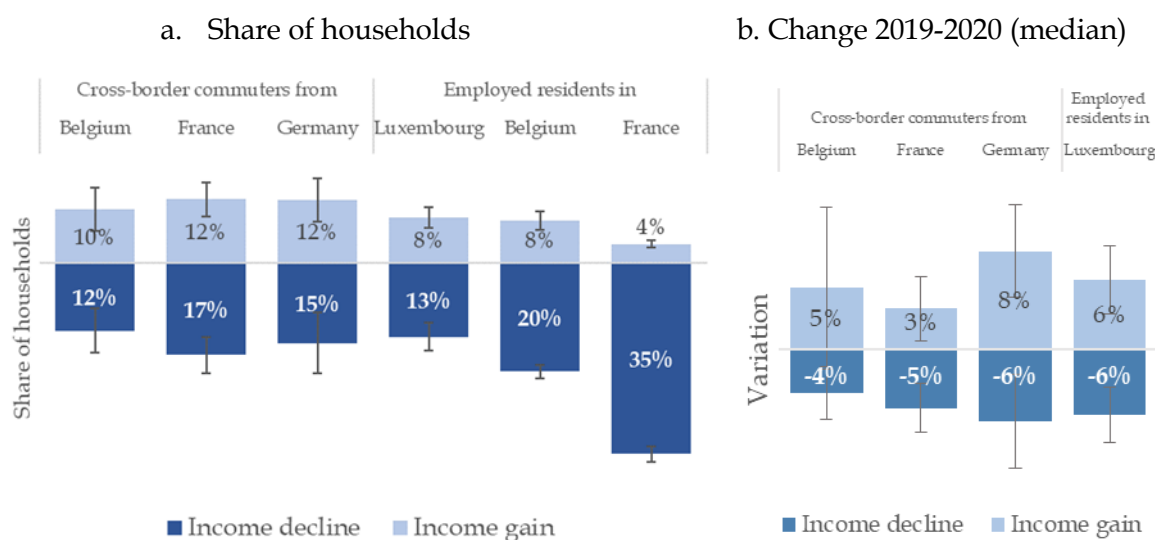
a. Share of households   b. Change 2019-2020 (median)

Source: Own calculations based on LU-HFCS, XB-HFCS and Eurosystem wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany (both panels), and for Belgium and France (Panel b only). Note: The questions were: i) "As a result of the crisis, how did the total gross income (including any subsidies the household received) of your household change in 2020 compared to a similar period in 2019?"; ii) "Could you please provide us with your best estimates of the increase (decrease) of your total gross income in absolute terms in 2020 compared to a similar period in 2019?" Error bars denote 95% confidence interval.

On average, more than 11% of cross-border commuter households reported income gains, with little difference by country of residence. Once again, results in Figure 15 indicate that

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14   Corresponding data for Germany are not available.

cross-border commuters enjoyed favourable conditions compared to those living and working in Belgium (only 8% reported income gains) or France (only 4%).

Regarding the size of changes in gross income, Panel b in Figure 15 shows that among those reporting a decline, the median extent was similar across groups. The largest declines were reported by commuters from Germany (6%), followed by employed residents (5%), commuters from France (5%) and commuters from Belgium (4%). Among those reporting income gains, the largest increase was reported by commuters from Germany (8%), followed by employed residents (6%), commuters from Belgium (5%) and commuters from France (3%).

Thus, COVID-19 appears to have had a similar impact across groups, also when comparing cross-border commuters and employed residents. This is not surprising as all groups are employed in the same labour market. However, there are important differences by job types and skill levels. **Error! Reference source not found.** shows that blue-collar employees are m ore prone to report a decline in their income, while very few of them reported income gains. Among low-skilled blue-collar[15] workers, 28% of cross-border commuters reported a decline in income, compared to 13% among employed residents. Among high-skilled blue-collar workers, only 17% of commuters reported a decline, a share that was 35% among employed residents in Luxembourg. White-collar employees were more likely to report income gains, but 15% of them reported income losses.

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[15] Low-skilled blue-collar occupations include workers in manufacturing, such as machine operators, heavy truck and bus drivers, cleaning workers, agricultural, forestry and fishery workers, or mining and construction workers.

Figure 16: Share of households reporting changes in gross income 2019-2020, by job type and skill level
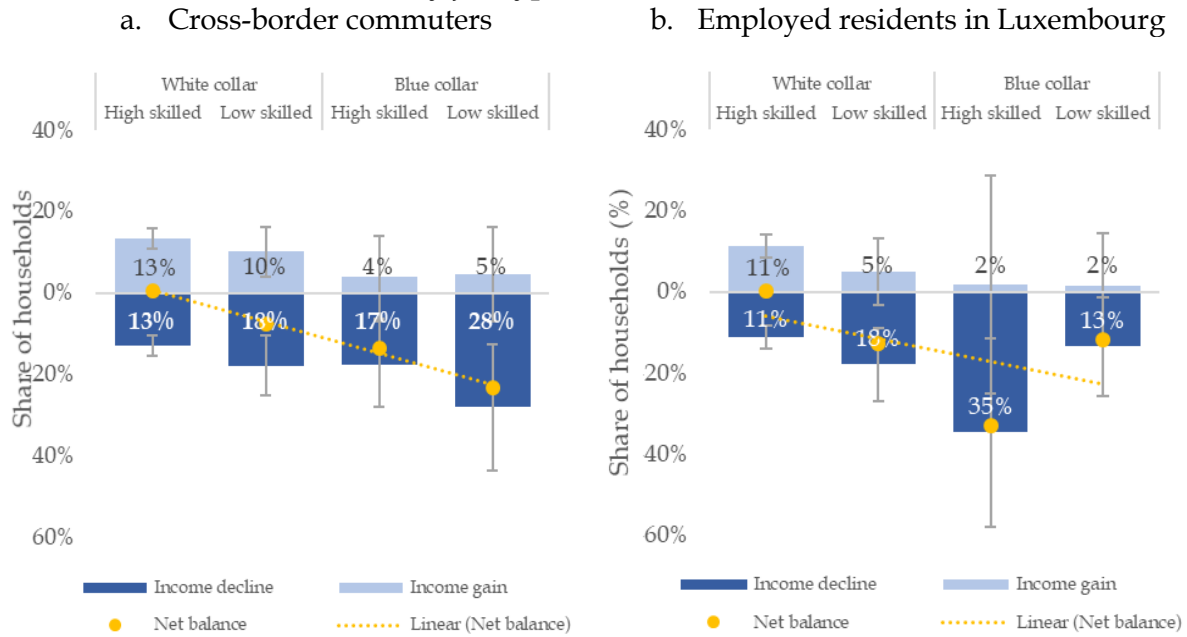
a. Cross-border commuters

b. Employed residents in Luxembourg

Source: Own calculations based on LU-HFCS and XB-HFCS wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany, Belgium and France.
Note: Error bars denote 95% confidence interval.

6.2. Changes in consumption expenditure

The share of households that reported declines in consumption expenditure of goods and services[16] was similar for cross-border commuters and employed residents. This is also the case when comparing cross-border commuters from France with employed households living and working in France. However, those living and working in Belgium adjusted their consumption substantially more than cross-border commuters from Belgium. According to Figure 18, the share of households that reported consumption declines during COVID-19 was much higher among those living and working in Belgium (40%) than among cross-border commuters from Belgium working in Luxembourg (24%). In France, this share was 29% both for cross-border commuters working in Luxembourg and for those living and working in France. For comparison, 31% of cross-border commuters from Germany reported a decline in consumption (data unavailable for those living and working in Germany).

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[16]   The questionnaire only asked about expenditures on non-durable goods and services, not on durables goods or housing.

Figure 17, Panel b shows the median size of the change in consumption expenditure. The greatest decline was reported by commuters from Germany (15%), followed by commuters from Belgium (13%), employed residents (13%) and commuters from France (9%).

Figure 17: Reported changes in consumption expenditure, 2019-2020
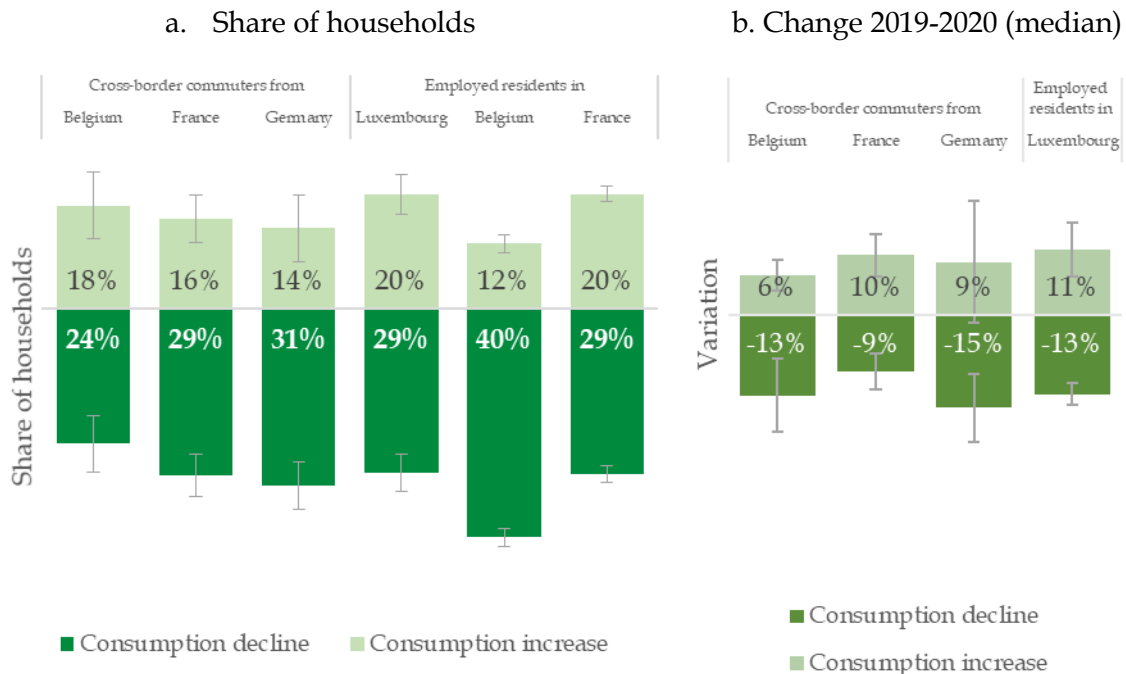
a. Share of households   b. Change 2019-2020 (median)

Source: Own calculations based on LU-HFCS, XB-HFCS and Eurosystem wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany (both panels), and for Belgium and France (Panel b only). Note: The questions were: "How did your consumption of goods and services change in 2020 compared to a similar period in 2019?" The net balance is the difference between the share reporting gains and the share reporting losses; "Could you please provide us with your best estimates of the increase (decrease) of your consumption of goods and services in absolute terms in 2020 compared to a similar period in 2019?" Error bars denote 95% confidence interval.

A larger share of households reported consumption declines than consumption gains during COVID-19. Among cross-border commuters, those most likely to report consumption gains were commuters from Belgium (18%), followed by those from France (16%) and those from Germany (14%). Among employed residents, consumption gains were reported by 20% in Luxembourg, 20% in France, and 12% in Belgium. Among commuters who reported an increase in consumption during COVID-19, those from France estimated it at almost 10%, followed by those from Germany (9%) and those from Belgium (6%) (see Figure 19, Panel b).

Next, we compare changes in consumption by skill level and job type. In general, consumption declines were more common among white-collar employees than among blue-collar employees (see Figure 18). Among employed residents, the share reporting consumption gains was 10 percentage points higher among blue-collar employees than

among white-collar employees. For cross-border commuters, the share reporting consumption gains was similar across job types with the same skill levels.

Figure 18: Share of households reporting changes in consumption 2019-2020, by job type and skill level
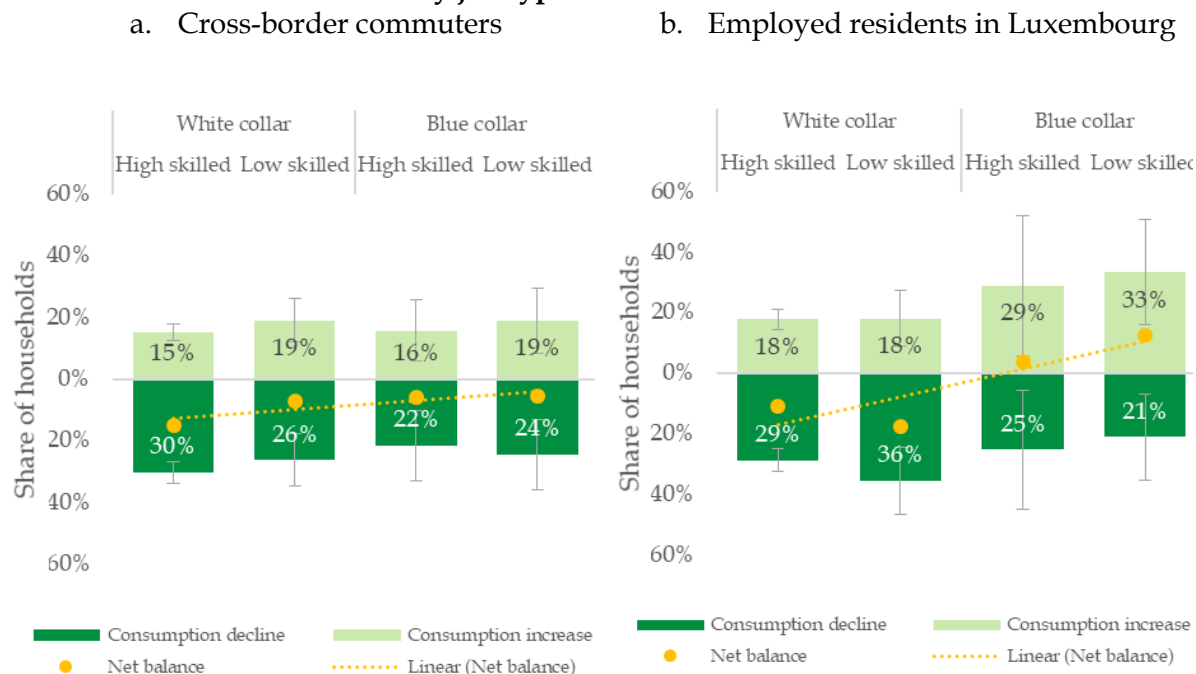
a. Cross-border commuters   b. Employed residents in Luxembourg

Source: Own calculations based on LU-HFCS and XB-HFCS wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany, Belgium and France.
Note: Error bars denote 95% confidence interval.

6.3. Savings and financial wealth

Employed residents in Luxembourg were more likely to report that their savings increased than declined (see Figure 19, panel a). This is also true for the value of their financial assets, including deposit and savings accounts, which may have been affected by involuntary saving/dissaving during the lockdown periods (e.g., Dossche and Zlatanos, 2020; Mathä, Montes-Viñas, Pulina and Ziegelmeyer, 2023). The share of households reporting an increase in savings during the pandemic was 40% among commuters from Germany, 27% for those from Belgium, 34% for those from France and 31% for employed residents in Luxembourg. The share of households reporting a decline in savings was 22% for commuters from Belgium, 18% for those from Germany and 17% for those from France. The share was comparable among employed residents in Luxembourg (23%).

Figure 19: Share of households reporting changes to their savings and financial assets 2019-2020.

a. Savings   b. Financial assets

Source: Own calculations based on LU-HFCS and XB-HFCS wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany, Belgium and France.
*Note: The questions were: "As a result of the crisis, how did the value of your household's <u>financial assets</u> (that is, deposits, stocks, mutual funds and other financial assets) change in 2020?"; "Has your household saving changed as a result of the COVID-19 crisis in 2020 compared to a similar period in 2019?" Error bars denote 95% confidence interval.*

Next, we examine how reported changes in income and consumption relate to reported changes in savings during the COVID-19 pandemic. We also calculate the percentage change of the averaged propensity to consume between 2019 and 2020, which denotes the proportion of income allocated to purchasing goods and services (see Figure 20).

In general, households that reported a decline in savings also reported a decline in gross income and an increase in consumption, raising their propensity to consume. Commuters from Germany reported the largest decline in income (almost -3.7%), followed by those from France (-2.4%) and from Belgium (-2.3%). On average, the reported increase in consumption expenditure was modest. Commuters from France reported the largest increase (2.8%), followed by those from Belgium (2.7%) and from Germany (1.4%). The increase in the propensity to consume ranges from 0.3 to 0.5 percentage points. Employed residents reported the lowest income decline (-1%) and the highest consumption increase (+4%).

Households reporting an increase in savings also reported a decline in their propensity to consume, resulting from lower consumption and higher income. Commuters from Belgium reported the largest increase in income (2.5%) while employed residents reported it was nearly

unchanged (0.2%). Households reporting higher savings also considerably reduced their consumption expenditure. For example, commuters from Germany reported an 8% decline in consumption, despite a 2% increase in income. Similarly, employed residents reported a 7% decline in consumption, followed by cross-border commuters from Belgium (-6%) and France (-5%).

Figure 20: Reported change in consumption and income 2019-2020, by changes in savings.
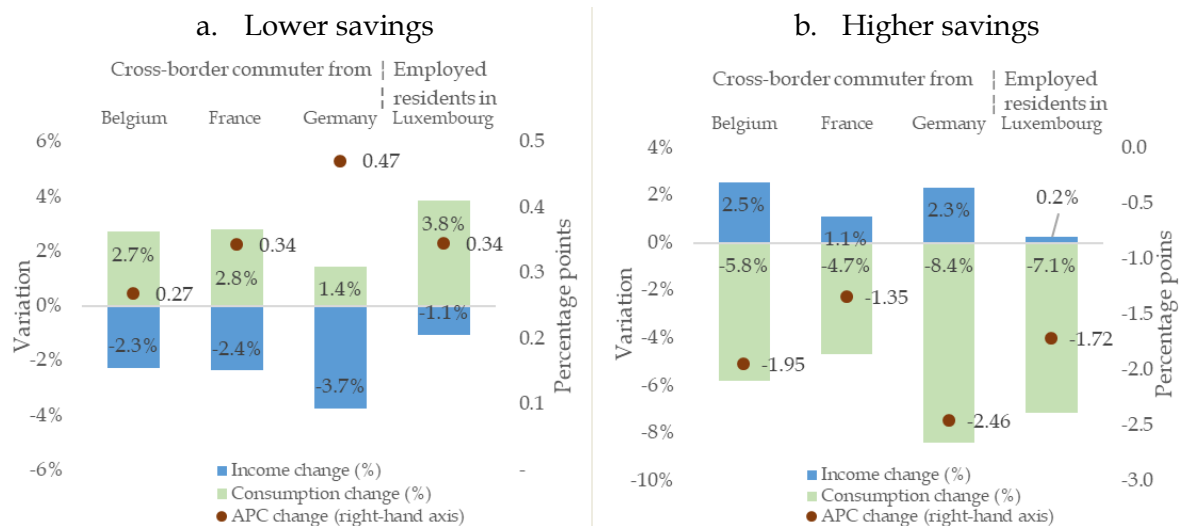
Source: Own calculations based on LU-HFCS and XB-HFCS wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany, Belgium and France.
Note: APC stands for "average propensity to consume".

Looking at responses based on skill level, higher savings were more often reported by white collar workers than by blue-collar workers (see Figure 21). This is connected to previous findings that income declines were more often reported by blue-collar workers, presumably because they could not work from home, unlike white-collar workers.

Figure 21: Share of households reporting changes to savings 2019-2020, by skill type

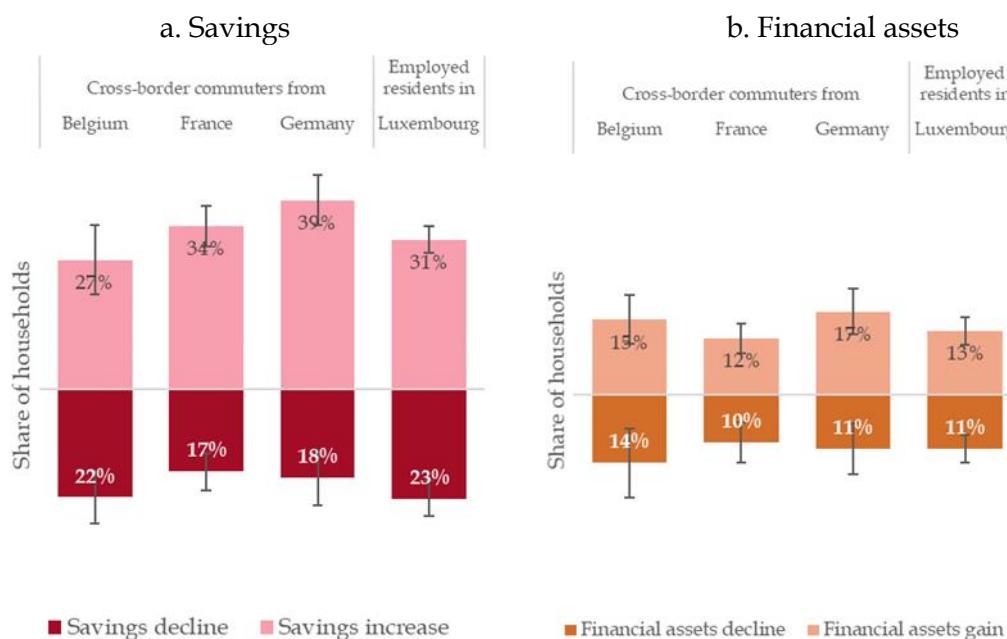a. Cross-border commuters   b. Employed residents
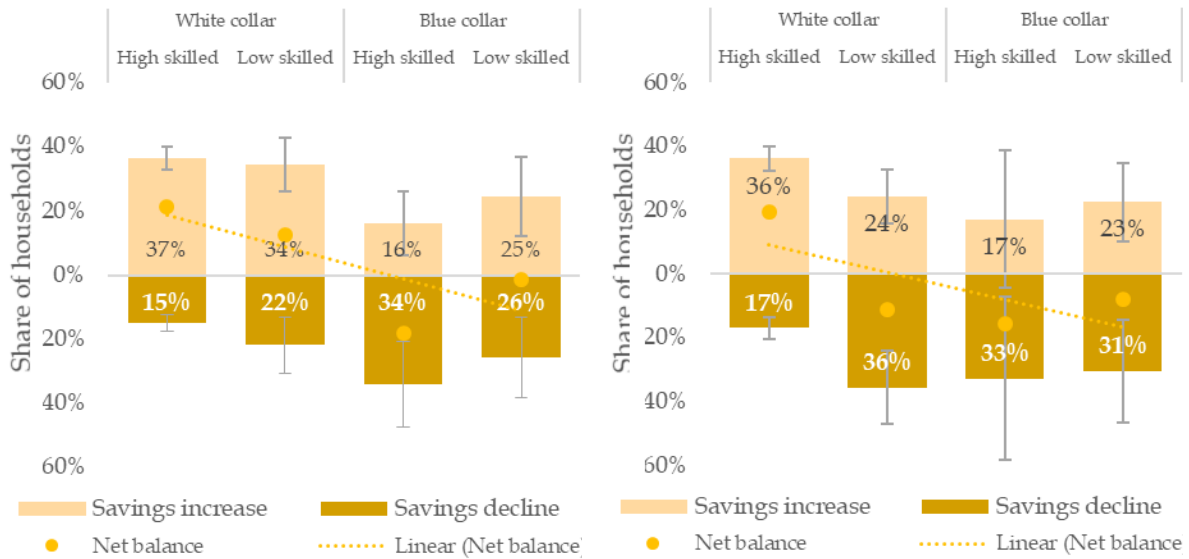
Source: Own calculations based on LU-HFCS and XB-HFCS wave 2021; data are multiply imputed and weighted. Data on employed residents is unavailable for Germany, Belgium and France.
Note: Error bars denote 95% confidence interval.

6.4.   Summary

Overall, cross-border commuters and resident employees were similarly affected by COVID-19 pandemic. However, certain employment sectors suffered more than others. Differences in job types and skills across sectors can explain many of the differences among workers. Compared to households living and working in their country of residence, cross-border commuter households generally fared better during COVID-19.

The impact on consumption among households living and working in Luxembourg was not significantly different from that among cross-border commuters, except for those from Germany, who reported the largest decline in consumption and the largest increase in income. As a result, commuters from Germany reported higher savings than employed residents in Luxembourg.

7. Methodology and data treatment

This section describes methodological aspects of the XB-HFCS. In approximately chronological order, it covers sampling procedure, questionnaire development, fieldwork, response behaviour, etc. Finally, it briefly describes data treatment (the editing and imputation procedure), which is identical to that reported for the LU-HFCS (see Mathä, Montes-Viñas, Pulina and Ziegelmeyer, 2023).

7.1. Sampling

The target population of the XB-HFCS is the entire population of households residing in the "Grande Région"[17] surrounding Luxembourg that include at least one household member commuting to work in Luxembourg.[18] We use an indirect sampling technique since there are no registers with information on household composition for cross-border commuters. For the fourth wave of XB-HFCS (wave 2021), the sampling frame includes all cross-border commuters listed in the Luxembourg social security register (*Inspection Générale de la Sécurité Sociale*, IGSS) on 31 December 2020. Therefore, the target unit (the household) may include more than one sampling unit since a given household may include more than one cross-border commuter. The weighting procedure described below accounts for the fact that the link between the sampling and the target population can be either one-to-one or many-to-one.

A stratified random sampling procedure was used to draw 80% of the gross sample of 20,000 households (Table 9). This initial sampling frame of 197,206 administrative households was divided into 12 strata based on the combination of three auxiliary variables: country of residence, gender and individual monthly gross income, i.e. employment and self-employment income. The remaining 20% of the gross sample was obtained by randomly oversampling cross-border commuters with gross employment income above the 9th decile. Oversampling the wealthy is required to obtain reliable estimates for certain asset categories

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[17] This includes the French departments Moselle, Meurthe-et-Moselle, Meuse and Vosges; the Belgian provinces of Luxembourg, Namur, Liège, Hainaut and Brabant Wallon; the German states of Rheinland-Pfalz and Saarland.

[18] A household is defined as people living together and sharing their financial resources and/or expenses.

that are only held by wealthier households. The objective was to collect information from at least 1,600 respondents from the gross sample of 20,000 cross-border commuters.

Table 9: Sample design by stratum and distribution of the reference population in 2021

					Allocation		Sample Size	
Country	Gender	Income	Stratum ID	Population (households)	1	2	Gross N	Net n
Germany	Male	≤ 9th decile	1	26,254	2,130		2,130	154
		> 9th decile	2	4,262	346	864	1,210	229
	Female	≤ 9th decile	3	14,503	1,177		1,177	88
		> 9th decile	4	1,327	108	269	377	46
Belgium	Male	≤ 9th decile	5	27,102	2,199		2,199	153
		> 9th decile	6	4,632	376	940	1,316	236
	Female	≤ 9th decile	7	14,748	1,197		1,197	115
		> 9th decile	8	1,524	124	309	433	53
France	Male	≤ 9th decile	9	57,837	4,692		4,692	327
		> 9th decile	10	5,558	450	1,128	1,578	253
	Female	≤ 9th decile	11	37,041	3,005		3,005	228
		> 9th decile	12	2,418	196	490	686	78
				197,206	**16,000**	**4,000**	**20,000**	**1,960**

Source: Bienvenue et al. (2023).

7.2.   Survey mode and questionnaire

The fourth wave of the XB-HFCS (wave 2021) was conducted as a computer-assisted web interview (CAWI), as was also the case for previous waves in 2018 or 2014. The questionnaire is structured in ten sections that correspond closely to those in the LU-HFCS:

Section 1: Socio-demographic characteristics of the cross-border commuter worker
Section 2: Professional characteristics of the cross-border commuter worker
Section 3: Real assets and their financing
Section 4: Other liabilities
Section 5: Private businesses and financial assets
Section 6: Pensions and insurance policies
Section 7: Income
Section 8: Social Inclusion Income (REVIS) - only for Luxembourg residents
Section 9: Consumption
Section 10: COVID-19 Module

The online questionnaire was available in two languages: French and German. Households in Belgium and France received a cover letter in French, and households in Germany received

one in German. The online program allowed respondents to switch between English, French and German while answering the questionnaire.

The online survey required an answer to each question, but options such as "Don't know" or "No answer" were always available. When questions asked for a value in euros, then selecting the options "Don't know" and "No answer" triggered an optional question asking to provide upper and lower bounds or to select one of several ranges shown on the screen.

The 2021 questionnaire is identical to the LU-HFCS questionnaire for residents. As a result, there were almost 50 questions more than in 2018 (roughly 29% increase). The average time to complete the questionnaire rose from 34 minutes in 2014 to 53 minutes in 2018 to 54 minutes in 2021. The median time was 45 minutes in 2021.

7.3. Fieldwork

Data collection started at the end of October 2021 and ended at the end of December 2021. BCL and LISER announced the beginning of fieldwork with a joint press release on 29th October 2021. Cover letters and leaflets were mailed to cross-border commuters in the gross sample. The leaflet described the survey, presented some relevant results from the previous wave in 2018, explained the use of the data and the confidentiality aspects, stressed the importance of participation and provided contact details at the BCL and LISER (email, phone helpline and postal address).

Households were asked to connect to a secure website, to provide the person-specific login name and password provided in the letter, and then to follow the instructions online. A prize was used to encourage households to participate. Participating households were given the chance to enter a lottery with a €1,000 first prize. The total value of prizes was €20,000 in shopping vouchers issued by the government-backed initiative "Letzshop". The voucher prizes were distributed as follows 1x € 1,000, 3 x€500, 10x €250, 50x €100 and 200x €50.

The survey went online on 29th October 2021. The closing date was 30th December 2021. Figure 22 presents the number of completed surveys over the fieldwork period. In total, 19,917 eligible households were contacted by post in 2021 compared to 14,611 in 2018. The sample excluded cross-border commuters who were identified as "out of scope" because they had moved outside the "Grande Région" or because their addresses from the IGSS register were invalid.

In mid-December 2021, a reminder was sent to contacted households who had not provided a response (acceptance or refusal).

Figure 22: Evolution of responses completed per day, 2021 wave
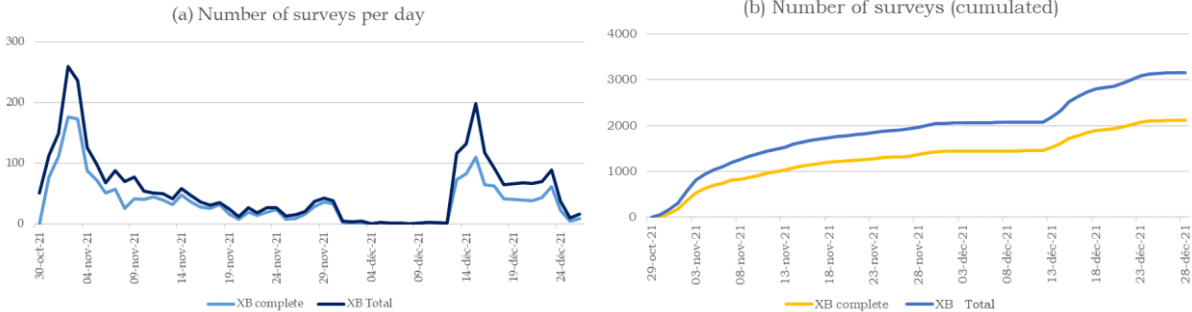
In total, 2,111 online questionnaires were completed or reached the end of section 7 in the 2021 XB-HFCS wave, covering the most important questions. We exclude 1040 households that started answering the questionnaire but did not reach the end of section 7, either because they paused the survey and did not return to it or because they reached the timeout.

Finally, we exclude households from the net sample if their missing rate is 25% or more (bracket values do not count as missing) and if its combined index value (measuring whether answers were provided to important questions on wealth, income and demographics) is below 75%.[19]

As a result, the final net sample contains 1,960 households, slightly less than in waves 2014 and 2018. The adjusted response rate, defined as the final net sample size divided by the gross sample size adjusted for "out of scope" cross-border commuters (units that were not eligible), shrank from 16.7% in 2018 to 9.8% in 2021.

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[19] The index has a maximum value of 100%, meaning answers were provided to all questions we consider important. Questions are weighted according to our perception of their importance.

Table 10: Sample and fieldwork

	Wave 2014	Wave 2018	Wave 2021
Sample frame	Luxembourg Social Security Register		
Sampling unit	Cross-border commuting fiscal households		
Target population	Households in the "Grande Région" with at least one member commuting to work in Luxembourg		
	… 31 December 2013	… 31 December 2017	… 31 December 2021
Gross sample	15,000 XB commuter households	15,000 XB commuter households	20,000 XB commuter households
	10.9% of target population	8.9% of target population	10.1% of target population
Oversampling of wealthy	Yes: 20%	Yes: 20%	Yes: 20%
Eligible units	14,769 households	14,611 households	19,206 households
Net sample	2,414 households (planned 1,500)	2,440 households (planned 1,500)	1960 households (planned 1,600)
Number of strata	60 (country, gender, income)	12 (country, gender, income)	12 (country, gender, income)
Interview mode	CAWI	CAWI	CAWI
Field phase	06/2014 – 10/2014	09/2018 - 11/2018	10/2021 - 12/2021
Adjusted response rate	16.3%	16.7%	9.8%

Source: Own calculations based on XB-HFCS, waves 2014, 2018 and 2021; Bienvenue et al. (2018, 2020, 2023).
Note: Eligible units exclude households who no longer lived in the "Grand-Région" when letters were sent out. The number of strata was reduced from 60 in 2014 to 12 in 2018 and 2021 because the weighting process aggregated ten different income classes (in 2014) into only two.

7.4. Data treatment

This section discusses the data treatment, which includes analysis of unit non-response, editing, imputation and weighting.

7.4.1. Unit non-response

Response rates[20] varied considerably by group (Table 4). Also, it was much lower in 2021 than in 2018. The lowest response rate was around 7% in the strata for male cross-border commuters from Belgium, France and Germany with a monthly gross income below the 9th decile. The highest response rate was 18.9% for male cross-border commuters from Germany with a gross

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[20] The response rate is defined as the final net sample size divided by the gross sample size, without adjustment for non-eligible units.

income above the 9th decile. By country, cross-border commuters from Belgium had the highest response rate (10.8%) and those from France had the lowest (8.9%). In addition, the response rates in 2021 were slightly higher for male cross-border commuters (10.3%) than for females (8.8%). The response rate for commuters with income above the 9th decile was 8.6 percentage points higher than that for commuters with income below the 9th decile.

Table 11: Response rate by group and wave

Wave 2014		Wave 2018		Wave 2021	
Criteria	Response rate (%)	Criteria	Response rate (%)	Criteria	Response rate (%)
Country of residence		**Country of residence**		**Country of residence**	
France	14.2	France	15.0	France	8.9
Belgium	17.6	Belgium	19.2	Belgium	10.8
Germany	18.3	Germany	15.7	Germany	10.6
Gender		**Gender**		**Gender**	
Male	17.2	Male	17.3	Male	10.3
Female	14.0	Female	14.3	Female	8.8
Income		**Income**		**Income**	
less than 1000	10.5	≤ 9th decile	13.3	≤ 9th decile	7.4
1000 - 1999	9.2	> 9th decile	23.9	> 9th decile	16.0
2000 - 2499	10.1				
2500 - 2999	10.7				
3000 - 3499	13.6				
3500 - 3999	15.4				
4000 - 4999	17.3				
5000 - 6450	21.7				
6451 -7999	21.6				
8000 and more	24.6				

Source: own calculations based on Bienvenue et al. (2018, 2020, 2023).

7.4.2. Editing and imputation

As the questionnaires of the Cross-border HFCS and the resident LU-HFCS were identical, we chose to use identical editing and imputation procedures. The editing procedure is explained in greater detail in Girshina, Mathä and Ziegelmeyer (2017) and was carried out in cooperation with LISER. Modifications were made to 1,769 responses or 0.5% of all applicable cases.[21] For

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[21]   An even higher number of unreasonable answers were set to missing. The exact number cannot be determined due to a simplification of flags following ECB guidelines. In addition, answers provided in brackets were checked for reasonability and modified or set to missing if needed.

more information about the imputation procedure, see Mathä, Montes-Viñas, Pulina and Ziegelmeyer (2023).

7.4.3. Weighting

The weighting process is a three-step approach taking into account (i.) the construction of design weights based on the selection probability, (ii.) the non-contact /non-response adjustment and (iii.) the adjustment of weights to match external data sources. The 2021 XB-HFCS is weighted to be representative for a population of 205,510 cross-border commuters in 171,347 households with a total of 416,323 household members.

All statistics reported above, such as personal characteristics of cross-border commuters, income, wealth and consumption, are weighted at the household level. For some estimates, this report also provides standard errors or confidence intervals to indicate the precision of the estimates. These are calculated using 1,000 replicate weights and depend, among other factors, on the sampling variability of the outcome and the sample size.

8. Summary of main findings

The Cross-border Household Finance and Consumption Survey (XB-HFCS) is conducted jointly by the Banque centrale du Luxembourg (BCL) and the Luxembourg Institute of Socio-Economic Research (LISER) to improve our understanding of the financial and economic situation of households living in regions surrounding Luxembourg with at least one member crossing the border to commute to work in Luxembourg. This report provides a detailed account of the main results of the 2021 wave. It includes a comparison with the corresponding population in Luxembourg – including employed and self-employed residents – and comparisons to the previous wave in 2018.

Overall, the characteristics of respondents barely changed compared 2018. Most cross-border commuters are male, and reside in their country of birth. While, the share of couples decreased, it still represents the majority of households. The share of highly educated respondents is high and continues to grow. Most cross-border commuters were employed with a permanent contract. The share of homeowners among cross-border commuters (69%) is above the national average of households working and living in the commuters' country of residence, but this share declined for cross-border commuters since 2018. The car was main means of transport

to work, and the average commute time was 50 minutes, a slight decline since 2018, but still about twice as long as for Luxembourg residents (26 minutes).

The median value of household net wealth was €291,000 in 2021, a substantial increase in nominal terms since 2018. Commuters from Germany reported the largest increase in household net wealth. Cross-border commuters reported significantly higher net wealth than employed households in their respective country of residence (Belgium, France or Germany). This mainly reflects a larger share of homeowners among cross-border commuters, as well as higher home values. Net wealth of cross-border commuters increased in most quintiles of the net wealth distribution. As in 2018, differences become more pronounced from the third quintile onwards. In 2021, the richest 20% of employed residents held about 2.8 times more net wealth than the richest 20% of cross-border commuters. In 2018 the ratio stood at 2.5.

Real assets (real estate, vehicles and valuables) dominated the asset side of household balance sheets (regardless of country of residence), while mortgage debt dominated the liability side. In 2021, commuters from Belgium reported the highest median value of real assets, while those from Germany reported the largest increase in HMR and OREP values since 2018. This result is consistent with real estate price increases observed in Rheinland-Pfalz (40%) and Saarland (36%) based on the IWH European Real Estate Database (Koetter & Felix, 2022).

The share of cross-border commuters with an outstanding HMR mortgage increased for those from Belgium and France and decreased for those from Germany. The median amount of outstanding mortgage debt increased for most cross-border commuters, regardless of their country of residence. However, the increase was lower for those residing in France than for those residing in Germany or Belgium. Among those residing in Germany, the amount of mortgage debt increased despite fewer households having an HMR mortgage.

The median value of household gross income grew between 2017 and 2020 for all cross-border commuters. However, it increased most for commuters from Belgium (11%), followed by those from Germany (10%) and those from France (less than 1%).

9. References

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Dossche, M. and S. Zlatanos (2020): COVID-19 and the increase in household savings: precautionary or forced? *ECB Economic Bulletin*, *5*.

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STATEC (2022): Note de conjoncture: La situation économique au Luxembourg – Évolution récente et perspectives, No. 1, (Luxembourg: STATEC).

STATEC (2023): L'impact des frontaliers dans la balance de paiements en 2021, *Regards*, 09/2023, (Luxembourg: STATEC).

10. Appendix I: Publications using LU-HFCS or XB-HFCS data

Please consult http://hfcs.bcl.lu for a complete list of BCL publications using the dataset of the HFCS for Luxembourg residents and cross-border workers.

Latest publications:

Giordana, G. and M. Ziegelmeyer (2024): Using household-level data to guide borrower-based macro-prudential policy, *Empirical Economics*, *66*: 785-827. [Version: BCL WP 161].

Giordana, G. and M. Ziegelmeyer (2023): Household indebtedness and their vulnerability to rising interest rates, BCL WP 173, Banque centrale du Luxembourg.

Girshina, A., T.Y. Mathä and M. Ziegelmeyer (2024): Peer effects in stock market participation: Evidence from immigration, *Review of Income and Wealth*, forthcoming. [Version: BCL WP 137].

Lindner, P., T.Y. Mathä, G. Pulina and M. Ziegelmeyer (2023): Borrowing constraints, own labour and homeownership, *Applied Economics*, *55*(42): 4931-4945. [Version: BCL WP 148].

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Mathä, T.Y., A. Montes-Viñas, G. Pulina and M. Ziegelmeyer (2023): COVID-19 effects on income, consumption and savings: Evidence from the Luxembourg Household Finance and Consumption Survey, *BCL Bulletin*, 2023/2: Analyse 3, 50-59.

Mathä, T.Y., G. Pulina and M. Ziegelmeyer (2023): Do private wealth transfers help with homeownership? A first assessment for Luxembourg, BCL WP 174, Banque centrale du Luxembourg.

Naidin, M.D., S.R. Waltl and M. Ziegelmeyer (2024): Objective housing sales and rent prices in representative household surveys: Implications for wealth, inequality, housing market and affordability statistics, *The Review of Income and Wealth*, forthcoming. [Version: BCL WP 160].

Pulina, G. (2023): Consumer debt in Luxembourg and the euro area: Evidence from the Household Finance and Consumption Survey, BCL WP 175, Banque centrale du Luxembourg, summarised in, *SUERF Policy Brief*, 2024, *828*.

Pulina, G. (2024): Credit card debt puzzle: Evidence from the euro area, *Economics Letters*, *236*, 111586.

11. Appendix II: Additional tables

Table A1: Net wealth, median
by household characteristic

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
All households	345.0	250.3	326.6	291.3	812.8	346.0	561.2
	(31.5)	(17.6)	(34.1)	(14.7)	(43.7)	(47.0)	(34.7)
Age Group							
Younger than 35	136.3	123.5	146.0	126.2	388.6	111.0	229.6
	(46.6)	(26.7)	(53.4)	(20.4)	(101.1)	(45.3)	(62.0)
35-44	336.2	284.5	323.7	300.6	768.4	309.9	513.2
	(47.5)	(28.0)	(74.5)	(23.4)	(73.3)	(87.9)	(56.6)
45-54	442.6	343.8	388.4	374.0	922.0	545.5	784.2
	(49.8)	(37.1)	(76.1)	(25.0)	(91.8)	(137.3)	(83.2)
55 or older	564.8	317.8	474.9	403.5	1,325.1	693.9	1,003.5
	(113.9)	(55.2)	(65.6)	(29.0)	(154.1)	(153.0)	(125.6)
Level of Education							
High	378.8	290.9	379.6	320.5	932.0	368.4	567.8
	(37.6)	(23.5)	(59.2)	(18.1)	(98.2)	(50.8)	(58.2)
Middle	314.5	193.4	309.6	246.5	793.7	385.9	662.5
	(52.8)	(29.7)	(40.3)	(17.3)	(60.0)	(125.8)	(55.4)
Low	334.8	287.7	344.2	328.4	603.1	262.0	370.6
	(84.4)	(116.5)	(82.1)	(53.3)	(149.4)	(106.0)	(92.4)
Housing Status							
Owner-outright	535.5	389.1	551.4	450.5	1,153.1	986.6	1,092.8
	(34.2)	(14.5)	(45.4)	(17.4)	(83.0)	(143.5)	(83.8)
Owner with mortgage	374.9	259.6	358.9	320.8	830.4	622.0	755.5
	(29.2)	(25.3)	(37.1)	(22.7)	(61.7)	(88.4)	(55.1)
Renter or other	47.7	38.8	85.8	51.1	52.5	50.4	51.1
	(14.0)	(7.7)	(20.1)	(7.3)	(18.9)	(10.1)	(8.4)
Net wealth quintiles							
Bottom 20%	25.9	16.7	26.3	19.8	61.1	5.3	15.0
	(9.1)	(2.5)	(6.8)	(1.9)	(18.9)	(2.6)	(3.9)
Next 20%	182.7	107.8	161.7	132.5	473.0	78.3	178.8
	(15.4)	(9.2)	(27.0)	(6.4)	(44.0)	(8.9)	(24.3)
Middle 20%	346.5	250.7	327.7	291.5	816.6	348.1	566.5
	(20.3)	(10.8)	(21.8)	(9.0)	(19.5)	(25.2)	(21.3)
Next 20%	522.9	394.4	527.4	447.0	1,313.3	769.1	1,030.2
	(22.5)	(10.2)	(22.3)	(11.1)	(49.4)	(62.9)	(38.0)
Top 20%	1,065.4	673.6	1,051.2	834.3	2,534.4	1,945.3	2,246.5
	(106.6)	(30.7)	(82.4)	(37.7)	(247.8)	(172.8)	(160.6)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A2: Net wealth, mean
by household characteristic

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
All households	490.6	341.8	476.2	408.7	1209.9	865.0	561.2
	(32.4)	(28.5)	(33.9)	(18.6)	(75.0)	(128.5)	(34.7)
Age Group							
Younger than 35	254.9	295.6	244.0	276.4	577.2	359.6	445.8
	(44.1)	(80.3)	(43.0)	(47.9)	(86.8)	(56.9)	(47.9)
35-44	424.2	326.2	351.8	352.5	1,096.8	521.9	733.6
	(49.8)	(22.0)	(39.4)	(18.2)	(142.0)	(49.7)	(63.4)
45-54	647.5	402.8	597.0	518.7	1,372.6	1,108.5	1,216.8
	(69.5)	(23.8)	(76.2)	(30.5)	(154.1)	(193.3)	(131.8)
55 or older	805.9	402.0	748.4	620.0	1,782.5	1,914.1	1,848.1
	(93.7)	(41.5)	(96.1)	(45.5)	(189.8)	(709.7)	(363.1)
Level of Education							
High	555.0	405.7	560.0	472.8	1,461.9	1,068.6	1,198.3
	(47.3)	(45.0)	(58.1)	(29.4)	(128.4)	(205.4)	(143.6)
Middle	372.0	239.5	439.7	317.3	1,100.8	715.5	948.1
	(38.9)	(17.7)	(54.1)	(18.9)	(111.7)	(124.3)	(85.1)
Low	357.1	281.4	357.2	342.1	801.7	420.1	543.4
	(58.5)	(68.5)	(51.3)	(35.7)	(109.3)	(104.5)	(76.1)
Housing Status							
Owner-outright	745.7	534.6	773.0	628.3	1,564.4	1,779.0	1,654.8
	(56.8)	(61.5)	(62.8)	(40.5)	(130.7)	(559.5)	(242.1)
Owner with mortgage	507.5	330.5	532.6	435.9	1,242.2	1,231.5	1,236.8
	(53.9)	(22.0)	(69.1)	(26.4)	(122.2)	(170.7)	(103.9)
Renter or other	101.0	98.5	165.2	117.7	270.2	254.0	257.1
	(19.2)	(24.1)	(23.9)	(15.1)	(74.9)	(45.2)	(38.4)
Net wealth quintiles							
Bottom 20%	27.5	14.8	5.6	13.9	81.3	-13.9	4.2
	(6.8)	(3.1)	(11.4)	(2.9)	(16.5)	(7.7)	(6.0)
Next 20%	181.8	111.3	166.9	135.1	480.2	85.9	190.6
	(9.2)	(5.0)	(11.3)	(3.6)	(27.3)	(6.2)	(11.0)
Middle 20%	353.4	252.5	330.8	291.6	831.3	351.7	564.4
	(9.3)	(7.1)	(14.6)	(4.5)	(16.2)	(18.8)	(18.0)
Next 20%	535.7	397.4	537.0	454.9	1,332.8	782.2	1,063.4
	(16.4)	(8.3)	(13.6)	(6.6)	(31.8)	(34.5)	(22.0)
Top 20%	1,378.7	939.4	1,350.0	1,151.1	3,351.6	3,128.8	3,315.6
	(101.1)	(120.6)	(97.3)	(79.5)	(229.7)	(588.8)	(387.9)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A3: Gross income, median
by household characteristic

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
All households	79.4	60.8	79.5	70.0	104.3	85.0	93.1
	(3.2)	(2.2)	(2.9)	(1.3)	(6.1)	(4.2)	(3.2)
Age Group							
Younger than 35	71.2	48.1	65.9	54.5	82.0	71.5	74.0
	(7.0)	(3.4)	(10.1)	(2.7)	(9.6)	(4.5)	(5.7)
35-44	78.9	68.2	76.7	72.4	95.5	88.2	90.6
	(5.5)	(3.5)	(8.4)	(2.6)	(8.0)	(8.5)	(5.7)
45-54	83.6	73.8	90.7	79.8	131.8	90.9	103.2
	(10.3)	(3.7)	(5.3)	(3.9)	(13.0)	(9.3)	(7.1)
55 or older	96.5	60.4	81.2	75.4	133.0	104.7	115.0
	(9.4)	(5.5)	(7.3)	(5.1)	(16.3)	(10.9)	(9.2)
Level of Education							
High	86.0	70.0	91.6	78.7	125.2	104.5	109.2
	(4.3)	(3.1)	(6.1)	(2.3)	(17.4)	(6.3)	(4.6)
Middle	68.1	54.3	77.5	60.5	101.6	69.6	88.0
	(5.4)	(3.2)	(5.5)	(2.6)	(8.7)	(7.3)	(4.8)
Low	45.8	49.6	62.0	58.4	63.6	60.4	60.3
	(19.5)	(14.1)	(8.2)	(5.8)	(17.1)	(10.6)	(8.6)
Housing Status							
Owner-outright	85.4	72.7	85.0	77.2	111.5	83.9	97.3
	(8.7)	(3.4)	(8.2)	(2.3)	(12.2)	(8.5)	(6.1)
Owner with mortgage	86.2	73.0	86.7	80.8	111.3	128.2	120.8
	(6.4)	(3.7)	(6.1)	(3.0)	(7.6)	(10.0)	(5.6)
Renter or other	59.2	42.5	66.3	48.6	77.0	69.0	70.7
	(7.9)	(2.1)	(6.7)	(2.4)	(12.7)	(5.9)	(5.1)
Income quintiles							
Bottom 20%	36.4	29.1	40.0	33.2	38.0	27.7	33.2
	(2.2)	(1.6)	(1.6)	(1.1)	(4.0)	(3.2)	(2.8)
Next 20%	59.8	45.0	57.9	51.7	70.8	59.5	65.4
	(1.9)	(0.7)	(2.2)	(1.2)	(2.6)	(2.3)	(1.8)
Middle 20%	79.6	61.4	79.5	70.1	105.2	85.6	94.0
	(1.7)	(1.3)	(1.1)	(0.7)	(4.7)	(2.8)	(1.6)
Next 20%	105.6	82.6	104.8	94.3	152.2	125.9	137.6
	(3.3)	(1.6)	(3.2)	(1.5)	(5.4)	(2.9)	(2.5)
Top 20%	169.3	126.9	177.0	147.0	240.4	226.1	233.7
	(7.3)	(2.5)	(7.5)	(2.8)	(12.1)	(13.8)	(6.1)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A4: Gross income, mean
by household characteristic

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
All households	93.0	71.9	97.6	83.0	131.2	112.6	120.3
	(3.2)	(1.7)	(4.0)	(1.4)	(5.4)	(4.2)	(3.3)
Age Group							
Younger than 35	78.9	57.8	72.1	65.1	93.1	90.8	91.7
	(5.8)	(2.9)	(5.7)	(2.5)	(9.6)	(6.4)	(5.6)
35-44	96.3	76.9	91.9	84.2	110.3	104.6	106.7
	(7.2)	(2.9)	(5.7)	(2.6)	(7.6)	(7.2)	(5.2)
45-54	97.5	85.5	114.1	96.3	150.1	121.9	133.4
	(5.7)	(3.6)	(7.8)	(3.0)	(9.7)	(9.3)	(7.1)
55 or older	108.2	71.0	112.1	94.5	171.9	146.4	159.2
	(9.5)	(4.8)	(12.5)	(5.7)	(16.0)	(14.5)	(11.1)
Level of Education							
High	101.8	79.5	116.0	91.9	161.2	134.4	143.3
	(4.1)	(2.2)	(6.2)	(2.0)	(10.9)	(5.6)	(5.1)
Middle	79.4	60.5	88.9	71.4	114.7	85.2	103.0
	(6.4)	(2.6)	(6.9)	(2.7)	(5.8)	(8.5)	(4.9)
Low	65.4	56.7	73.0	68.1	94.4	76.4	82.2
	(8.7)	(10.4)	(6.5)	(4.5)	(12.4)	(9.4)	(7.6)
Housing Status							
Owner-outright	101.4	81.8	108.9	91.3	138.8	118.5	130.2
	(6.0)	(2.8)	(7.5)	(2.6)	(8.8)	(11.5)	(6.8)
Owner with mortgage	102.5	85.0	113.4	97.5	137.7	152.6	145.2
	(5.5)	(3.5)	(9.2)	(3.3)	(9.4)	(8.5)	(6.4)
Renter or other	64.3	48.4	73.7	58.3	96.1	85.2	87.3
	(4.8)	(2.2)	(4.6)	(1.9)	(9.7)	(5.3)	(4.6)
Income quintiles							
Bottom 20%	35.4	26.7	37.3	30.3	35.8	28.8	31.8
	(1.8)	(1.1)	(1.7)	(0.9)	(2.3)	(1.8)	(1.2)
Next 20%	60.5	45.3	59.4	51.2	71.8	58.9	64.2
	(0.9)	(0.8)	(1.4)	(0.5)	(2.3)	(1.3)	(1.6)
Middle 20%	79.7	62.0	79.7	70.5	106.6	86.5	94.7
	(1.2)	(0.9)	(1.2)	(0.6)	(2.6)	(1.8)	(1.6)
Next 20%	106.5	84.6	106.7	95.4	155.1	128.0	139.4
	(2.2)	(0.9)	(2.0)	(0.9)	(3.0)	(1.8)	(1.7)
Top 20%	185.0	142.4	206.7	169.8	290.0	263.1	273.7
	(6.2)	(2.8)	(8.8)	(3.2)	(15.5)	(10.6)	(8.9)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A5: Real asset components, participation rate

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Total real assets	97.9	98.0	98.3	98.1	97.9	91.0	93.8
	(1.0)	(0.8)	(0.9)	(0.5)	(0.8)	(1.7)	(1.0)
HMR	76.2	68.0	63.8	68.8	83.4	51.0	64.3
	(2.9)	(2.2)	(3.2)	(1.5)	(2.1)	(2.6)	(1.8)
OREP	30.4	18.7	26.8	23.4	24.7	23.6	24.0
	(1.5)	(1.0)	(1.3)	(0.7)	(1.6)	(2.1)	(1.4)
Business wealth	7.4	5.1	3.8	5.3	8.2	9.4	8.9
	(1.0)	(0.8)	(0.9)	(0.5)	(0.8)	(1.7)	(1.0)
Vehicles	92.2	94.0	95.0	93.8	91.6	80.5	85.1
	(1.6)	(1.0)	(1.3)	(0.7)	(1.6)	(2.1)	(1.4)
Valuables	18.5	16.6	22.7	18.5	34.5	20.0	26.0
	(1.6)	(1.1)	(1.1)	(0.7)	(1.5)	(1.4)	(1.0)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A6: Real asset components, conditional median

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Total real assets	389.6	269.9	346.2	310.2	926.9	566.0	718.0
	(19.4)	(11.7)	(24.7)	(8.3)	(53.2)	(55.9)	(28.1)
HMR	379.4	300.0	390.0	332.0	850.0	798.0	820.3
	(19.6)	(7.8)	(19.9)	(11.9)	(33.8)	(33.0)	(28.5)
OREP	220.0	163.4	222.4	200.0	735.0	450.5	588.0
	(31.0)	(18.6)	(50.8)	(14.6)	(93.7)	(115.9)	(87.4)
Business wealth	38.4	62.8	250.0	73.9	212.0	228.0	220.0
	(110.7)	(126.5)	(169.7)	(69.6)	(237.3)	(124.9)	(84.3)
Vehicles	18.6	15.0	20.0	17.0	27.8	15.4	20.0
	(1.7)	(0.7)	(0.9)	(1.1)	(2.3)	(1.5)	(0.8)
Valuables	5.0	5.0	5.0	5.0	10.0	10.0	10.0
	(0.9)	(1.3)	(1.2)	(0.5)	(1.4)	(2.2)	(1.0)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted. Note: The standard errors reported in the parenthesis are calculated based on 1,000 replicate weights.

Table A7: Real asset components, conditional mean

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Total real assets	338.0	264.3	344.7	313.1	1017.6	691.8	835.3
	(14.8)	(8.6)	(22.6)	(7.9)	(54.4)	(80.5)	(49.8)
HMR	313.4	251.9	332.4	286.6	779.8	674.6	731.6
	(6.1)	(4.7)	(17.4)	(4.9)	(21.2)	(22.9)	(15.3)
OREP	303.3	226.4	293.7	266.3	962.6	543.5	712.7
	(26.8)	(23.9)	(40.8)	(15.8)	(97.8)	(72.4)	(59.7)
Business wealth	277.5	106.7	258.8	217.7	1048.7	1835.7	1495.9
	(78.8)	(83.9)	(169.7)	(66.7)	(341.2)	(896.8)	(527.0)
Vehicles	18.8	16.1	18.4	17.3	36.5	20.5	27.8
	(1.7)	(0.6)	(0.9)	(0.6)	(2.0)	(1.0)	(1.1)
Valuables	25.5	12.0	27.0	18.5	45.0	31.5	38.5
	(10.2)	(1.6)	(7.1)	(2.9)	(17.6)	(10.2)	(10.4)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted. Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A8: Financial assets components, participation rate

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Financial assets	99.7	96.8	99.9	98.2	98.1	98.0	98.0
	(0.3)	(1.0)	(0.1)	(0.5)	(0.9)	(0.9)	(0.6)
Deposits	99.0	92.2	97.8	95.1	92.5	91.2	91.7
	(0.5)	(1.3)	(1.0)	(0.7)	(1.7)	(1.5)	(1.1)
Bonds	2.0	0.3	0.5	0.8	0.4	1.3	1.0
	(0.9)	(0.2)	(0.3)	(0.2)	(0.2)	(0.4)	(0.3)
Risky assets	28.2	17.2	41.7	25.5	28.3	29.1	28.8
	(2.7)	(1.6)	(3.2)	(1.3)	(2.3)	(2.1)	(1.5)
Other financial investments	22.4	11.1	37.7	20.0	23.2	19.9	21.3
	(2.6)	(1.4)	(3.2)	(1.2)	(2.1)	(1.9)	(1.4)
Voluntary pension/life insurance	15.0	10.7	21.8	14.2	12.7	18.6	16.2
	(2.1)	(1.1)	(2.6)	(1.0)	(1.5)	(1.8)	(1.2)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A9: Financial assets components, conditional median

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Financial assets	55.5	36.7	78.0	49.4	74.6	54.3	63.3
	(7.0)	(3.6)	(10.5)	(2.8)	(7.1)	(6.3)	(4.3)
Deposits	27.7	18.2	21.3	20.3	36.8	21.8	28.2
	(3.8)	(1.7)	(2.6)	(1.1)	(5.1)	(3.0)	(2.7)
Bonds	81.8	10.0	50.0	29.0	23.5	13.0	13.0
	(54.8)	(9.2)	(84.7)	(28.3)	(28.8)	(27.6)	(22.1)
Risky assets	20.8	15.7	26.0	22.1	26.2	50.6	37.2
	(8.9)	(4.2)	(5.8)	(3.3)	(5.5)	(13.0)	(7.4)
Other financial investments	16.7	19.2	24.1	21.1	25.1	54.2	38.7
	(5.5)	(5.8)	(5.6)	(3.3)	(7.5)	(13.4)	(9.7)
Voluntary pension/life insurance	19.4	5.0	12.0	10.0	20.4	29.0	24.8
	(6.2)	(2.1)	(4.0)	(2.1)	(9.8)	(8.5)	(6.3)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A10: Financial asset components, conditional mean

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Financial assets	71.9	60.4	65.1	64.7	159.9	238.3	206.0
	(4.6)	(7.9)	(4.3)	(4.1)	(13.1)	(94.8)	(55.7)
Deposits	43.3	37.0	29.7	36.9	82.7	77.8	79.9
	(3.7)	(2.6)	(3.5)	(2.0)	(7.1)	(6.9)	(4.9)
Bonds	29.7	31.0	45.1	32.9	31.8	120.1	103.2
	(7.2)	(12.8)	(12.6)	(5.5)	(16.9)	(228.6)	(179.8)
Risky assets	47.7	43.5	39.5	43.4	119.2	294.9	223.9
	(6.6)	(6.3)	(7.0)	(3.4)	(20.6)	(199.7)	(118.4)
Other financial investments	45.4	52.5	38.8	45.9	95.5	239.2	174.6
	(6.9)	(8.5)	(8.6)	(4.3)	(17.9)	(139.0)	(76.2)
Voluntary pension/life insurance	22.9	19.4	25.3	22.3	91.2	205.8	168.8
	(4.4)	(3.4)	(4.5)	(2.2)	(19.9)	(166.7)	(111.9)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A11: Debt components, participation rate

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Total debt	69.7	55.8	56.5	59.2	67.1	61.3	63.7
	(2.9)	(2.3)	(3.4)	(1.7)	(2.5)	(2.5)	(1.8)
Mortgage debt	49.1	30.5	38.2	36.7	48.4	36.0	41.1
	(3.3)	(2.0)	(3.1)	(1.5)	(2.8)	(2.6)	(1.9)
HMR mortgage debt	42.6	26.0	32.0	31.3	43.2	30.5	35.7
	(3.2)	(1.8)	(2.9)	(1.4)	(2.7)	(2.5)	(1.8)
OREP mortgage debt	14.1	8.6	8.2	9.8	11.7	10.4	11.0
	(2.0)	(1.2)	(1.6)	(0.9)	(1.5)	(1.3)	(0.9)
Non-mortgage debt	41.4	37.4	29.3	36.4	39.0	40.6	39.9
	(3.2)	(2.3)	(3.0)	(1.6)	(2.6)	(2.5)	(1.8)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A12: Debt components, conditional median

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Total debt	93.2	58.4	88.0	73.6	205.3	134.0	165.0
	(17.6)	(10.5)	(17.9)	(8.0)	(29.5)	(27.9)	(24.4)
Mortgage debt	154.0	134.4	152.0	146.0	300.0	354.2	328.2
	(17.5)	(10.9)	(22.5)	(9.8)	(22.9)	(30.1)	(21.6)
HMR mortgage debt	142.0	122.0	140.6	132.0	284.0	350.0	318.2
	(18.3)	(11.8)	(20.5)	(9.6)	(26.3)	(25.9)	(21.9)
OREP mortgage debt	152.0	101.0	181.6	133.2	332.0	202.2	254.0
	(26.1)	(21.1)	(87.6)	(21.7)	(79.2)	(35.5)	(34.8)
Non-mortgage debt	14.4	12.0	15.6	13.1	20.5	14.3	17.3
	(2.3)	(1.3)	(4.1)	(1.0)	(2.7)	(3.2)	(1.7)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights

Table A13: Debt components, conditional mean

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
(In € thousands)							
Total debt	102.5	81.7	109.0	94.0	387.4	279.7	326.5
	(5.5)	(5.1)	(7.4)	(3.4)	(67.9)	(21.4)	(32.5)
Mortgage debt	132.2	134.1	137.0	134.3	493.7	428.2	460.0
	(6.2)	(6.6)	(8.7)	(4.1)	(92.0)	(26.4)	(46.8)
HMR mortgage debt	117.9	122.1	124.1	121.2	326.3	377.9	352.2
	(5.6)	(5.7)	(6.6)	(3.5)	(21.5)	(22.1)	(15.0)
OREP mortgage debt	143.1	116.8	135.8	128.5	841.0	373.3	579.1
	(21.5)	(13.8)	(23.3)	(11.4)	(337.0)	(48.8)	(153.3)
Non-mortgage debt	16.3	24.5	21.5	21.7	53.1	42.0	46.5
	(1.3)	(3.6)	(3.6)	(2.0)	(8.1)	(8.3)	(6.0)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A14: Total real assets, participation rate
by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	97.9	98.0	98.3	98.1	97.9	91.0	93.8
	(1.0)	(0.8)	(0.9)	(0.5)	(0.8)	(1.7)	(1.0)
Age Group							
Younger than 35	93.4	94.7	96.9	94.8	97.0	84.4	89.4
	(3.3)	(2.2)	(2.3)	(1.5)	(2.1)	(3.5)	(2.3)
35-44	99.7	99.6	100.0	99.7	96.5	89.0	91.8
	(0.3)	(0.4)		(0.3)	(2.1)	(4.0)	(2.6)
45-54	99.7	99.8	97.9	99.2	99.1	97.9	98.4
	(0.2)	(0.1)	(2.1)	(0.6)	(0.9)	(1.0)	(0.7)
55 or older	100.0	100.0	98.8	99.6	99.1	93.7	96.4
			(1.0)	(0.3)	(0.9)	(3.6)	(1.9)
Level of Education							
High	97.1	97.7	98.8	97.7	97.1	89.9	92.3
	(1.4)	(1.1)	(1.1)	(0.7)	(1.6)	(1.9)	(1.4)
Middle	99.7	98.6	100.0	99.2	99.0	90.4	95.6
		(1.1)		(0.6)	(0.7)	(4.6)	(1.9)
Low	100.0	100.0	93.7	96.2	96.7	94.9	95.5
			(4.0)	(2.4)	(2.4)	(4.4)	(3.0)
Housing Status							
Owner-outright	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owner with mortgage	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Renter or other	91.1	93.9	95.4	93.8	87.4	81.6	82.7
	(4.0)	(2.3)	(2.3)	(1.6)	(4.6)	(3.3)	(2.8)
Net wealth quintiles							
Bottom 20%	91.0	92.2	92.9	91.4	90.8	77.0	79.0
	(4.7)	(3.4)	(4.0)	(2.4)	(3.8)	(6.4)	(4.2)
Next 20%	98.6	98.0	98.9	99.1	98.8	81.1	91.2
	(1.5)	(1.9)	(1.0)	(0.7)	(1.2)	(5.0)	(3.0)
Middle 20%	99.9	100.0	100.0	100.0	100.0	97.2	99.5
						(2.5)	
Next 20%	100.0	100.0	100.0	100.0	100.0	99.8	99.9
Top 20%	100.0	100.0	100.0	100.0	100.0	99.9	100.0
Income quintiles							
Bottom 20%	91.2	91.2	93.0	92.4	93.4	72.4	81.6
	(4.7)	(3.6)	(4.1)	(2.4)	(3.8)	(6.9)	(4.3)
Next 20%	100.0	100.0	99.4	98.9	96.2	92.2	92.8
				(0.6)	(3.0)	(3.1)	(2.4)
Middle 20%	99.9	99.3	99.5	99.8	100.0	94.9	97.2
		(0.7)		(0.2)		(3.2)	
Next 20%	98.4	100.0	99.9	99.5	100.0	96.7	98.7
	(1.0)			(0.2)		(2.6)	
Top 20%	100.0	99.8	100.0	100.0	100.0	99.4	99.7
		(0.2)				(0.4)	

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing standard error is because the participation rate in the corresponding category is 100% in at least one implicate.

Table A15: Total real assets, conditional median by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	389.6	269.9	346.2	310.2	926.9	566.0	718.0
	(19.4)	(11.7)	(24.7)	(8.3)	(53.2)	(55.9)	(28.1)
Age Group							
Younger than 35	256.4	147.8	64.0	152.6	585.5	228.4	462.5
	(79.4)	(38.8)	(58.6)	(34.0)	(87.9)	(134.7)	(76.7)
35-44	424.6	318.5	359.0	349.2	1005.0	607.2	738.2
	(40.0)	(18.7)	(43.8)	(14.5)	(106.2)	(70.7)	(64.3)
45-54	412.6	319.6	392.8	357.4	1003.0	638.5	827.5
	(31.6)	(18.7)	(43.0)	(17.2)	(66.1)	(128.3)	(66.8)
55 or older	418.3	289.4	415.2	358.6	1177.0	740.4	972.7
	(78.2)	(42.4)	(40.1)	(20.7)	(165.2)	(155.1)	(108.4)
Level of Education							
High	442.0	305.6	362.1	335.6	1049.9	586.1	772.0
	(29.1)	(13.7)	(38.1)	(13.0)	(85.2)	(78.9)	(46.7)
Middle	337.2	198.8	344.0	260.6	911.0	550.5	773.5
	(33.2)	(25.3)	(37.2)	(20.4)	(69.6)	(64.2)	(55.1)
Low	312.8	181.1	290.0	282.0	663.9	534.3	592.4
	(55.0)	(128.7)	(62.0)	(43.3)	(119.2)	(172.8)	(96.7)
Housing Status							
Owner-outright	440.3	327.7	459.8	370.0	995.4	892.1	952.4
	(32.1)	(14.0)	(47.4)	(11.1)	(71.5)	(104.2)	(62.3)
Owner with mortgage	468.8	356.8	442.4	403.4	1077.3	908.8	987.0
	(29.2)	(10.2)	(26.7)	(12.2)	(68.1)	(47.2)	(44.6)
Renter or other	20.6	15.0	24.2	18.3	25.6	19.8	20.0
	(5.0)	(2.6)	(4.8)	(1.8)	(6.8)	(1.9)	(1.5)
Net wealth quintiles							
Bottom 20%	20.1	10.6	15.6	15.0	45.2	10.4	14.6
	(4.7)	(3.8)	(5.1)	(1.9)	(51.5)	(3.2)	(2.6)
Next 20%	252.4	126.9	139.6	156.7	589.9	25.3	235.4
	(25.1)	(35.1)	(41.6)	(13.3)	(38.3)	(6.4)	(82.3)
Middle 20%	376.8	259.0	322.2	300.2	880.0	437.8	645.3
	(24.9)	(12.6)	(27.0)	(11.8)	(49.7)	(62.6)	(25.9)
Next 20%	480.1	349.8	455.0	402.9	1282.4	782.3	1045.8
	(30.6)	(10.7)	(26.1)	(8.5)	(68.3)	(71.0)	(38.2)
Top 20%	795.7	583.0	814.8	702.9	2594.5	1831.5	2164.8
	(71.8)	(36.2)	(78.2)	(28.3)	(317.8)	(194.9)	(141.9)
Income quintiles							
Bottom 20%	187.5	30.2	36.0	34.2	502.5	20.8	365.8
	(87.3)	(22.1)	(77.5)	(21.4)	(90.4)	(98.5)	(144.8)
Next 20%	337.4	155.1	255.9	243.0	779.2	373.0	526.4
	(57.8)	(40.6)	(46.5)	(22.2)	(83.7)	(145.0)	(61.2)
Middle 20%	348.1	276.0	364.7	316.9	863.5	423.9	645.0
	(56.1)	(19.3)	(63.0)	(14.9)	(84.5)	(156.4)	(58.4)
Next 20%	474.7	326.0	363.3	373.4	1068.2	769.4	908.3
	(36.9)	(17.3)	(60.4)	(19.2)	(84.5)	(92.6)	(66.7)
Top 20%	697.9	469.2	535.4	534.4	1608.4	1264.5	1492.1
	(55.6)	(28.6)	(57.3)	(24.9)	(157.4)	(174.7)	(87.7)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A16: Total real assets, conditional mean
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	338.0	249.1	234.4	267.2	1341.0	882.3	1079.4
	(14.0)	(10.0)	(12.5)	(6.8)	(97.5)	(76.3)	(60.9)
Age Group							
Younger than 35	335.3	236.3	186.2	247.7	714.8	476.3	578.8
	(53.2)	(49.1)	(33.3)	(30.8)	(97.4)	(66.5)	(56.4)
35-44	515.1	340.2	394.4	388.5	1346.1	686.2	941.7
	(51.7)	(21.8)	(43.5)	(18.8)	(148.1)	(56.7)	(69.1)
45-54	534.3	397.2	528.0	468.7	1566.6	1123.5	1306.4
	(52.1)	(41.8)	(63.0)	(30.0)	(285.6)	(208.0)	(171.6)
55 or older	618.0	331.7	586.9	480.6	1689.2	1397.7	1547.9
	(70.3)	(34.8)	(73.2)	(33.6)	(191.9)	(226.5)	(152.9)
Level of Education							
High	544.6	377.2	469.5	439.1	1565.2	1035.4	1219.3
	(38.7)	(30.5)	(43.0)	(21.0)	(126.9)	(113.5)	(86.3)
Middle	350.7	225.6	394.8	294.2	1292.8	815.7	1113.9
	(27.9)	(15.1)	(49.9)	(17.0)	(180.4)	(120.0)	(124.7)
Low	313.5	199.6	335.8	300.8	820.8	521.9	619.7
	(59.5)	(57.3)	(47.4)	(33.4)	(107.1)	(111.6)	(78.1)
Housing Status							
Owner-outright	560.3	435.0	584.7	492.7	1428.3	1242.4	1349.8
	(35.5)	(39.4)	(45.5)	(26.2)	(122.7)	(137.9)	(91.4)
Owner with mortgage	619.5	430.3	584.8	527.7	1609.1	1514.1	1561.4
	(48.7)	(21.9)	(53.8)	(23.1)	(190.6)	(174.1)	(127.8)
Renter or other	99.7	62.0	109.4	82.0	305.7	215.3	233.6
	(22.6)	(19.6)	(30.9)	(14.1)	(102.3)	(50.3)	(44.8)
Net wealth quintiles							
Bottom 20%	100.0	27.9	71.0	52.7	224.3	79.5	90.0
	(34.0)	(7.9)	(19.7)	(9.9)	(52.8)	(30.6)	(24.2)
Next 20%	283.3	146.4	182.3	176.3	609.3	150.0	328.2
	(24.7)	(17.2)	(24.3)	(12.0)	(36.4)	(41.9)	(36.9)
Middle 20%	412.6	270.5	303.7	307.8	929.7	452.0	644.1
	(31.4)	(13.7)	(27.0)	(12.1)	(33.7)	(41.6)	(31.2)
Next 20%	519.8	361.8	490.6	424.5	1341.3	815.3	1082.2
	(31.7)	(13.0)	(37.7)	(14.6)	(51.5)	(37.5)	(31.4)
Top 20%	1082.9	769.3	1021.2	917.2	3516.8	2588.3	3065.2
	(89.3)	(77.3)	(83.9)	(51.5)	(383.5)	(257.6)	(225.4)
Income quintiles							
Bottom 20%	208.9	112.9	182.1	139.9	768.7	349.6	518.8
	(40.0)	(17.5)	(48.4)	(19.3)	(200.1)	(131.2)	(113.1)
Next 20%	364.4	192.1	288.1	250.5	871.8	465.4	583.3
	(52.8)	(42.4)	(50.1)	(36.0)	(103.8)	(99.5)	(62.2)
Middle 20%	380.3	274.8	387.0	328.8	982.5	507.7	732.9
	(90.3)	(30.0)	(60.4)	(20.6)	(90.2)	(76.3)	(62.8)
Next 20%	553.5	365.5	415.1	426.3	1323.7	872.3	1087.4
	(68.8)	(26.9)	(60.0)	(28.4)	(121.2)	(112.4)	(90.7)
Top 20%	899.4	639.5	806.1	751.1	2723.6	2033.2	2329.3
	(78.4)	(73.7)	(86.1)	(49.0)	(395.3)	(262.1)	(226.6)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A17: Homeownership rate, by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	76.2	68.0	63.8	68.8	83.4	51.0	64.3
	(2.9)	(2.2)	(3.2)	(1.5)	(2.1)	(2.6)	(1.8)
Age Group							
Younger than 35	49.7	48.9	30.0	44.9	66.7	37.1	48.8
	(6.4)	(4.4)	(6.8)	(3.1)	(5.8)	(4.9)	(3.8)
35-44	89.0	76.8	62.0	76.2	90.9	53.9	67.6
	(3.8)	(3.8)	(6.4)	(2.8)	(2.7)	(5.0)	(3.5)
45-54	84.0	79.7	77.6	80.3	88.4	59.8	71.5
	(3.9)	(3.8)	(5.3)	(2.5)	(3.2)	(4.9)	(3.3)
55 or older	91.4	75.0	90.4	83.8	85.6	52.2	69.0
	(5.5)	(6.3)	(3.8)	(3.5)	(3.9)	(6.0)	(3.9)
Level of Education							
High	74.4	69.2	55.7	68.1	82.9	46.8	58.7
	(3.4)	(2.8)	(4.3)	(1.9)	(3.2)	(2.8)	(2.2)
Middle	79.0	67.4	68.0	69.4	85.1	60.1	75.2
	(5.7)	(4.2)	(5.8)	(3.0)	(2.9)	(6.0)	(3.1)
Low	86.3	50.4	75.0	71.7	79.2	54.1	62.2
	(11.9)	(15.3)	(7.7)	(6.4)	(6.5)	(7.7)	(5.9)
Housing Status							
Owner-outright	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owner with mortgage	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Renter or other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net wealth quintiles							
Bottom 20%	20.6	10.7	14.2	13.7	34.1	4.6	6.8
	(7.7)	(4.0)	(5.5)	(3.1)	(6.7)	(2.2)	(2.4)
Next 20%	72.6	49.6	43.2	55.9	90.4	17.2	45.6
	(7.3)	(6.7)	(7.8)	(4.4)	(3.2)	(6.4)	(4.7)
Middle 20%	92.1	90.7	80.5	86.2	98.5	62.2	85.5
	(4.9)	(4.0)	(7.2)	(2.9)	(1.1)	(7.2)	(2.9)
Next 20%	98.1	95.7	87.6	93.1	98.0	83.9	93.0
	(1.9)	(2.3)	(5.8)	(2.1)	(1.8)	(4.0)	(1.8)
Top 20%	98.3	93.6	94.6	95.4	96.5	87.5	92.1
	(1.7)	(3.5)	(2.9)	(1.9)	(1.9)	(3.5)	(2.3)
Income quintiles							
Bottom 20%	52.2	39.3	40.5	40.8	72.8	25.3	43.3
	(8.8)	(5.9)	(9.6)	(4.5)	(6.2)	(6.4)	(5.5)
Next 20%	76.4	49.8	61.9	60.5	80.6	48.6	59.5
	(8.8)	(6.0)	(7.6)	(4.4)	(5.8)	(7.1)	(4.7)
Middle 20%	72.3	73.8	66.5	76.5	84.6	46.9	62.2
	(7.9)	(5.1)	(8.0)	(3.4)	(4.6)	(6.6)	(4.1)
Next 20%	85.4	85.3	66.3	78.0	86.2	60.8	74.3
	(4.9)	(4.2)	(8.0)	(3.1)	(4.4)	(5.5)	(3.7)
Top 20%	95.3	92.6	84.5	89.2	92.8	74.5	83.3
	(3.0)	(2.2)	(4.8)	(2.3)	(3.2)	(4.7)	(2.8)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing standard error is because the participation rate in the corresponding category is 100% in at least one implicate.

Table A18: Household main residence, conditional median
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	379.4	300.0	390.0	332.0	850.0	798.0	820.3
	(19.6)	(7.8)	(19.9)	(11.9)	(33.8)	(33.0)	(28.5)
Age Group							
Younger than 35	412.0	246.0	360.0	274.0	706.0	700.0	700.0
	(56.1)	(13.7)	(71.4)	(17.5)	(78.0)	(50.1)	(40.1)
35-44	388.0	324.0	404.0	348.0	868.0	784.0	800.0
	(36.6)	(16.6)	(35.7)	(12.0)	(101.9)	(58.9)	(34.8)
45-54	352.0	304.0	402.0	350.0	912.0	837.0	874.0
	(24.9)	(20.8)	(28.1)	(12.7)	(58.0)	(85.0)	(55.7)
55 or older	400.0	300.0	350.0	350.0	912.0	984.0	942.0
	(33.9)	(27.6)	(23.6)	(18.6)	(73.4)	(133.6)	(73.1)
Level of Education							
High	400.0	300.0	444.0	350.0	1000.0	890.0	936.0
	(19.5)	(11.0)	(32.8)	(6.5)	(55.7)	(42.6)	(47.0)
Middle	340.0	240.0	384.0	308.0	844.0	620.0	794.0
	(36.9)	(21.1)	(27.7)	(17.0)	(37.2)	(70.4)	(38.8)
Low	300.0	314.0	280.0	300.0	658.0	698.0	692.0
	(33.2)	(53.4)	(51.5)	(25.7)	(70.5)	(61.3)	(44.1)
Housing Status							
Owner-outright	350.0	276.0	358.0	302.0	840.3	752.0	804.0
	(24.9)	(14.3)	(28.8)	(13.1)	(54.3)	(93.6)	(38.9)
Owner with mortgage	400.0	304.0	400.0	350.0	850.0	810.0	830.0
	(19.0)	(17.5)	(20.4)	(7.6)	(46.0)	(38.2)	(32.8)
Renter or other							
Net wealth quintiles							
Bottom 20%	346.0	78.0	230.0	157.0	414.0	420.0	462.0
	(147.1)	(28.6)	(106.0)	(62.8)	(81.4)	(325.2)	(174.9)
Next 20%	260.0	194.0	288.0	208.0	584.0	538.0	518.0
	(21.0)	(30.2)	(58.5)	(20.1)	(42.4)	(119.6)	(42.2)
Middle 20%	344.0	240.0	314.0	284.0	798.0	526.0	626.0
	(23.6)	(8.6)	(30.9)	(16.2)	(27.3)	(48.3)	(31.6)
Next 20%	416.0	308.0	400.0	356.0	1040.0	766.5	910.0
	(25.6)	(17.5)	(29.1)	(13.1)	(95.2)	(72.1)	(35.0)
Top 20%	468.0	450.0	546.0	490.0	1500.0	1200.0	1400.0
	(38.7)	(12.5)	(29.1)	(21.5)	(92.5)	(42.4)	(69.7)
Income quintiles							
Bottom 20%	298.0	188.0	304.0	250.0	600.0	686.0	622.0
	(32.5)	(35.5)	(43.5)	(21.6)	(66.6)	(139.4)	(63.7)
Next 20%	332.0	244.0	292.0	272.0	754.0	604.0	638.0
	(66.3)	(20.5)	(48.8)	(16.8)	(59.5)	(61.3)	(51.9)
Middle 20%	344.0	284.0	426.0	300.0	812.0	680.0	752.0
	(31.3)	(24.0)	(51.4)	(12.3)	(66.0)	(90.2)	(56.3)
Next 20%	400.0	292.0	396.0	352.0	922.0	834.0	882.0
	(24.6)	(16.7)	(32.0)	(14.1)	(68.8)	(38.1)	(35.8)
Top 20%	450.0	400.0	444.0	442.0	1260.0	1150.0	1200.0
	(25.6)	(16.1)	(34.6)	(17.7)	(126.4)	(101.5)	(55.0)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing meidan value or standard error is due to no observations in the corresponding category.

Table A19: Household main residence, conditional mean by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	306.7	250.2	280.0	272.2	1005.0	892.6	952.6
	(6.4)	(4.5)	(7.5)	(3.5)	(48.6)	(31.9)	(29.3)
Age Group							
Younger than 35	394.9	263.8	376.6	312.2	779.4	716.2	750.4
	(30.8)	(17.1)	(48.0)	(16.3)	(63.8)	(54.1)	(43.0)
35-44	406.3	332.2	427.4	366.9	1072.8	851.4	961.2
	(20.5)	(12.4)	(20.8)	(10.0)	(137.7)	(47.3)	(71.8)
45-54	388.3	334.9	423.8	373.0	1017.2	922.5	970.5
	(20.2)	(13.0)	(21.6)	(10.3)	(47.8)	(69.1)	(41.0)
55 or older	393.6	312.8	397.6	363.2	1082.1	1110.1	1092.7
	(29.2)	(19.0)	(33.0)	(15.6)	(76.8)	(80.0)	(56.2)
Level of Education							
High	418.9	339.4	471.0	382.4	1072.9	1013.0	1040.9
	(14.3)	(8.5)	(18.6)	(7.3)	(51.0)	(45.5)	(34.4)
Middle	363.6	265.6	401.6	321.6	1012.0	755.0	930.7
	(19.6)	(13.5)	(21.9)	(11.0)	(95.7)	(58.4)	(68.1)
Low	279.4	333.7	324.4	315.9	766.5	741.6	751.9
	(28.3)	(31.2)	(30.0)	(19.5)	(72.7)	(61.9)	(46.6)
Housing Status							
Owner-outright	375.5	306.6	391.1	338.7	1015.2	865.1	951.8
	(16.3)	(9.6)	(20.2)	(8.2)	(89.7)	(53.7)	(56.0)
Owner with mortgage	412.2	326.2	432.8	379.5	995.7	911.1	953.1
	(16.3)	(12.2)	(20.5)	(9.6)	(45.9)	(41.5)	(30.5)
Renter or other							
Net wealth quintiles							
Bottom 20%	342.9	88.0	270.4	213.5	457.2	594.6	526.5
	(85.2)	(24.2)	(60.8)	(41.2)	(105.7)	(247.3)	(124.9)
Next 20%	292.7	219.1	274.8	238.8	600.3	485.6	527.3
	(20.6)	(15.6)	(32.5)	(11.4)	(31.2)	(89.0)	(47.0)
Middle 20%	356.3	251.8	329.3	294.6	845.6	568.8	644.2
	(15.1)	(7.7)	(20.3)	(7.7)	(32.9)	(29.6)	(21.2)
Next 20%	415.0	315.2	416.2	363.4	1088.4	783.7	949.5
	(20.9)	(11.3)	(17.7)	(8.1)	(54.5)	(42.2)	(30.2)
Top 20%	504.5	450.7	562.5	498.6	1662.5	1325.7	1509.5
	(24.9)	(14.5)	(22.7)	(12.3)	(154.4)	(55.6)	(77.4)
Income quintiles							
Bottom 20%	301.4	213.0	315.5	255.2	884.2	708.6	821.8
	(34.3)	(23.3)	(38.8)	(20.9)	(239.5)	(96.7)	(163.8)
Next 20%	352.4	261.6	311.6	292.2	807.2	624.7	712.2
	(24.9)	(16.3)	(28.9)	(12.4)	(57.0)	(65.4)	(43.8)
Middle 20%	378.2	284.0	440.3	324.2	888.3	764.1	808.7
	(41.7)	(14.2)	(35.6)	(13.1)	(63.9)	(71.3)	(39.7)
Next 20%	418.8	309.3	436.5	377.6	1015.9	857.6	958.3
	(22.0)	(12.6)	(30.1)	(12.4)	(54.4)	(45.2)	(50.5)
Top 20%	477.3	415.1	491.3	461.1	1373.8	1239.4	1290.9
	(23.0)	(14.4)	(21.6)	(10.2)	(73.3)	(74.5)	(52.1)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing mean value or standard error is due to no observations in the corresponding category.

Table A20: Other real estate property, participation rate by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	30.4	18.7	26.8	23.4	24.7	23.6	24.0
	(2.7)	(1.6)	(2.9)	(1.3)	(2.1)	(1.9)	(1.4)
Age Group							
Younger than 35	20.9	13.9	24.8	17.7	13.4	14.6	14.1
	(5.2)	(3.0)	(6.5)	(2.5)	(4.2)	(3.2)	(2.5)
35-44	29.9	21.4	23.0	23.5	20.3	18.6	19.2
	(5.4)	(3.0)	(5.0)	(2.3)	(3.3)	(3.2)	(2.4)
45-54	39.1	20.0	31.5	28.2	24.4	29.2	27.2
	(5.1)	(2.9)	(5.3)	(2.4)	(3.5)	(4.3)	(2.9)
55 or older	32.3	23.1	27.3	26.5	41.4	37.8	39.6
	(6.3)	(5.1)	(5.9)	(3.3)	(5.0)	(5.8)	(3.8)
Level of Education							
High	35.7	23.0	36.1	28.8	30.9	30.0	30.3
	(3.5)	(2.1)	(4.3)	(1.7)	(3.3)	(2.5)	(2.0)
Middle	17.7	10.8	23.4	15.5	22.6	17.0	20.4
	(4.9)	(2.6)	(4.7)	(2.1)	(3.2)	(4.0)	(2.6)
Low	18.2	20.2	11.1	14.4	13.3	11.4	12.0
	(10.7)	(11.6)	(4.4)	(4.0)	(4.4)	(5.6)	(4.0)
Housing Status							
Owner-outright	29.7	19.4	29.5	23.7	22.3	24.4	23.2
	(4.2)	(2.3)	(5.0)	(1.9)	(3.0)	(4.5)	(2.6)
Owner with mortgage	33.6	25.1	27.2	28.3	29.5	31.4	30.4
	(4.3)	(3.5)	(4.9)	(2.4)	(3.6)	(3.9)	(2.6)
Renter or other	25.7	12.7	24.1	18.2	18.5	18.3	18.3
	(6.1)	(2.9)	(5.1)	(2.5)	(4.7)	(2.6)	(2.3)
Net wealth quintiles							
Bottom 20%	4.5	4.0	12.3	5.5	6.9	4.7	5.1
	(2.7)	(3.0)	(5.2)	(2.2)	(3.5)	(2.1)	(1.6)
Next 20%	24.3	13.6	19.4	15.1	8.8	11.0	14.6
	(6.5)	(4.0)	(6.2)	(2.8)	(3.2)	(3.7)	(3.3)
Middle 20%	28.1	13.5	12.8	18.1	11.5	17.7	14.7
	(7.5)	(3.1)	(6.1)	(3.0)	(3.8)	(4.3)	(2.9)
Next 20%	28.1	18.8	30.1	24.0	30.8	29.6	26.7
	(6.6)	(4.0)	(7.3)	(3.2)	(6.4)	(6.2)	(3.9)
Top 20%	68.1	44.1	59.6	54.4	66.1	55.0	61.3
	(5.7)	(4.5)	(6.1)	(3.3)	(6.0)	(5.8)	(4.1)
Income quintiles							
Bottom 20%	11.2	3.9	9.5	6.2	8.1	5.6	6.6
	(5.7)	(2.0)	(5.4)	(2.3)	(3.7)	(4.8)	(2.8)
Next 20%	22.4	17.3	22.4	18.2	15.5	13.7	12.6
	(6.9)	(4.6)	(6.8)	(3.3)	(5.4)	(4.9)	(3.1)
Middle 20%	25.7	13.8	26.6	20.2	22.1	18.7	25.1
	(7.2)	(3.9)	(7.0)	(3.1)	(4.7)	(4.1)	(3.4)
Next 20%	37.0	23.7	24.0	29.1	32.4	33.6	30.1
	(6.2)	(3.8)	(7.2)	(3.2)	(5.2)	(4.9)	(3.6)
Top 20%	56.3	35.3	51.9	44.0	46.1	46.7	46.5
	(5.4)	(3.6)	(6.2)	(2.8)	(5.1)	(4.9)	(3.4)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A21: Other real estate property, conditional median by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	220.0	163.4	222.4	200.0	735.0	450.5	588.0
	(31.0)	(18.6)	(50.8)	(14.6)	(93.7)	(115.9)	(87.4)
Age Group							
Younger than 35	266.0	120.0	150.0	142.0	420.0	268.0	400.0
	(101.9)	(31.3)	(64.9)	(32.8)	(104.4)	(179.1)	(75.9)
35-44	211.5	174.0	350.0	200.0	795.0	364.0	499.0
	(40.5)	(19.3)	(118.5)	(16.0)	(169.6)	(106.2)	(104.8)
45-54	201.0	200.0	150.0	192.0	739.4	528.5	592.5
	(46.8)	(90.2)	(86.5)	(35.4)	(164.0)	(219.5)	(140.0)
55 or older	600.0	190.0	370.0	362.8	907.6	920.0	916.7
	(117.0)	(107.7)	(105.6)	(68.6)	(214.0)	(285.0)	(142.9)
Level of Education							
High	250.0	177.0	248.5	212.2	778.0	507.5	678.5
	(49.5)	(21.4)	(56.9)	(17.6)	(126.2)	(124.2)	(89.4)
Middle	180.0	130.0	123.8	140.4	614.3	555.0	589.8
	(51.3)	(42.4)	(59.3)	(26.4)	(146.7)	(259.3)	(114.2)
Low	161.8	15.6	401.4	207.1	908.0	298.1	422.0
	(233.1)	(65.9)	(129.9)	(90.8)	(402.5)	(645.3)	(419.8)
Housing Status							
Owner-outright	382.0	202.0	350.0	291.7	823.6	396.0	708.7
	(109.2)	(50.3)	(88.5)	(49.6)	(163.7)	(253.6)	(173.4)
Owner with mortgage	190.0	154.0	150.0	175.0	757.2	589.5	716.0
	(37.4)	(25.0)	(76.2)	(18.5)	(138.2)	(220.7)	(119.6)
Renter or other	220.0	130.0	216.0	200.0	420.0	349.0	410.0
	(43.8)	(28.5)	(71.5)	(32.5)	(232.2)	(144.9)	(95.6)
Net wealth quintiles							
Bottom 20%	136.0	115.0	40.0	93.0	416.0	266.7	395.2
	(69.2)	(44.5)	(70.2)	(42.5)	(78.7)	(358.2)	(189.6)
Next 20%	176.0	116.0	176.0	126.0	201.3	141.9	210.0
	(55.5)	(30.8)	(89.0)	(21.6)	(146.2)	(85.9)	(48.0)
Middle 20%	196.7	118.0	74.8	152.0	388.3	242.6	265.3
	(61.3)	(29.1)	(85.3)	(33.1)	(139.4)	(58.9)	(73.6)
Next 20%	204.5	146.5	223.1	174.8	490.0	262.5	385.0
	(69.4)	(30.2)	(138.7)	(28.0)	(73.7)	(86.9)	(78.4)
Top 20%	444.0	299.0	406.2	375.0	1333.0	1259.8	1280.9
	(101.2)	(58.5)	(96.6)	(44.0)	(215.6)	(158.6)	(114.6)
Income quintiles							
Bottom 20%	147.0	60.0	50.0	70.5	460.0	900.0	594.5
	(128.1)	(139.9)	(220.7)	(67.0)	(266.3)		(605.7)
Next 20%	279.4	118.6	177.2	162.7	480.0	186.0	299.2
	(126.1)	(44.6)	(202.4)	(50.5)	(121.0)	(158.4)	(139.0)
Middle 20%	191.3	140.0	168.0	154.0	485.3	232.9	368.0
	(53.2)	(32.7)	(109.6)	(34.4)	(241.7)	(77.6)	(71.7)
Next 20%	194.0	156.0	192.6	164.0	723.7	335.5	439.0
	(119.6)	(21.2)	(89.3)	(21.4)	(158.5)	(79.5)	(94.4)
Top 20%	319.6	298.0	380.9	350.0	1280.7	1200.0	1236.4
	(88.3)	(55.7)	(97.1)	(51.9)	(245.9)	(225.4)	(155.3)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A22: Other real estate property, conditional mean by household characteristic (in thousands)

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	306.7	250.2	280.0	272.2	1005.0	892.6	952.6
	(6.4)	(4.5)	(7.5)	(3.5)	(48.6)	(31.9)	(29.3)
Age Group							
Younger than 35	394.9	263.8	376.6	312.2	779.4	716.2	750.4
	(30.8)	(17.1)	(48.0)	(16.3)	(63.8)	(54.1)	(43.0)
35-44	406.3	332.2	427.4	366.9	1072.8	851.4	961.2
	(20.5)	(12.4)	(20.8)	(10.0)	(137.7)	(47.3)	(71.8)
45-54	388.3	334.9	423.8	373.0	1017.2	922.5	970.5
	(20.2)	(13.0)	(21.6)	(10.3)	(47.8)	(69.1)	(41.0)
55 or older	393.6	312.8	397.6	363.2	1082.1	1110.1	1092.7
	(29.2)	(19.0)	(33.0)	(15.6)	(76.8)	(80.0)	(56.2)
Level of Education							
High	418.9	339.4	471.0	382.4	1072.9	1013.0	1040.9
	(14.3)	(8.5)	(18.6)	(7.3)	(51.0)	(45.5)	(34.4)
Middle	363.6	265.6	401.6	321.6	1012.0	755.0	930.7
	(19.6)	(13.5)	(21.9)	(11.0)	(95.7)	(58.4)	(68.1)
Low	279.4	333.7	324.4	315.9	766.5	741.6	751.9
	(28.3)	(31.2)	(30.0)	(19.5)	(72.7)	(61.9)	(46.6)
Housing Status							
Owner-outright	375.5	306.6	391.1	338.7	1015.2	865.1	951.8
	(16.3)	(9.6)	(20.2)	(8.2)	(89.7)	(53.7)	(56.0)
Owner with mortgage	412.2	326.2	432.8	379.5	995.7	911.1	953.1
	(16.3)	(12.2)	(20.5)	(9.6)	(45.9)	(41.5)	(30.5)
Renter or other							
Net wealth quintiles							
Bottom 20%	342.9	88.0	270.4	213.5	457.2	594.6	526.5
	(85.2)	(24.2)	(60.8)	(41.2)	(105.7)	(247.3)	(124.9)
Next 20%	292.7	219.1	274.8	238.8	600.3	485.6	527.3
	(20.6)	(15.6)	(32.5)	(11.4)	(31.2)	(89.0)	(47.0)
Middle 20%	356.3	251.8	329.3	294.6	845.6	568.8	644.2
	(15.1)	(7.7)	(20.3)	(7.7)	(32.9)	(29.6)	(21.2)
Next 20%	415.0	315.2	416.2	363.4	1088.4	783.7	949.5
	(20.9)	(11.3)	(17.7)	(8.1)	(54.5)	(42.2)	(30.2)
Top 20%	504.5	450.7	562.5	498.6	1662.5	1325.7	1509.5
	(24.9)	(14.5)	(22.7)	(12.3)	(154.4)	(55.6)	(77.4)
Income quintiles							
Bottom 20%	301.4	213.0	315.5	255.2	884.2	708.6	821.8
	(34.3)	(23.3)	(38.8)	(20.9)	(239.5)	(96.7)	(163.8)
Next 20%	352.4	261.6	311.6	292.2	807.2	624.7	712.2
	(24.9)	(16.3)	(28.9)	(12.4)	(57.0)	(65.4)	(43.8)
Middle 20%	378.2	284.0	440.3	324.2	888.3	764.1	808.7
	(41.7)	(14.2)	(35.6)	(13.1)	(63.9)	(71.3)	(39.7)
Next 20%	418.8	309.3	436.5	377.6	1015.9	857.6	958.3
	(22.0)	(12.6)	(30.1)	(12.4)	(54.4)	(45.2)	(50.5)
Top 20%	477.3	415.1	491.3	461.1	1373.8	1239.4	1290.9
	(23.0)	(14.4)	(21.6)	(10.2)	(73.3)	(74.5)	(52.1)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A23: Total financial assets, participation rate
by household characteristic (in percent)

	Cross-border commuters				Employed residents		
Characteristic	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	99.7	96.8	99.9	98.2	98.1	98.0	98.0
	(0.3)	(1.0)	(0.1)	(0.5)	(0.9)	(0.9)	(0.6)
Age Group							
Younger than 35	98.9	98.8	100.0	99.1	97.0	94.2	95.3
	(1.1)	(1.0)		(0.6)	(2.3)	(3.1)	(2.2)
35-44	100.0	95.9	99.8	97.6	99.2	99.4	99.3
		(2.1)	(0.2)	(1.2)	(0.9)	(0.4)	(0.4)
45-54	100.0	95.0	100.0	97.7	96.9	99.1	98.2
		(2.5)		(1.2)	(2.0)	(0.9)	(1.0)
55 or older	100.0	96.7	100.0	98.5	99.2	99.0	99.1
		(3.0)		(1.3)	(0.8)	(1.0)	(0.7)
Level of Education							
High	99.6	97.3	99.9	98.4	97.9	97.6	97.7
	(1.2)	(0.1)		(0.7)	(1.4)	(1.3)	(1.0)
Middle	99.7	96.3	100.0	97.9	98.9	98.9	98.9
	(1.8)			(1.0)	(0.8)	(1.1)	(0.7)
Low	100.0	91.8	100.0	98.2	96.1	98.1	97.4
		(8.0)		(1.8)	(3.3)	(1.5)	(1.5)
Housing Status							
Owner-outright	100.0	98.0	99.8	98.8	96.0	100.0	97.7
		(1.1)	(0.2)	(0.7)	(1.9)		(1.1)
Owner with mortgage	100.0	97.9	100.0	99.1	99.2	99.2	99.2
		(1.2)		(0.5)	(0.8)	(0.8)	(0.6)
Renter or other	98.6	94.2	100.0	96.6	100.0	96.4	97.1
	(1.4)	(2.6)		(1.4)		(1.7)	(1.4)
Net wealth quintiles							
Bottom 20%	98.4	93.8	100.0	96.1	98.5	90.2	94.2
	(1.6)	(3.2)		1.8	(1.6)	(4.1)	2.4
Next 20%	100.0	94.5	100.0	97.1	98.7	99.8	99.5
		(3.1)		1.5			0.0
Middle 20%	100.0	98.1	100.0	99.0	97.3	100.0	99.0
		(1.9)		1.0	(1.9)		0.9
Next 20%	100.0	99.5	99.7	99.9	97.4	100.0	99.4
		(0.4)	(0.3)	0.1	(2.5)		0.7
Top 20%	100.0	98.0	100.0	98.9	98.5	100.0	98.2
		(1.8)		0.9	(1.3)		1.2
Income quintiles							
Bottom 20%	98.4	97.8	100.0	98.7	97.8	95.0	95.8
	(1.6)	(1.7)		1.0	(2.0)	(3.9)	2.3
Next 20%	100.0	94.1	100.0	95.2	94.6	98.0	96.8
		(3.2)		2.0	(3.3)	(2.6)	1.8
Middle 20%	100.0	97.0	100.0		98.8	98.7	98.9
		(2.3)		0.0	(1.1)	(1.4)	0.8
Next 20%	100.0	98.9	100.0	99.4	99.8	98.3	99.0
		(1.1)		0.5	(0.8)	(1.4)	0.9
Top 20%	100.0	96.1	99.7	98.0	99.4	100.0	99.8
		(2.3)	(0.3)	1.3	(0.8)		0.3

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Total financial assets include deposits (sight and saving accounts), riskier assets (mutual funds and stocks), bonds, other financial investments and voluntary pension plans or life insurance contracts. Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing standard error is because the participation rate in the corresponding category is 100% in at least one implicate.

Table A24: Total financial assets, conditional median by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	55.5	36.7	78.0	49.4	74.6	54.3	63.3
	(7.0)	(3.6)	(10.5)	(2.8)	(7.1)	(6.3)	(4.3)
Age Group							
Younger than 35	33.8	26.4	47.4	30.0	47.7	36.1	39.3
	(7.0)	(5.0)	(17.0)	(4.6)	(12.0)	(7.1)	(6.8)
35-44	61.1	37.4	78.5	49.6	64.2	51.4	53.5
	(10.8)	(7.8)	(15.8)	(5.0)	(16.5)	(11.4)	(9.2)
45-54	91.3	53.8	103.2	72.3	107.1	63.4	83.6
	(16.8)	(9.2)	(31.1)	(9.1)	(16.3)	(13.9)	(11.0)
55 or older	125.7	61.2	132.6	85.3	103.3	129.2	114.7
	(49.9)	(16.9)	(34.2)	(19.5)	(25.7)	(52.1)	(23.1)
Level of Education							
High	56.6	47.6	90.6	57.1	96.9	88.4	91.6
	(7.6)	(5.4)	(16.1)	(4.1)	(11.0)	(9.8)	(7.6)
Middle	46.4	20.0	95.2	32.4	61.0	30.8	46.9
	(20.0)	(4.9)	(26.0)	(7.2)	(10.2)	(10.7)	(6.4)
Low	44.3	25.2	41.1	39.4	45.2	17.5	25.7
	(57.3)	(50.7)	(10.8)	(10.4)	(23.2)	(9.2)	(8.0)
Housing Status							
Owner-outright	77.6	49.5	110.8	63.1	84.3	56.5	67.5
	(19.2)	(6.8)	(30.1)	(7.5)	(15.8)	(11.1)	(9.7)
Owner with mortgage	65.0	37.5	90.0	53.9	81.2	88.4	83.7
	(10.7)	(6.8)	(25.7)	(6.6)	(11.4)	(15.3)	(8.8)
Renter or other	39.4	22.3	60.1	31.4	56.0	36.5	39.6
	(7.0)	(4.8)	(14.7)	(6.0)	(13.2)	(7.0)	(6.9)
Net wealth quintiles							
Bottom 20%	21.0	8.8	15.5	11.9	27.8	6.4	11.4
	(6.4)	(2.7)	(7.2)	(1.7)	(10.6)	(2.3)	(2.2)
Next 20%	40.3	37.5	66.5	43.9	35.9	45.9	61.5
	(8.7)	(8.8)	(12.9)	(8.0)	(10.6)	(8.2)	(8.6)
Middle 20%	53.6	32.5	90.8	45.3	70.3	54.3	46.2
	(9.1)	(4.5)	(24.6)	(4.5)	(11.4)	(16.7)	(8.0)
Next 20%	97.6	61.6	115.2	81.1	138.4	89.3	107.2
	(22.8)	(11.8)	(29.1)	(10.7)	(21.0)	(20.6)	(16.4)
Top 20%	272.8	142.4	317.9	224.5	253.1	303.8	299.0
	(35.0)	(23.6)	(29.5)	(20.6)	(46.6)	(49.6)	(36.5)
Income quintiles							
Bottom 20%	20.8	14.8	21.9	16.1	25.4	12.5	16.3
	(9.9)	(4.9)	(6.3)	(4.1)	(10.6)	(5.7)	(5.3)
Next 20%	42.5	23.5	63.4	36.7	39.8	29.4	34.6
	(14.1)	(4.5)	(20.6)	(7.2)	(10.8)	(6.7)	(6.1)
Middle 20%	49.7	34.0	103.3	46.9	79.3	48.8	70.7
	(11.7)	(10.8)	(37.5)	(6.4)	(14.4)	(10.4)	(10.2)
Next 20%	83.7	46.0	116.7	76.1	104.6	95.1	93.7
	(17.4)	(6.2)	(33.7)	(9.4)	(15.8)	(15.7)	(8.8)
Top 20%	166.7	87.2	200.5	121.1	205.5	196.7	200.9
	(33.4)	(11.5)	(38.0)	(19.6)	(28.4)	(46.6)	(24.4)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Total financial assets include deposits (sight and saving accounts), riskier assets (mutual funds and stocks), bonds, other financial investments and voluntary pension plans or life insurance contracts. Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A25: Total financial assets, conditional mean
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	71.9	60.4	65.1	64.7	159.9	238.3	206.0
	(4.6)	(7.9)	(4.3)	(4.1)	(13.1)	(94.8)	(55.7)
Age Group							
Younger than 35	55.4	82.8	109.1	82.1	66.5	75.0	71.6
	(11.4)	(33.8)	(24.1)	(19.9)	(8.7)	(12.8)	(8.1)
35-44	98.5	78.1	119.8	91.6	134.1	111.1	119.6
	(10.8)	(8.0)	(16.5)	(6.2)	(19.7)	(12.5)	(10.4)
45-54	186.8	108.4	187.6	151.7	193.5	198.1	196.2
	(33.8)	(10.7)	(25.8)	(12.9)	(27.4)	(23.1)	(17.6)
55 or older	247.4	123.2	227.0	186.5	243.1	788.8	515.1
	(47.4)	(25.4)	(35.3)	(19.9)	(34.2)	(579.8)	(283.3)
Level of Education							
High	143.9	110.6	204.5	136.8	214.4	339.8	298.4
	(16.7)	(18.2)	(23.3)	(11.9)	(23.5)	(158.0)	(106.1)
Middle	107.0	56.6	139.9	88.8	131.4	116.4	125.5
	(22.7)	(8.4)	(15.9)	(7.9)	(16.7)	(40.4)	(17.4)
Low	96.7	93.8	79.3	85.5	87.2	66.5	73.1
	(38.9)	(46.5)	(15.5)	(15.0)	(21.6)	(20.9)	(15.8)
Housing Status							
Owner-outright	215.1	122.6	209.0	160.0	214.0	576.7	370.5
	(37.0)	(26.6)	(25.4)	(18.4)	(27.5)	(458.3)	(195.3)
Owner with mortgage	113.6	84.4	156.2	111.6	135.6	187.3	161.6
	(10.0)	(10.4)	(24.1)	(8.1)	(16.2)	(17.0)	(11.6)
Renter or other	48.2	55.9	113.5	71.3	96.8	123.9	118.5
	(7.9)	(9.8)	(17.6)	(7.8)	(16.4)	(16.3)	(13.2)
Net wealth quintiles							
Bottom 20%	27.8	12.2	24.6	17.5	42.7	19.8	24.7
	(5.0)	(1.8)	(5.0)	(1.6)	(8.4)	(8.4)	(4.9)
Next 20%	46.4	46.6	78.2	52.6	71.7	57.2	81.3
	(7.2)	(5.2)	(12.6)	(4.4)	(11.2)	(6.2)	(8.7)
Middle 20%	66.5	50.4	119.5	68.1	90.5	113.9	93.4
	(9.4)	(6.0)	(16.4)	(5.8)	(14.5)	(18.7)	(9.9)
Next 20%	119.5	90.1	149.3	113.7	189.5	146.7	166.0
	(13.2)	(11.2)	(20.1)	(8.8)	(20.2)	(18.7)	(14.3)
Top 20%	407.5	256.2	418.3	332.5	407.9	833.8	682.7
	(57.6)	(54.4)	(40.2)	(33.7)	(47.5)	(466.8)	(285.6)
Income quintiles							
Bottom 20%	55.4	41.5	65.2	44.0	73.0	45.7	55.1
	(17.0)	(9.7)	(25.0)	(10.1)	(24.1)	(14.2)	(13.4)
Next 20%	77.0	47.0	91.7	70.1	85.5	77.3	81.6
	(15.4)	(7.9)	(19.9)	(9.4)	(24.7)	(19.9)	(13.4)
Middle 20%	89.1	84.9	143.0	88.2	134.4	120.4	143.8
	(21.0)	(15.1)	(21.5)	(9.5)	(19.2)	(28.2)	(23.3)
Next 20%	149.0	87.6	157.3	126.9	168.8	181.7	155.9
	(41.7)	(14.1)	(23.9)	(10.5)	(26.4)	(27.6)	(14.6)
Top 20%	293.5	199.4	333.3	261.1	335.6	755.2	581.7
	(53.7)	(54.9)	(42.1)	(33.0)	(39.6)	(463.0)	(269.1)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Total financial assets include deposits (sight and saving accounts), riskier assets (mutual funds and stocks), bonds, other financial investments and voluntary pension plans or life insurance contracts. Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A26: Deposits, participation rate by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	99.0	92.2	97.8	95.1	92.5	91.2	91.7
	(0.5)	(1.3)	(1.0)	(0.7)	(1.7)	(1.5)	(1.1)
Age Group							
Younger than 35	98.9	93.5	97.6	95.5	92.0	86.2	88.5
	(1.1)	(2.1)	(1.7)	(1.3)	(3.2)	(4.1)	(2.9)
35-44	98.7	92.1	94.5	94.0	90.2	89.3	89.6
	(1.3)	(2.4)	(3.5)	(1.5)	(4.4)	(3.1)	(2.6)
45-54	99.0	91.2	99.7	95.6	92.1	97.7	95.4
	(0.7)	(2.7)	(0.2)	(1.3)	(3.2)	(1.1)	(1.5)
55 or older	100.0	90.9	99.4	95.8	95.9	92.2	94.1
		(4.2)	(0.5)	(1.9)	(1.8)	(3.2)	(1.9)
Level of Education							
High	99.2	93.1	98.0	95.6	95.9	91.1	92.7
	(0.6)	(1.5)	(1.0)	(0.9)	(1.6)	(2.0)	(1.4)
Middle	98.2	91.5	97.9	94.3	91.3	90.4	90.9
	(1.7)	(2.4)	(2.1)	(1.4)	(3.1)	(3.8)	(2.4)
Low	100.0	82.5	96.9	94.4	86.0	92.6	90.4
		(11.2)	(3.1)	(3.1)	(5.5)	(3.7)	(3.1)
Housing Status							
Owner-outright	100.0	93.9	99.6	96.3	90.2	93.7	91.7
		(1.7)	(0.3)	(1.0)	(2.8)	(3.0)	(2.0)
Owner with mortgage	98.8	94.7	99.6	97.2	94.6	94.4	94.5
	(0.9)	(1.7)	(0.3)	(0.8)	(2.7)	(1.7)	(1.6)
Renter or other	98.1	88.0	94.5	91.6	92.5	88.2	89.1
	(1.5)	(3.2)	(2.8)	(1.9)	(3.4)	(2.7)	(2.3)
Net wealth quintiles							
Bottom 20%	98.4	86.9	94.4	91.1	90.7	80.3	85.9
	(1.6)	(4.3)	(3.4)	2.4	(4.4)	(5.8)	3.7
Next 20%	96.7	91.3	95.7	94.1	92.2	92.4	91.1
	(2.1)	(3.2)	(3.9)	1.9	(4.6)	(4.4)	3.9
Middle 20%	100.0	93.5	100.0	95.4	91.8	91.1	92.6
		(2.7)		1.7	(4.8)	(4.4)	2.5
Next 20%	100.0	94.2	99.1	97.0	90.1	95.3	92.9
		(2.8)	(0.6)	1.4	(5.5)	(2.7)	2.5
Top 20%	100.0	95.3	99.7	98.0	97.7	97.0	96.5
		(2.4)		1.1	(1.6)	(2.7)	2.2
Income quintiles							
Bottom 20%	95.8	92.1	100.0	94.8	87.9	87.2	87.0
	(2.6)	(3.4)		2.0	(5.0)	(5.1)	3.6
Next 20%	100.0	89.7	95.4	91.4	91.5	91.8	91.5
		(4.0)	(3.4)	2.5	(4.5)	(4.3)	2.7
Middle 20%	100.0	92.8	98.6	97.7	88.9	89.0	91.3
		(3.1)		1.1	(5.7)	(3.4)	2.6
Next 20%	99.4	94.5	95.8	96.1	96.5	91.4	92.3
	(0.6)	(2.1)	(3.8)	1.4	(2.4)	(3.0)	2.8
Top 20%	100.0	92.1	98.9	95.7	97.8	97.1	96.8
		(2.9)	(0.6)	1.6	(2.1)	(2.4)	1.9

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing standard error is because the participation rate in the corresponding category is 100% in at least one implicate.

Table A27: Deposits, conditional median
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	27.7	18.2	21.3	20.3	36.8	21.8	28.2
	(3.8)	(1.7)	(2.6)	(1.1)	(5.1)	(3.0)	(2.7)
Age Group							
Younger than 35	21.6	16.2	20.0	18.1	17.3	21.3	20.7
	(5.5)	(2.7)	(4.3)	(2.0)	(9.1)	(4.6)	(4.4)
35-44	23.7	16.2	19.2	19.6	31.5	19.0	25.2
	(5.7)	(3.3)	(5.3)	(2.5)	(4.7)	(6.8)	(3.5)
45-54	37.0	21.8	21.1	26.5	50.6	22.7	33.2
	(6.6)	(4.9)	(7.0)	(4.4)	(8.7)	(10.6)	(8.1)
55 or older	36.5	19.4	31.1	26.0	53.2	39.2	46.5
	(27.5)	(7.7)	(9.0)	(6.4)	(11.5)	(21.1)	(12.2)
Level of Education							
High	32.6	23.0	32.0	27.5	60.4	40.4	49.4
	(3.7)	(2.4)	(4.6)	(2.6)	(6.4)	(7.9)	(5.0)
Middle	16.0	8.2	17.7	11.4	27.8	10.4	18.0
	(10.7)	(2.0)	(3.8)	(1.6)	(5.6)	(3.8)	(3.8)
Low	6.4	3.6	9.9	8.3	15.4	5.9	9.7
	(9.6)	(5.1)	(4.0)	(2.4)	(7.1)	(2.8)	(2.5)
Housing Status							
Owner-outright	31.4	22.8	31.4	27.2	41.9	28.6	32.8
	(5.8)	(4.0)	(8.0)	(3.1)	(8.6)	(7.1)	(5.5)
Owner with mortgage	28.0	17.7	19.5	20.0	36.8	30.6	32.6
	(5.9)	(3.0)	(4.5)	(2.1)	(6.9)	(7.0)	(4.7)
Renter or other	20.0	12.8	12.6	14.6	30.6	12.8	15.7
	(7.1)	(3.6)	(4.5)	(2.7)	(10.5)	(4.0)	(4.5)
Net wealth quintiles							
Bottom 20%	12.8	5.3	7.6	6.8	12.8	3.5	5.5
	(5.5)	(2.1)	(4.1)	(1.9)	(5.7)	(1.1)	(1.7)
Next 20%	17.2	17.1	16.4	16.6	19.5	20.8	20.1
	(6.4)	(3.8)	(7.2)	(3.0)	(7.1)	(4.6)	(5.3)
Middle 20%	23.1	13.7	18.5	17.8	28.0	19.8	23.7
	(9.6)	(3.1)	(4.5)	(3.2)	(7.3)	(6.4)	(4.6)
Next 20%	38.5	32.1	32.9	34.2	58.2	35.4	48.4
	(6.3)	(6.5)	(9.3)	(4.7)	(9.5)	(10.5)	(7.6)
Top 20%	104.1	61.2	87.8	71.6	105.2	97.6	102.4
	(17.1)	(12.1)	(24.8)	(10.8)	(16.3)	(22.0)	(11.2)
Income quintiles							
Bottom 20%	7.3	8.6	10.8	8.4	14.3	5.5	8.4
	(6.4)	(3.1)	(2.7)	(2.0)	(7.0)	(2.5)	(2.9)
Next 20%	17.4	13.2	15.2	16.0	18.0	15.9	15.8
	(5.9)	(3.5)	(7.4)	(2.9)	(11.9)	(6.9)	(4.8)
Middle 20%	31.6	19.4	24.0	20.1	33.1	18.1	29.6
	(8.5)	(4.2)	(9.1)	(2.5)	(8.2)	(6.6)	(6.2)
Next 20%	35.6	25.0	29.6	34.5	52.3	49.7	46.2
	(6.6)	(6.4)	(9.4)	(3.6)	(9.6)	(10.9)	(8.2)
Top 20%	61.0	42.0	59.4	46.0	83.0	70.5	76.5
	(12.6)	(5.6)	(14.0)	(6.0)	(15.5)	(16.6)	(12.0)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A28: Deposits, conditional mean
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	43.3	37.0	29.7	36.9	82.7	77.8	79.9
	(3.7)	(2.6)	(3.5)	(2.0)	(7.1)	(6.9)	(4.9)
Age Group							
Younger than 35	28.0	48.3	38.7	41.5	38.4	45.9	42.8
	(3.3)	(19.6)	(8.6)	(11.1)	(4.8)	(11.6)	(6.9)
35-44	47.0	40.2	49.7	43.8	61.7	54.7	57.3
	(6.4)	(4.3)	(10.2)	(3.5)	(7.1)	(7.5)	(5.4)
45-54	70.2	60.7	62.4	63.8	117.8	88.2	99.9
	(10.6)	(7.8)	(9.7)	(5.3)	(21.1)	(12.9)	(11.8)
55 or older	95.4	55.7	69.6	69.6	109.7	149.4	129.1
	(19.1)	(10.4)	(11.4)	(7.2)	(13.7)	(28.2)	(15.6)
Level of Education							
High	60.6	62.4	73.6	64.0	114.7	108.6	110.7
	(6.1)	(10.6)	(8.2)	(6.1)	(13.6)	(10.7)	(8.5)
Middle	42.1	28.0	46.0	35.5	61.9	42.3	54.2
	(7.8)	(4.7)	(7.4)	(3.6)	(7.1)	(10.5)	(5.8)
Low	36.1	14.4	25.4	25.4	46.3	24.1	30.9
	(24.0)	(7.6)	(5.2)	(5.9)	(11.2)	(8.4)	(6.9)
Housing Status							
Owner-outright	72.1	65.7	75.1	69.1	106.9	95.8	102.1
	(10.2)	(15.3)	(9.3)	(9.2)	(15.1)	(16.4)	(10.9)
Owner with mortgage	55.5	48.1	50.6	51.1	71.2	82.4	76.8
	(7.4)	(7.3)	(8.8)	(4.6)	(8.0)	(8.8)	(5.9)
Renter or other	28.9	27.8	39.2	31.3	56.3	66.8	64.7
	(4.1)	(3.9)	(7.4)	(3.2)	(9.7)	(11.6)	(9.4)
Net wealth quintiles							
Bottom 20%	16.6	8.2	10.4	10.5	27.8	11.9	15.9
	(3.0)	(1.5)	(2.2)	(1.0)	(4.4)	(5.2)	(3.3)
Next 20%	26.8	28.4	31.7	29.6	46.5	28.2	40.9
	(4.9)	(4.6)	(6.3)	(3.1)	(8.1)	(3.3)	(5.2)
Middle 20%	32.5	28.5	36.0	31.9	47.6	49.0	49.1
	(4.5)	(5.0)	(7.7)	(4.1)	(5.7)	(9.7)	(5.3)
Next 20%	58.7	51.5	58.4	55.3	99.8	73.3	85.2
	(8.8)	(7.3)	(11.7)	(5.7)	(14.8)	(11.2)	(9.6)
Top 20%	140.3	126.4	133.9	128.5	186.2	212.0	204.3
	(16.7)	(31.3)	(14.6)	(16.9)	(25.6)	(28.6)	(19.2)
Income quintiles							
Bottom 20%	28.7	20.3	17.4	20.8	37.1	19.0	24.7
	(9.1)	(4.1)	(5.7)	(3.7)	(8.4)	(6.9)	(4.9)
Next 20%	30.0	27.2	40.3	35.7	51.5	42.2	49.5
	(7.1)	(5.6)	(13.6)	(6.2)	(13.7)	(11.0)	(8.5)
Middle 20%	45.3	48.1	52.0	40.5	64.3	55.0	70.0
	(13.0)	(9.8)	(12.6)	(5.9)	(8.4)	(11.6)	(12.1)
Next 20%	68.7	47.9	53.3	58.5	92.1	98.3	79.9
	(14.3)	(6.7)	(9.2)	(5.6)	(13.6)	(20.0)	(8.4)
Top 20%	101.4	104.0	110.9	104.7	161.9	167.6	168.3
	(12.2)	(31.8)	(13.1)	(17.0)	(24.7)	(21.6)	(16.2)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A29: Riskier assets, participation rate
by household characteristics (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	28.2	17.2	41.7	25.5	28.3	29.1	28.8
	(2.7)	(1.6)	(3.2)	(1.3)	(2.3)	(2.1)	(1.5)
Age Group							
Younger than 35	24.5	21.3	48.9	27.2	20.5	29.7	26.1
	(5.7)	(3.6)	(7.7)	(3.0)	(4.6)	(4.3)	(3.1)
35-44	29.3	13.0	38.8	21.9	25.3	24.7	24.9
	(5.5)	(2.3)	(5.9)	(2.2)	(4.1)	(3.8)	(2.8)
45-54	25.2	17.3	39.1	25.3	34.5	26.9	30.0
	(4.2)	(2.5)	(5.3)	(2.2)	(4.3)	(4.1)	(3.0)
55 or older	41.4	17.0	39.7	30.1	32.4	40.6	36.5
	(8.0)	(4.9)	(6.7)	(3.8)	(4.9)	(5.8)	(3.8)
Level of Education							
High	32.3	23.9	53.7	31.4	36.4	38.9	38.1
	(3.3)	(2.2)	(4.3)	(1.8)	(3.6)	(2.8)	(2.2)
Middle	15.8	5.4	36.8	15.6	24.5	17.8	21.8
	(4.7)	(1.8)	(5.4)	(2.0)	(3.4)	(4.5)	(2.7)
Low	28.9	13.9	22.4	21.7	16.0	12.0	13.3
	(14.5)	(11.4)	(6.9)	(5.6)	(5.6)	(4.8)	(3.6)
Housing Status							
Owner-outright	32.0	20.0	51.0	28.5	27.5	35.7	31.0
	(4.7)	(2.5)	(5.8)	(2.2)	(3.4)	(5.7)	(3.1)
Owner with mortgage	29.6	19.7	33.0	26.1	31.0	32.8	31.9
	(4.3)	(2.8)	(4.8)	(2.1)	(3.6)	(3.8)	(2.6)
Renter or other	20.3	11.6	41.0	21.4	22.9	24.1	23.9
	(5.2)	(2.9)	(6.0)	(2.7)	(5.4)	(2.9)	(2.6)
Net wealth quintiles							
Bottom 20%	18.5	5.2	35.2	13.7	14.0	9.1	10.6
	(6.8)	(3.1)	(7.9)	3.0	(4.3)	(3.5)	2.6
Next 20%	25.0	16.8	24.9	21.3	24.9	22.7	26.5
	(7.2)	(4.2)	(7.3)	3.2	(5.4)	(4.5)	3.9
Middle 20%	15.9	14.5	39.4	20.0	25.9	28.1	24.1
	(5.2)	(3.6)	(8.0)	3.1	(5.1)	(4.8)	3.5
Next 20%	35.4	18.4	40.1	25.6	30.2	29.8	35.2
	(6.8)	(4.1)	(7.1)	3.4	(5.2)	(4.7)	4.5
Top 20%	46.8	31.4	68.9	47.3	46.7	56.1	48.9
	(6.1)	(3.8)	(5.9)	3.3	(5.5)	(5.3)	3.7
Income quintiles							
Bottom 20%	22.5	12.4	39.9	18.0	16.2	13.5	13.2
	(7.3)	(3.9)	(9.3)	3.7	(5.8)	(5.2)	3.6
Next 20%	22.6	11.3	33.9	19.2	21.8	15.3	18.1
	(7.0)	(4.3)	(7.6)	3.4	(6.2)	(5.1)	4.0
Middle 20%	25.6	14.5	37.3	20.5	32.7	29.4	33.1
	(6.8)	(3.9)	(8.5)	3.1	(5.5)	(5.3)	3.7
Next 20%	25.8	16.3	43.0	29.5	25.6	35.2	31.9
	(5.8)	(3.1)	(7.3)	3.0	(5.9)	(5.2)	4.1
Top 20%	44.8	31.7	54.3	40.8	45.2	52.5	48.1
	(5.8)	(3.3)	(5.6)	2.9	(5.2)	(5.2)	3.5

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Riskier assets include stocks and mutual funds. Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing standard error is due to insufficient observations to obstain a bootstrapped standard error in the corresponding category.

Table A30: Riskier assets, conditional median
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	20.8	15.7	26.0	22.1	26.2	50.6	37.2
	(8.9)	(4.2)	(5.8)	(3.3)	(5.5)	(13.0)	(7.4)
Age Group							
Younger than 35	6.3	9.8	15.1	9.7	7.1	13.2	11.2
	(3.9)	(3.8)	(13.5)	(3.0)	(4.6)	(6.8)	(4.2)
35-44	18.1	21.3	23.3	21.5	14.6	38.5	30.4
	(13.5)	(10.1)	(8.9)	(6.4)	(11.4)	(12.7)	(7.9)
45-54	80.8	31.0	46.3	41.2	28.4	80.3	40.4
	(35.2)	(16.0)	(15.5)	(10.4)	(6.7)	(37.5)	(17.2)
55 or older	120.4	44.1	54.6	60.0	93.1	167.9	132.4
	(70.9)	(25.1)	(68.6)	(24.0)	(42.0)	(59.9)	(31.7)
Level of Education							
High	17.7	14.2	35.2	21.9	19.4	61.5	45.2
	(8.0)	(4.0)	(13.6)	(3.7)	(8.4)	(16.8)	(10.5)
Middle	30.0	19.8	14.9	18.5	30.1	34.0	30.3
	(86.7)	(24.6)	(7.2)	(7.2)	(11.0)	(39.4)	(11.3)
Low	69.9	135.4	25.7	38.1	26.1	10.0	18.6
	(58.4)	(180.5)	(29.6)	(33.4)	(32.6)	(90.1)	(33.6)
Housing Status							
Owner-outright	90.3	26.0	43.6	39.8	44.6	82.7	59.3
	(35.2)	(12.2)	(18.0)	(12.5)	(26.0)	(56.6)	(28.3)
Owner with mortgage	16.1	14.6	28.5	19.3	19.7	50.5	32.5
	(11.4)	(6.0)	(12.4)	(5.5)	(7.3)	(13.2)	(7.6)
Renter or other	13.1	9.3	20.8	12.6	9.3	43.2	30.2
	(6.5)	(7.0)	(10.6)	(4.4)	(19.7)	(28.0)	(18.1)
Net wealth quintiles							
Bottom 20%	2.6	1.4	5.5	1.8	2.8	5.5	5.7
	(4.8)	(2.4)	(5.3)	(2.1)	(14.0)	(30.9)	(4.0)
Next 20%	10.0	10.1	20.4	9.6	5.0	20.0	24.4
	(7.9)	(4.7)	(17.8)	(3.5)	(3.8)	(7.9)	(11.2)
Middle 20%	10.2	10.8	12.0	13.0	20.7	36.5	16.2
	(16.3)	(5.1)	(12.8)	(4.1)	(10.5)	(22.7)	(8.2)
Next 20%	38.8	12.9	35.0	26.4	26.9	35.4	29.6
	(26.1)	(7.5)	(12.3)	(6.5)	(14.0)	(21.8)	(10.3)
Top 20%	108.3	61.3	101.6	72.6	109.2	143.3	143.1
	(40.9)	(12.0)	(32.5)	(14.2)	(44.2)	(37.2)	(28.5)
Income quintiles							
Bottom 20%	27.4	11.7	4.5	3.1	3.0	13.6	13.4
	(50.2)	(28.9)	(6.0)	(4.1)	(48.2)	(43.0)	(27.4)
Next 20%	8.0	22.8	23.0	17.2	11.0	46.6	11.0
	(15.1)	(31.2)	(13.8)	(8.1)	(8.6)	(81.7)	(15.6)
Middle 20%	13.2	9.0	25.7	21.2	14.1	34.2	21.9
	(7.6)	(8.2)	(29.3)	(9.0)	(7.4)	(21.7)	(9.2)
Next 20%	16.3	26.5	33.2	21.7	52.7	32.6	32.1
	(20.3)	(14.3)	(18.6)	(6.2)	(22.8)	(16.9)	(10.2)
Top 20%	55.8	20.6	77.1	48.7	77.4	103.8	100.4
	(27.4)	(8.1)	(24.9)	(9.3)	(29.5)	(27.6)	(21.2)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Riskier assets include stocks and mutual funds. Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing median value is due to no observations in the corresponding category. The missing standard error is caused by insufficient observations to obstain a bootstrapped standard error in the corresponding category.

Table A31: Riskier assets, conditional mean
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	47.7	43.5	39.5	43.4	119.2	294.9	223.9
	(6.6)	(6.3)	(7.0)	(3.4)	(20.6)	(199.7)	(118.4)
Age Group							
Younger than 35	14.2	64.6	61.3	54.4	17.6	48.1	38.6
	(3.9)	(44.3)	(27.7)	(21.9)	(5.8)	(11.4)	(8.3)
35-44	43.3	50.5	46.3	46.9	111.1	75.8	89.0
	(12.3)	(11.7)	(9.2)	(6.1)	(39.6)	(14.3)	(16.7)
45-54	236.4	76.6	101.9	129.8	66.6	157.9	114.9
	(116.3)	(14.9)	(21.1)	(32.0)	(11.0)	(28.2)	(16.7)
55 or older	213.5	74.9	207.6	176.1	252.4	977.1	654.5
	(51.4)	(25.3)	(61.8)	(32.8)	(62.1)	(889.5)	(480.6)
Level of Education							
High	122.1	64.0	129.8	100.5	147.8	335.4	276.3
	(40.7)	(20.5)	(24.5)	(16.2)	(34.6)	(249.5)	(170.3)
Middle	133.5	62.2	49.1	66.5	93.6	176.7	120.5
	(57.4)	(26.5)	(12.4)	(13.8)	(20.8)	(103.2)	(36.0)
Low	83.4	133.2	50.8	68.9	50.2	88.7	73.7
	(42.8)	(154.9)	(25.4)	(24.8)	(32.5)	(66.3)	(40.3)
Housing Status							
Owner-outright	249.7	93.7	126.7	143.2	202.4	865.4	524.5
	(89.1)	(35.5)	(31.5)	(28.0)	(47.8)	(830.2)	(391.7)
Owner with mortgage	52.1	48.2	82.5	60.4	61.9	117.2	90.5
	(10.4)	(18.5)	(20.6)	(10.3)	(12.3)	(15.9)	(10.4)
Renter or other	16.6	24.3	70.6	48.0	79.0	91.3	89.0
	(4.4)	(15.2)	(23.6)	(13.1)	(36.0)	(15.3)	(14.1)
Net wealth quintiles							
Bottom 20%	8.8	2.6	10.6	7.0	22.2	46.6	27.3
	(4.2)	(2.3)	(3.3)	(2.0)	(28.3)	(35.7)	(17.3)
Next 20%	16.1	15.1	38.0	19.2	25.7	38.4	54.3
	(6.2)	(4.0)	(14.7)	(3.6)	(13.0)	(9.8)	(14.1)
Middle 20%	21.5	23.9	45.3	29.5	41.6	80.1	51.8
	(18.4)	(15.7)	(18.6)	(9.2)	(16.3)	(25.3)	(19.2)
Next 20%	52.6	26.4	63.9	48.9	75.5	82.8	79.7
	(16.6)	(8.0)	(33.9)	(10.3)	(17.9)	(16.1)	(14.7)
Top 20%	313.1	144.7	207.1	198.7	270.3	660.4	559.6
	(104.3)	(46.2)	(39.9)	(31.7)	(56.0)	(526.2)	(360.7)
Income quintiles							
Bottom 20%	59.9	43.3	35.1	40.6	140.2	55.7	109.3
	(31.1)	(36.5)	(28.9)	(23.1)	(133.3)	(44.2)	(71.5)
Next 20%	30.4	43.2	41.5	37.5	37.2	103.8	60.9
	(25.1)	(30.7)	(17.2)	(9.4)	(22.6)	(54.6)	(29.7)
Middle 20%	28.4	21.1	66.4	46.0	46.1	89.2	79.0
	(22.9)	(8.1)	(33.2)	(11.6)	(19.3)	(29.5)	(19.4)
Next 20%	139.3	58.4	90.3	67.2	102.0	91.8	80.5
	(125.4)	(14.6)	(39.8)	(16.7)	(29.2)	(20.4)	(12.5)
Top 20%	242.0	105.9	198.7	182.0	216.8	665.0	505.5
	(102.3)	(44.7)	(46.3)	(35.3)	(39.8)	(553.0)	(348.9)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Riskier assets include stocks and mutual funds. Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights. The missing mean value is due to no observations in the corresponding category. The missing standard error is caused by insufficient observations to obstain a bootstrapped standard error in the corresponding category.

Table A32: Total debt, participation rate
by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	69.7	55.8	56.5	59.2	67.1	61.3	63.7
	(2.9)	(2.3)	(3.4)	(1.7)	(2.5)	(2.5)	(1.8)
Age Group							
Younger than 35	61.2	48.0	46.6	50.9	62.0	51.3	55.5
	(6.3)	(4.6)	(7.5)	(3.5)	(5.8)	(5.2)	(3.9)
35-44	81.0	63.1	64.8	67.2	77.2	60.3	66.5
	(4.7)	(3.8)	(6.2)	(2.8)	(4.4)	(5.0)	(3.6)
45-54	73.0	63.9	64.3	66.5	76.3	72.4	74.0
	(5.0)	(4.2)	(5.8)	(2.8)	(4.0)	(4.3)	(3.0)
55 or older	57.0	41.4	46.4	46.5	50.3	60.2	55.3
	(7.6)	(6.4)	(7.2)	(4.1)	(5.5)	(5.5)	(4.0)
Level of Education							
High	69.1	52.9	57.1	58.1	67.3	53.7	58.2
	(3.4)	(2.8)	(4.4)	(2.0)	(3.7)	(2.8)	(2.2)
Middle	67.0	61.3	59.5	61.9	68.5	67.6	68.1
	(6.6)	(4.2)	(5.7)	(3.1)	(3.9)	(6.2)	(3.5)
Low	86.3	53.2	49.0	56.7	61.9	77.0	72.2
	(12.1)	(15.7)	(8.8)	(6.6)	(7.9)	(6.5)	(5.2)
Housing Status							
Owner-outright	40.7	42.5	29.7	39.7	41.2	38.7	40.1
	(5.3)	(3.3)	(5.1)	(2.5)	(4.2)	(6.0)	(3.5)
Owner with mortgage	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Renter or other	56.1	37.3	41.6	41.8	44.3	46.6	46.1
	(7.2)	(4.6)	(5.9)	(3.3)	(6.9)	(3.9)	(3.5)
Net wealth quintiles							
Bottom 20%	61.1	48.3	51.0	50.7	56.5	54.5	50.5
	(9.0)	(6.3)	(8.3)	(4.4)	(6.9)	(6.8)	(5.2)
Next 20%	78.9	55.6	61.0	64.3	77.0	44.9	63.2
	(7.0)	(6.3)	(8.3)	(4.1)	(5.8)	(6.5)	(5.0)
Middle 20%	82.7	66.4	57.1	63.2	72.9	74.9	72.8
	(6.7)	(5.0)	(7.8)	(3.9)	(5.8)	(5.1)	(4.7)
Next 20%	66.6	54.5	53.1	59.3	66.8	71.0	67.4
	(6.6)	(5.2)	(8.3)	(3.6)	(5.7)	(5.6)	(4.6)
Top 20%	58.9	54.2	60.5	58.7	62.5	60.9	64.3
	(6.0)	(4.9)	(7.0)	(3.1)	(5.6)	(5.6)	(4.0)
Income quintiles							
Bottom 20%	53.6	41.0	45.1	40.7	60.7	53.7	57.4
	(9.0)	(6.4)	(9.1)	(4.5)	(7.1)	(8.0)	(5.7)
Next 20%	69.0	46.3	55.6	60.4	65.3	63.0	60.8
	(7.6)	(7.5)	(9.3)	(4.9)	(6.7)	(6.6)	(4.2)
Middle 20%	76.9	65.5	60.7	64.8	69.3	56.2	61.8
	(7.2)	(5.4)	(7.7)	(4.5)	(5.7)	(6.1)	(3.8)
Next 20%	73.7	64.6	55.6	64.2	72.4	64.4	69.7
	(5.9)	(4.9)	(7.3)	(3.5)	(4.5)	(5.2)	(3.5)
Top 20%	75.2	61.9	65.8	66.5	67.8	69.3	69.0
	(4.7)	(3.9)	(5.5)	(2.9)	(5.3)	(4.8)	(3.6)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A33: Total debt, conditional median
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	93.2	58.4	88.0	73.6	205.3	134.0	165.0
	(17.6)	(10.5)	(17.9)	(8.0)	(29.5)	(27.9)	(24.4)
Age Group							
Younger than 35	147.2	25.9	40.0	52.8	182.1	34.6	111.5
	(54.9)	(15.8)	(40.3)	(16.2)	(89.9)	(61.4)	(58.8)
35-44	163.7	95.6	140.0	117.6	313.3	332.6	320.0
	(28.3)	(19.3)	(48.7)	(13.5)	(40.8)	(82.2)	(43.4)
45-54	62.4	67.1	89.8	71.0	179.8	105.9	130.0
	(12.6)	(18.9)	(28.1)	(11.1)	(30.4)	(35.1)	(29.9)
55 or older	62.0	23.0	86.0	35.8	78.4	106.3	103.4
	(23.9)	(9.6)	(28.7)	(14.3)	(43.8)	(37.4)	(26.9)
Level of Education							
High	120.6	95.1	144.5	107.0	267.5	260.0	267.2
	(21.1)	(16.5)	(36.8)	(12.1)	(39.9)	(41.4)	(28.7)
Middle	42.8	30.7	86.6	45.7	228.0	53.2	130.0
	(21.4)	(10.4)	(23.0)	(10.8)	(49.9)	(29.5)	(36.5)
Low	63.0	93.0	20.0	36.0	64.4	65.2	62.4
	(53.7)	(89.7)	(27.4)	(32.1)	(40.5)	(46.4)	(32.0)
Housing Status							
Owner-outright	19.9	18.0	28.4	19.6	31.2	20.0	24.8
	(13.2)	(2.6)	(7.1)	(2.6)	(8.2)	(8.4)	(5.7)
Owner with mortgage	161.4	148.5	170.4	152.9	314.2	405.8	357.9
	(20.9)	(10.6)	(25.6)	(9.6)	(31.2)	(31.1)	(19.7)
Renter or other	17.8	10.1	16.2	13.2	55.8	17.8	19.2
	(10.2)	(3.4)	(15.9)	(2.3)	(54.1)	(4.6)	(5.8)
Net wealth quintiles							
Bottom 20%	29.8	12.9	36.4	15.8	182.1	19.2	18.9
	(36.7)	(7.1)	(66.8)	(7.2)	(101.0)	(12.0)	(8.4)
Next 20%	148.6	112.8	115.6	111.5	180.6	23.2	237.2
	(29.0)	(30.0)	(47.1)	(19.9)	(54.9)	(78.7)	(64.2)
Middle 20%	75.6	76.5	141.2	94.1	208.7	187.6	144.0
	(29.6)	(25.6)	(59.0)	(17.7)	(51.3)	(100.3)	(31.5)
Next 20%	92.7	50.2	90.6	78.9	166.2	181.1	199.4
	(29.6)	(15.6)	(30.1)	(15.3)	(68.4)	(47.5)	(36.4)
Top 20%	107.9	64.8	83.3	79.1	357.5	313.8	366.7
	(48.8)	(30.3)	(27.6)	(17.0)	(83.4)	(85.5)	(52.9)
Income quintiles							
Bottom 20%	15.0	13.7	20.0	15.5	119.1	29.9	46.2
	(23.7)	(7.7)	(21.4)	(5.2)	(49.5)	(21.8)	(30.6)
Next 20%	98.8	42.1	70.2	49.8	135.4	18.4	74.6
	(33.0)	(23.8)	(46.9)	(21.1)	(80.2)	(20.1)	(41.9)
Middle 20%	69.4	47.0	123.8	67.4	229.6	105.7	123.2
	(25.9)	(19.8)	(50.5)	(13.2)	(68.3)	(50.6)	(35.8)
Next 20%	101.9	78.2	89.8	88.6	240.0	270.1	292.0
	(44.9)	(17.9)	(37.3)	(15.1)	(75.1)	(81.9)	(48.9)
Top 20%	198.0	137.8	153.4	166.0	333.4	425.6	390.6
	(35.1)	(20.8)	(37.7)	(21.6)	(84.4)	(55.2)	(47.4)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A34 Total debt, conditional mean
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	102.5	81.7	109.0	94.0	387.4	279.7	326.5
	(5.5)	(5.1)	(7.4)	(3.4)	(67.9)	(21.4)	(32.5)
Age Group							
Younger than 35	210.4	84.5	118.2	124.5	291.3	220.7	252.0
	(37.8)	(11.8)	(27.0)	(14.0)	(54.3)	(37.4)	(31.2)
35-44	206.5	129.9	241.2	172.2	434.2	330.8	375.0
	(24.3)	(12.5)	(46.4)	(13.6)	(60.7)	(33.5)	(32.3)
45-54	114.8	118.6	149.2	125.4	481.2	260.0	353.5
	(12.8)	(13.7)	(18.0)	(8.6)	(216.1)	(38.0)	(95.5)
55 or older	86.0	56.4	106.1	81.3	264.2	293.2	279.9
	(17.7)	(10.6)	(21.6)	(10.2)	(53.7)	(68.6)	(43.5)
Level of Education							
High	194.1	135.5	205.6	166.7	398.9	360.7	375.3
	(17.5)	(9.5)	(31.5)	(9.6)	(43.8)	(27.4)	(23.4)
Middle	101.1	63.6	147.1	92.7	451.1	203.3	353.7
	(19.8)	(7.2)	(19.5)	(7.9)	(143.4)	(43.2)	(91.7)
Low	88.2	111.6	82.7	90.0	122.3	182.4	165.8
	(27.5)	(49.4)	(24.6)	(17.9)	(28.7)	(41.1)	(30.6)
Housing Status							
Owner-outright	73.1	48.6	68.4	56.8	168.6	104.0	142.3
	(13.9)	(6.7)	(19.9)	(5.8)	(56.9)	(34.1)	(36.6)
Owner with mortgage	225.5	182.3	208.4	202.3	501.5	468.4	484.9
	(18.8)	(10.2)	(16.0)	(8.6)	(101.8)	(30.1)	(53.0)
Renter or other	66.7	33.2	126.6	67.3	212.0	88.4	111.2
	(17.8)	(9.6)	(50.9)	(16.4)	(62.8)	(17.5)	(18.5)
Net wealth quintiles							
Bottom 20%	148.6	46.2	166.7	100.6	290.7	170.7	178.4
	(49.1)	(14.9)	(45.6)	(19.2)	(64.6)	(55.3)	(40.8)
Next 20%	182.3	137.1	150.1	140.8	249.7	208.8	299.8
	(21.6)	(16.4)	(27.1)	(11.9)	(45.6)	(66.7)	(35.7)
Middle 20%	151.6	101.5	161.9	132.3	256.3	269.8	232.5
	(32.5)	(11.4)	(28.5)	(13.3)	(38.9)	(43.2)	(28.6)
Next 20%	155.6	99.4	193.3	140.4	289.0	251.2	270.8
	(32.3)	(18.4)	(65.1)	(22.2)	(55.4)	(28.7)	(28.6)
Top 20%	190.0	148.8	148.3	161.6	907.6	478.2	654.1
	(25.8)	(22.4)	(19.6)	(14.1)	(348.1)	(57.3)	(149.0)
Income quintiles							
Bottom 20%	82.8	46.3	85.2	58.4	192.4	140.7	155.8
	(26.9)	(12.8)	(29.7)	(12.0)	(36.2)	(49.8)	(31.7)
Next 20%	146.9	79.3	174.5	109.1	242.3	122.8	177.1
	(37.0)	(17.0)	(73.6)	(18.7)	(65.0)	(35.6)	(34.2)
Middle 20%	134.4	85.1	178.5	117.8	327.7	186.2	230.9
	(23.1)	(15.5)	(44.5)	(16.7)	(64.4)	(38.4)	(31.8)
Next 20%	179.1	113.0	142.6	139.0	326.5	376.2	380.5
	(37.1)	(13.5)	(23.4)	(10.5)	(44.6)	(48.2)	(34.7)
Top 20%	261.5	188.6	211.1	225.5	831.4	519.9	634.1
	(32.4)	(16.6)	(21.7)	(14.5)	(322.3)	(53.2)	(133.1)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A35: Mortgage debt, participation rate by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	49.1	30.5	38.2	36.7	48.4	36.0	41.1
	(3.3)	(2.0)	(3.1)	(1.5)	(2.8)	(2.6)	(1.9)
Age Group							
Younger than 35	35.1	20.7	16.8	23.2	32.4	25.0	28.0
	(6.1)	(3.5)	(5.0)	(2.7)	(6.2)	(4.1)	(3.4)
35-44	69.0	40.0	45.1	47.2	60.6	41.3	48.4
	(5.8)	(3.9)	(6.2)	(2.9)	(5.4)	(4.8)	(3.7)
45-54	53.2	38.7	52.1	46.2	58.3	44.7	50.3
	(5.5)	(4.1)	(5.9)	(2.8)	(4.7)	(5.4)	(3.9)
55 or older	29.8	15.1	35.8	25.4	39.5	28.4	34.0
	(7.2)	(4.3)	(6.6)	(3.4)	(5.4)	(5.1)	(3.8)
Level of Education							
High	51.9	32.4	38.1	38.7	49.4	37.7	41.6
	(3.7)	(2.4)	(4.1)	(1.8)	(4.1)	(2.6)	(2.2)
Middle	41.4	27.1	45.5	34.7	53.1	31.0	44.3
	(6.9)	(3.7)	(5.6)	(2.8)	(4.1)	(5.5)	(3.5)
Low	47.4	29.6	23.2	29.0	30.6	36.1	34.3
	(17.1)	(13.6)	(7.2)	(6.3)	(7.6)	(7.6)	(5.6)
Housing Status							
Owner-outright	8.3	5.8	7.8	6.7	7.3	5.4	6.5
	(2.5)	(1.5)	(2.8)	(1.1)	(1.7)	(1.9)	(1.2)
Owner with mortgage	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Renter or other	15.7	6.2	10.2	9.0	14.2	9.0	10.0
	(5.0)	(2.4)	(3.2)	(1.8)	(4.5)	(1.9)	(1.8)
Net wealth quintiles							
Bottom 20%	19.3	11.9	16.6	14.1	32.4	7.7	9.3
	(7.3)	(5.2)	(5.9)	(3.6)	(7.2)	(2.8)	(2.9)
Next 20%	69.1	39.1	40.5	44.9	55.2	18.5	46.0
	(8.4)	(6.3)	(8.7)	(4.3)	(8.0)	(6.3)	(4.9)
Middle 20%	61.8	40.6	48.3	45.1	53.2	52.4	48.1
	(8.5)	(5.0)	(7.9)	(3.8)	(6.1)	(8.2)	(4.9)
Next 20%	48.8	30.1	37.6	38.9	47.5	51.1	47.0
	(7.5)	(4.6)	(7.3)	(3.4)	(6.4)	(6.1)	(4.2)
Top 20%	46.8	30.8	48.1	40.5	54.2	50.7	57.1
	(6.0)	(4.7)	(6.0)	(3.1)	(5.8)	(5.5)	(4.0)
Income quintiles							
Bottom 20%	23.0	12.8	18.8	14.1	36.6	16.7	23.3
	(7.2)	(4.1)	(6.9)	(3.4)	(7.2)	(5.8)	(4.6)
Next 20%	56.1	23.5	33.9	33.1	46.1	21.1	29.9
	(8.2)	(5.9)	(9.5)	(4.1)	(7.1)	(5.7)	(5.5)
Middle 20%	48.7	34.7	41.1	40.0	50.6	31.7	39.5
	(9.5)	(5.3)	(7.4)	(4.2)	(6.5)	(6.2)	(4.7)
Next 20%	55.6	36.9	45.0	44.0	53.5	48.6	54.4
	(7.2)	(5.4)	(7.1)	(3.3)	(5.9)	(5.1)	(3.9)
Top 20%	63.0	44.8	52.6	52.7	55.7	62.8	59.5
	(5.4)	(3.9)	(5.9)	(2.9)	(5.3)	(4.7)	(3.7)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A36: Mortgage debt, conditional median
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	154.0	134.4	152.0	146.0	300.0	354.2	328.2
	(17.5)	(10.9)	(22.5)	(9.8)	(22.9)	(30.1)	(21.6)
Age Group							
Younger than 35	290.0	138.0	245.0	191.8	377.2	390.0	385.0
	(58.4)	(25.5)	(58.8)	(34.5)	(59.8)	(37.7)	(31.7)
35-44	181.8	148.0	202.6	170.0	350.8	434.0	392.0
	(23.6)	(18.0)	(43.3)	(15.5)	(51.6)	(50.4)	(50.8)
45-54	79.4	123.2	120.0	109.6	206.0	250.2	224.2
	(24.8)	(23.5)	(32.4)	(15.2)	(35.2)	(57.3)	(34.6)
55 or older	71.2	100.0	96.2	89.6	158.0	280.0	222.0
	(32.2)	(27.8)	(26.3)	(15.8)	(71.8)	(75.6)	(58.8)
Level of Education							
High	181.2	175.6	205.6	180.0	319.4	390.0	356.0
	(18.9)	(17.7)	(21.2)	(11.2)	(34.7)	(40.0)	(27.6)
Middle	87.2	98.0	122.0	100.0	312.0	330.0	324.2
	(41.2)	(12.4)	(29.6)	(10.2)	(43.3)	(80.4)	(40.5)
Low	142.0	132.0	95.2	130.0	150.0	258.0	198.0
	(48.5)	(88.9)	(58.0)	(31.8)	(35.3)	(114.9)	(65.9)
Housing Status							
Owner-outright	145.0	159.6	52.4	139.0	285.4	442.0	295.4
	(55.9)	(66.0)	(54.5)	(42.6)	(77.3)	(173.4)	(79.1)
Owner with mortgage	152.8	138.8	150.0	147.5	298.0	382.0	342.0
	(19.9)	(10.8)	(23.3)	(9.5)	(25.8)	(32.9)	(19.7)
Renter or other	150.0	98.0	380.0	148.0	450.0	160.5	206.0
	(67.3)	(43.8)	(165.1)	(45.5)	(129.7)	(46.3)	(43.0)
Net wealth quintiles							
Bottom 20%	334.2	110.0	339.4	214.0	374.0	464.0	484.0
	(172.2)	(43.0)	(131.4)	(52.7)	(74.4)	(332.6)	(92.4)
Next 20%	150.0	157.0	141.0	152.8	256.0	456.0	334.2
	(34.0)	(28.7)	(42.4)	(15.4)	(41.5)	(128.1)	(51.7)
Middle 20%	129.7	126.6	161.2	132.0	286.0	336.0	246.0
	(42.3)	(15.1)	(59.5)	(13.3)	(40.5)	(62.3)	(37.5)
Next 20%	134.6	121.8	126.3	133.0	288.2	273.8	292.2
	(35.2)	(27.5)	(51.6)	(22.6)	(81.8)	(75.3)	(37.2)
Top 20%	162.2	192.0	122.6	150.2	400.0	475.6	408.0
	(49.4)	(51.2)	(32.0)	(29.0)	(92.6)	(73.3)	(59.1)
Income quintiles							
Bottom 20%	121.6	98.8	140.0	98.2	217.8	340.0	273.4
	(71.7)	(44.0)	(75.2)	(33.4)	(64.3)	(229.1)	(98.5)
Next 20%	122.0	126.0	136.0	138.0	270.2	298.0	284.0
	(28.1)	(37.4)	(98.5)	(18.1)	(72.8)	(87.8)	(47.9)
Middle 20%	138.3	110.0	183.9	117.5	304.0	212.5	252.5
	(46.8)	(19.2)	(71.9)	(15.6)	(66.7)	(64.0)	(54.2)
Next 20%	172.0	135.0	110.8	144.0	344.1	360.4	356.0
	(47.9)	(23.6)	(44.0)	(17.3)	(44.3)	(64.6)	(38.0)
Top 20%	216.0	206.8	203.0	209.0	373.2	448.0	408.0
	(42.5)	(21.7)	(28.5)	(13.9)	(87.7)	(51.0)	(42.3)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A37: Mortgage debt, conditional mean by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	132.2	134.1	137.0	134.3	493.7	428.2	460.0
	(6.2)	(6.6)	(8.7)	(4.1)	(92.0)	(26.4)	(46.8)
Age Group							
Younger than 35	320.8	169.5	263.2	234.3	449.3	426.5	436.9
	(45.8)	(20.4)	(42.2)	(23.4)	(81.1)	(50.8)	(45.5)
35-44	228.4	180.5	308.1	221.2	521.8	452.7	484.6
	(26.6)	(15.2)	(57.1)	(17.3)	(67.1)	(28.7)	(35.8)
45-54	142.9	170.3	164.7	160.1	593.9	383.4	483.5
	(16.8)	(17.9)	(19.9)	(10.9)	(280.5)	(47.5)	(136.4)
55 or older	135.3	116.8	131.8	128.7	316.2	474.5	382.1
	(29.3)	(21.9)	(24.3)	(15.1)	(64.0)	(124.1)	(62.2)
Level of Education							
High	238.9	199.1	265.9	225.3	480.0	471.8	475.0
	(20.6)	(11.2)	(39.5)	(12.1)	(52.9)	(29.4)	(27.3)
Middle	130.9	109.6	180.1	139.6	556.9	411.5	516.6
	(25.9)	(12.0)	(22.2)	(11.4)	(183.4)	(78.7)	(135.8)
Low	144.4	185.9	139.6	150.8	206.9	309.5	280.0
	(36.6)	(64.3)	(39.0)	(24.6)	(48.0)	(64.4)	(47.7)
Housing Status							
Owner-outright	244.7	180.7	135.8	185.6	620.2	472.1	567.3
	(56.5)	(31.5)	(54.0)	(24.9)	(273.2)	(135.1)	(183.1)
Owner with mortgage	215.0	174.9	196.1	192.7	483.3	449.9	466.5
	(18.8)	(10.4)	(15.7)	(8.6)	(101.8)	(29.5)	(52.8)
Renter or other	153.2	114.5	419.7	223.6	528.1	267.1	338.4
	(43.3)	(31.7)	(135.2)	(58.7)	(155.8)	(58.4)	(59.0)
Net wealth quintiles							
Bottom 20%	390.5	128.6	392.1	282.1	403.7	827.9	673.8
	(88.4)	(28.8)	(72.3)	(49.8)	(85.0)	(325.1)	(153.4)
Next 20%	191.0	174.7	202.3	179.2	310.4	476.1	381.2
	(20.3)	(16.9)	(39.8)	(13.5)	(49.8)	(88.1)	(41.3)
Middle 20%	187.5	146.9	175.7	167.1	321.1	353.9	315.8
	(38.3)	(11.6)	(29.2)	(15.6)	(34.4)	(41.8)	(26.4)
Next 20%	192.1	151.7	256.9	193.4	367.5	312.7	350.5
	(42.9)	(30.0)	(83.1)	(29.9)	(66.9)	(33.9)	(33.3)
Top 20%	223.2	235.8	166.2	213.6	1018.1	547.9	711.1
	(31.3)	(27.2)	(19.3)	(17.9)	(396.8)	(54.0)	(164.3)
Income quintiles							
Bottom 20%	167.5	121.5	162.4	137.5	263.8	369.5	310.7
	(58.2)	(32.8)	(71.2)	(29.9)	(44.8)	(109.5)	(56.1)
Next 20%	164.7	135.9	255.7	175.5	322.6	271.1	306.7
	(42.4)	(24.3)	(108.2)	(28.4)	(77.9)	(54.8)	(47.4)
Middle 20%	176.6	136.1	229.9	160.7	403.5	293.1	327.6
	(34.8)	(23.0)	(64.4)	(22.9)	(81.2)	(46.9)	(39.8)
Next 20%	217.3	163.9	158.0	178.3	403.0	436.6	435.6
	(43.9)	(17.0)	(26.5)	(13.3)	(42.3)	(49.5)	(33.7)
Top 20%	296.1	238.1	241.4	262.1	957.3	558.1	703.7
	(34.4)	(17.8)	(23.1)	(16.2)	(384.7)	(54.7)	(151.5)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A38: Non-mortgage debt, participation rate
by household characteristic (in percent)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	41.4	37.4	29.3	36.4	39.0	40.6	39.9
	(3.2)	(2.3)	(3.0)	(1.6)	(2.6)	(2.5)	(1.8)
Age Group							
Younger than 35	49.5	36.1	32.4	38.5	42.3	35.7	38.3
	(6.5)	(4.4)	(6.7)	(3.4)	(6.0)	(5.1)	(3.7)
35-44	43.8	39.1	38.5	40.0	44.1	38.5	40.6
	(5.8)	(3.8)	(6.2)	(2.9)	(5.3)	(4.7)	(3.6)
45-54	31.7	41.0	27.3	34.8	41.0	47.5	44.8
	(4.7)	(4.2)	(5.3)	(2.8)	(4.7)	(5.0)	(3.5)
55 or older	40.9	28.7	15.9	27.0	28.0	40.7	34.4
	(7.9)	(5.8)	(5.7)	(3.8)	(4.8)	(5.9)	(3.9)
Level of Education							
High	37.6	31.9	30.1	33.1	37.4	29.0	31.8
	(3.5)	(2.7)	(4.1)	(2.0)	(3.7)	(2.6)	(2.1)
Middle	50.1	47.1	27.1	42.2	38.8	50.1	43.3
	(7.0)	(4.3)	(4.9)	(3.0)	(3.9)	(6.4)	(3.5)
Low	51.7	40.2	32.0	37.4	44.7	64.7	58.3
	(17.4)	(15.3)	(8.1)	(6.3)	(8.2)	(7.3)	(5.5)
Housing Status							
Owner-outright	32.8	39.7	22.8	35.0	37.1	35.5	36.4
	(5.0)	(3.2)	(4.8)	(2.5)	(4.1)	(6.0)	(3.5)
Owner with mortgage	43.1	37.4	31.1	37.7	41.3	44.6	43.0
	(4.7)	(4.1)	(4.9)	(2.6)	(4.0)	(4.4)	(3.0)
Renter or other	50.3	34.2	33.5	36.8	37.9	40.2	39.7
	(7.1)	(4.5)	(5.6)	(3.3)	(6.9)	(3.9)	(3.4)
Net wealth quintiles							
Bottom 20%	57.0	42.8	42.6	44.3	41.6	50.5	47.4
	(9.0)	(6.0)	(8.0)	(4.3)	(6.9)	(6.7)	(5.2)
Next 20%	45.8	34.0	34.0	40.9	44.6	37.9	39.4
	(8.6)	(5.6)	(8.3)	(3.8)	(7.1)	(7.0)	(5.6)
Middle 20%	41.1	43.9	24.9	34.8	43.9	49.6	46.7
	(7.8)	(5.1)	(7.5)	(4.2)	(6.5)	(7.0)	(5.7)
Next 20%	37.5	32.5	22.4	31.6	32.8	37.3	36.0
	(7.0)	(5.0)	(6.9)	(3.5)	(5.8)	(6.1)	(4.3)
Top 20%	24.8	33.6	22.7	30.3	32.3	27.4	29.0
	(5.8)	(4.5)	(6.2)	(3.2)	(5.3)	(5.2)	(3.7)
Income quintiles							
Bottom 20%	35.4	30.3	32.9	30.5	34.8	48.8	44.4
	(8.7)	(5.8)	(8.6)	(4.3)	(6.8)	(8.0)	(5.9)
Next 20%	35.7	34.1	29.2	39.4	34.7	52.1	45.2
	(8.5)	(6.4)	(8.0)	(5.4)	(6.6)	(7.0)	(4.9)
Middle 20%	53.1	43.8	29.8	40.2	40.8	38.8	38.3
	(8.8)	(6.2)	(7.4)	(4.1)	(5.8)	(7.3)	(4.2)
Next 20%	45.5	44.3	24.4	36.0	47.3	36.3	38.9
	(7.5)	(4.7)	(6.2)	(3.4)	(5.5)	(5.9)	(4.0)
Top 20%	36.9	34.5	30.3	35.9	37.9	26.6	32.8
	(5.7)	(3.6)	(5.6)	(2.9)	(5.3)	(5.0)	(3.7)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

Table A39: Non-mortgage debt, conditional median
by household characteristic (in thousands)

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	14.4	12.0	15.6	13.1	20.5	14.3	17.3
	(2.3)	(1.3)	(4.1)	(1.0)	(2.7)	(3.2)	(1.7)
Age Group							
Younger than 35	15.4	7.9	14.0	10.4	29.8	13.8	18.2
	(3.7)	(1.3)	(7.8)	(1.8)	(8.8)	(4.5)	(2.4)
35-44	13.7	13.3	15.0	13.3	18.7	13.6	15.7
	(3.9)	(2.5)	(9.7)	(1.9)	(4.7)	(3.8)	(2.9)
45-54	14.5	14.1	26.0	15.5	19.8	13.0	15.3
	(4.5)	(2.3)	(6.9)	(2.5)	(5.1)	(5.0)	(3.6)
55 or older	13.6	16.0	5.0	13.4	18.8	38.9	22.0
	(4.1)	(3.9)	(7.5)	(3.0)	(4.4)	(20.8)	(8.0)
Level of Education							
High	15.2	11.3	28.4	14.6	29.0	12.6	18.2
	(2.0)	(2.3)	(11.6)	(1.8)	(8.8)	(2.5)	(2.0)
Middle	12.7	12.6	11.0	12.4	16.4	10.6	12.4
	(5.0)	(2.0)	(4.5)	(1.7)	(2.9)	(3.1)	(2.2)
Low	14.0	10.5	13.2	12.2	17.0	19.4	19.0
	(6.7)	(6.2)	(8.5)	(3.2)	(8.3)	(4.6)	(3.8)
Housing Status							
Owner-outright	13.2	16.1	19.4	15.8	20.4	15.5	18.4
	(5.1)	(2.6)	(6.1)	(2.1)	(4.7)	(6.1)	(3.1)
Owner with mortgage	15.6	12.2	23.2	13.9	20.5	17.2	18.7
	(2.6)	(2.8)	(7.0)	(1.8)	(3.1)	(3.7)	(2.2)
Renter or other	13.7	7.2	11.0	10.0	22.4	11.5	13.5
	(4.4)	(2.1)	(6.4)	(1.5)	(16.6)	(3.3)	(3.3)
Net wealth quintiles							
Bottom 20%	14.8	8.6	11.8	11.2	29.0	11.8	14.0
	(3.9)	(3.8)	(10.3)	(2.2)	(11.0)	(7.3)	(4.5)
Next 20%	13.1	8.8	13.0	11.8	23.2	11.5	16.4
	(4.6)	(3.5)	(8.2)	(2.2)	(8.1)	(4.1)	(3.7)
Middle 20%	10.8	11.3	19.6	14.2	20.9	13.9	19.4
	(6.3)	(2.8)	(10.4)	(2.9)	(6.0)	(4.5)	(4.1)
Next 20%	14.4	14.4	15.2	14.5	15.0	22.6	19.2
	(4.5)	(2.7)	(11.9)	(2.7)	(5.6)	(7.6)	(5.8)
Top 20%	18.1	17.1	34.0	18.1	16.8	13.3	15.9
	(5.6)	(4.1)	(13.3)	(2.8)	(4.3)	(9.7)	(4.3)
Income quintiles							
Bottom 20%	11.4	5.4	13.2	9.6	20.4	18.8	18.3
	(2.6)	(2.5)	(6.8)	(2.3)	(10.8)	(6.1)	(5.3)
Next 20%	16.6	8.8	8.5	10.1	16.6	11.3	12.5
	(7.6)	(2.9)	(5.4)	(2.1)	(4.9)	(3.6)	(2.9)
Middle 20%	15.9	11.6	22.2	15.8	20.2	12.1	15.1
	(5.8)	(3.3)	(18.5)	(3.4)	(7.8)	(5.4)	(4.1)
Next 20%	12.7	16.8	23.4	15.0	21.1	14.2	18.8
	(4.9)	(3.7)	(15.6)	(2.8)	(7.8)	(7.5)	(5.4)
Top 20%	18.2	15.1	28.4	18.5	24.6	18.4	20.4
	(4.2)	(2.9)	(8.1)	(2.0)	(6.9)	(4.1)	(3.0)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

**Table A40: Non-mortgage debt, conditional mean
by household characteristic (in thousands)**

Characteristic	Cross-border commuters				Employed residents		
	Belgium	France	Germany	Total	Native-born	Foreign-born	Total
Total	16.3	24.5	21.5	21.7	53.1	42.0	46.5
	(1.3)	(3.6)	(3.6)	(2.0)	(8.1)	(8.3)	(6.0)
Age Group							
Younger than 35	32.3	15.1	33.5	23.2	82.7	18.0	46.3
	(8.2)	(2.9)	(12.2)	(3.5)	(23.0)	(4.3)	(10.7)
35-44	22.5	25.0	44.8	28.5	43.4	33.1	37.2
	(5.6)	(3.9)	(16.0)	(4.1)	(11.4)	(11.2)	(8.2)
45-54	24.7	24.1	36.9	26.9	51.4	35.6	41.5
	(4.6)	(3.2)	(8.1)	(2.8)	(16.8)	(10.9)	(8.9)
55 or older	21.3	19.7	12.9	18.9	29.1	102.8	72.7
	(5.5)	(4.7)	(6.8)	(3.1)	(5.9)	(39.5)	(23.9)
Level of Education							
High	27.3	22.9	52.9	29.1	83.9	53.6	65.3
	(3.9)	(2.6)	(12.9)	(3.0)	(17.8)	(16.1)	(12.0)
Middle	27.0	19.8	20.0	21.3	34.3	19.7	27.6
	(8.8)	(2.9)	(4.7)	(2.6)	(8.0)	(4.8)	(4.8)
Low	15.7	10.7	25.7	19.7	27.9	44.5	40.4
	(5.5)	(4.7)	(10.0)	(5.3)	(7.0)	(14.9)	(11.3)
Housing Status							
Owner-outright	29.2	25.8	42.5	28.7	65.1	41.4	55.3
	(7.0)	(2.9)	(20.8)	(3.6)	(17.2)	(18.2)	(12.7)
Owner with mortgage	24.5	19.7	39.5	25.5	44.0	41.5	42.7
	(5.3)	(3.4)	(8.6)	(3.0)	(10.0)	(11.9)	(8.0)
Renter or other	26.6	15.4	29.6	21.7	50.5	42.7	44.2
	(6.6)	(3.8)	(9.0)	(3.5)	(15.8)	(13.5)	(11.3)
Net wealth quintiles							
Bottom 20%	27.8	16.5	46.8	26.2	79.7	58.6	59.7
	(9.3)	(4.0)	(19.2)	(5.4)	(24.1)	(26.0)	(17.6)
Next 20%	26.4	23.5	29.5	24.9	46.5	17.0	36.4
	(11.0)	(5.8)	(14.5)	(4.6)	(15.2)	(4.7)	(11.8)
Middle 20%	22.9	17.7	29.5	23.4	35.3	34.1	36.4
	(5.6)	(2.7)	(10.7)	(3.1)	(16.5)	(13.2)	(7.7)
Next 20%	26.2	25.9	26.0	25.0	55.6	49.7	49.6
	(8.5)	(5.6)	(10.5)	(4.0)	(25.9)	(17.1)	(13.1)
Top 20%	29.4	24.4	42.5	28.0	49.1	49.9	50.1
	(6.9)	(3.5)	(9.6)	(3.2)	(18.8)	(25.3)	(15.8)
Income quintiles							
Bottom 20%	17.2	11.4	24.1	14.6	59.3	28.1	38.6
	(8.8)	(2.7)	(7.9)	(3.5)	(25.2)	(9.3)	(10.9)
Next 20%	25.5	13.9	37.0	19.5	26.6	37.8	35.4
	(9.9)	(3.3)	(27.8)	(4.6)	(5.7)	(18.3)	(12.6)
Middle 20%	34.2	19.5	48.2	29.7	56.5	29.6	35.1
	(10.2)	(3.8)	(18.2)	(6.2)	(18.2)	(14.1)	(6.9)
Next 20%	24.0	28.5	32.8	29.8	43.9	83.9	72.4
	(7.9)	(4.7)	(10.8)	(4.4)	(12.3)	(38.4)	(22.9)
Top 20%	27.3	29.8	39.4	32.4	79.4	37.7	56.1
	(5.3)	(5.1)	(7.0)	(3.9)	(25.4)	(9.9)	(13.4)

Source: Own calculations based on XB-HFCS and LU-HFCS, wave 2021; data are multiply imputed and weighted.
Note: Characteristics are those of the reference person (cross-border commuter in the XB-HFCS and financially knowledgeable person in the LU-HFCS). Standard errors reported in parentheses are based on 1,000 replicate weights.

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