

FINAL REPORT //

Cross-border housing markets in Europe

The Greater Geneva region

Annex No. 6 Case Study // July 2022

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1 Switzerland – France Border Region

1.1 Narrative & Territorial Scope

The Swiss-French border region was selected as a case study region as it showcases how Geneva acts as a growth pole and magnet across a border allowing a common commuting pattern from France toward Switzerland to emerge. In this case study, we consider French border towns to be functionally integrated with Geneva and serve as a bedroom community in the Grand Geneva region.

Additionally, the Geneva case study was previously used as a case study region in the ESPON Big Data for Territorial Analysis and Housing Dynamics study. Its inclusion as a case study in this project allows for comparison over time.

As Geneva has grown into an international centre for commerce, diplomacy and finance, growth pressures on the Canton of Geneva have spilled over its borders impacting development in the Canton of Vaud and the surrounding French countryside (Grand Geneve, 2021). Hence, residential commuter towns have developed on radial transport routes leading out of Geneva allowing for corridor development to emerge. By analysing and understanding the housing market dynamics across this region, we can understand how proximity to a globalised city will impact surrounding cities and economies despite separation by an international land border.

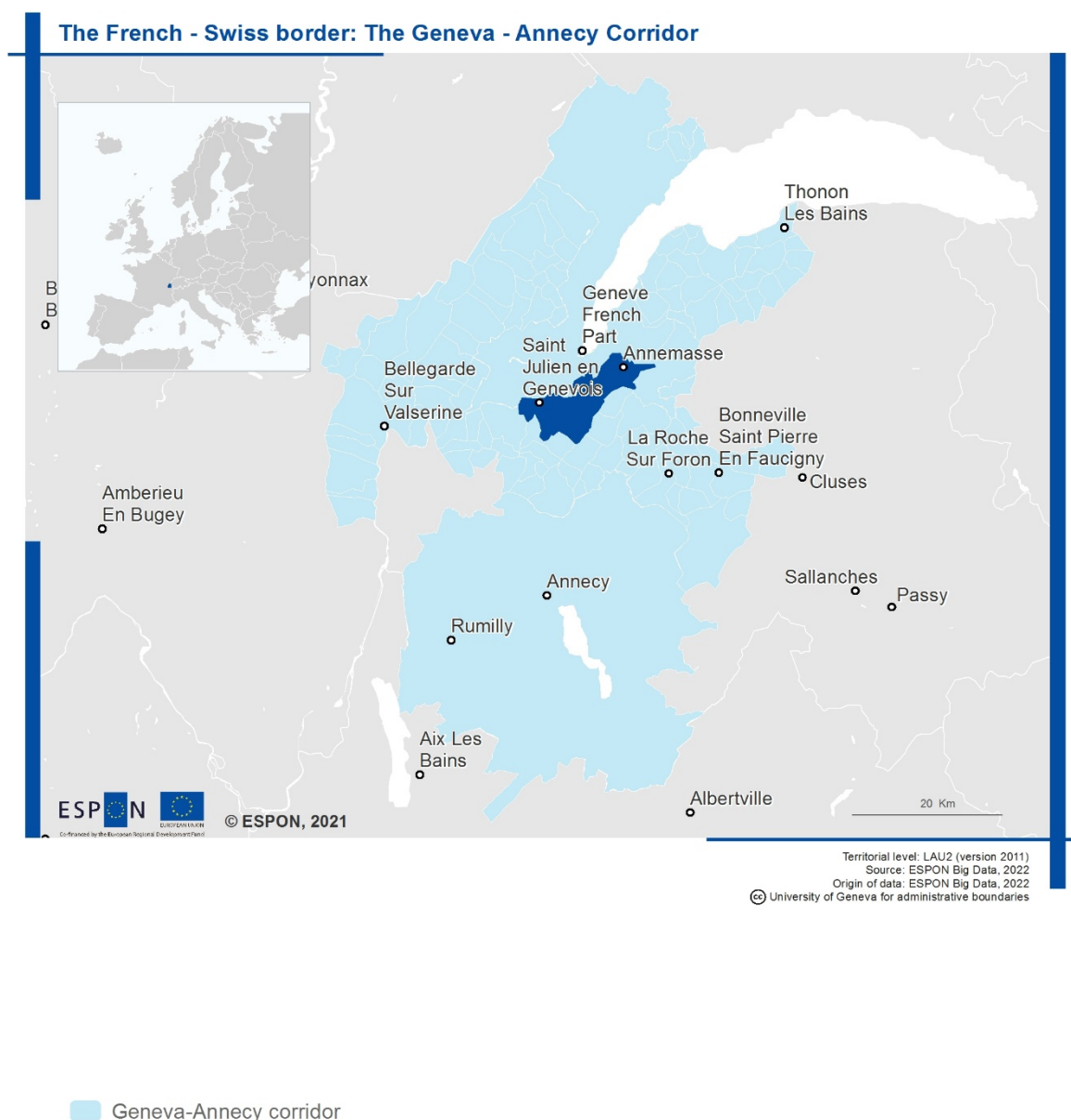


Figure 1: Territorial Scope Case Study Switzerland – France

Box 1: Genevan Household Scenario

Remy and Giovanni have been renting their one-bedroom apartment in Central Geneva since they moved in together ten years ago. As a young couple, the centrality of their apartment suited both their work and social needs given its proximity to the city centre, the financial centre and the UN offices. Giovanni is employed in the financial sector while Remy works with an international NGO based near UN Geneva. Having recently married, the couple is seeking a larger home as they wish to adopt and become parents. Given the high price of housing in Geneva within both the rental and owner-occupied sector, the couple has decided to buy across the border in France as housing prices are significantly less there. This allows them to 1) become homeowners as they can afford a mortgage in France and 2) continue to live comfortably as the additional expenses required of raising a child are offset by the lower price of housing. While Remy was at first hesitant to move across the border given the longer commuting times, investments in cross-border transport allowing for faster direct connections to the city centre has assuaged his fears of being too disconnected from Central Geneva. In fact, while the couple are moving across borders, they do not consider their upcoming transition to be a move outside of Geneva but just a relocation to another part of the Genevan metropolitan region which allows them to start a family without stretching their budget to thin.

1.2 Administrative Systems

1.2.1 Swiss Administrative Structure

Switzerland is a federal republic with legal competencies split between the national confederation and regional cantons. At the national level, the federal government has developed frameworks for administration which guide how cantons function, and the federal government regulates aspects of housing, planning and development by enacting overarching legislation and funding mechanism across the republic (OECD, 2017). Communes are the administrative units of urban settlements within cantons. The Swiss Federal Constitution provides for the autonomy and independence of its cantons while communes are granted specific jurisdictions through its canton decentralising power. (Presence Switzerland, 2021).

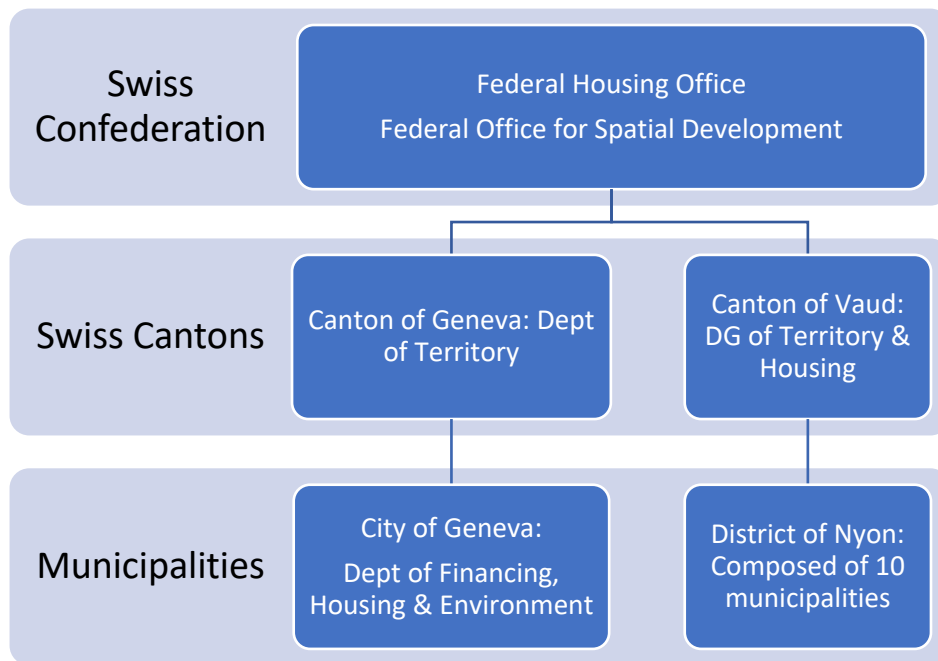


Figure 2: Administrative Schematic of Switzerland

1.2.2 French Administrative Structure

In France, the administrative system is complex and split across four different levels of governance. At the national level, the central government provides a legal framework setting out policy in relation to general housing, land use, environment and planning issues (OECD, 2017). Below the central government, 18 regions play an important role in administering the republic; while the regions have no legislative authority to write their own laws, they do have the ability to levy taxes, and extensive regional budgets are run by elected regional representatives (OECD, 2017). Hence, regions play a critical role in financing regional development projects. Underneath the regions, departments act as an intermediary between the regional and local level of governance. Departments are further subdivided into arrondissements and cantons, and the departmental councils are democratically elected every six years (INSEE, 2021). Departments have responsibility over welfare allocation, school construction, road maintenance and improving municipal infrastructure (OECD, 2017). Communes represent the lowest rung of governance in France, and they have extensive autonomy to administer national policy within their geographic area as they see best fit. Communes' administrative structure consist of a democratically elected municipal council and mayor, and these administrations are given their rights and statutory powers through the 'Code général des collectivités territoriales (CGCT)' (INSEE, 2021).

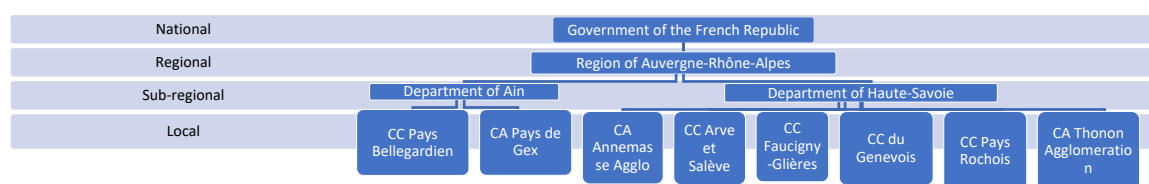


Figure 3: Administrative Schematic of France

1.3 Facts & Background

With over one million total inhabitants, Geneva and its environs have developed into a dynamic, diverse cross-border region. An estimated 635,000 travellers a day traverse across the Swiss-French border in order to satisfy their housing, shopping, employment and leisure needs. With a high quality of life, the region has grown by 1.6% per annum over the course of the past ten years. Between 2006 to 2014, 14,000 new residents moved into the region while from 2006 to 2012, over 10,800 new jobs were created. Overall, 500,000 jobs are based within the region causing the region to serve as a major growth pole across Europe (Grand Genève, 2022).

To coordinate activity and development across this rapidly growing region, Grand Geneva was created to function as a transnational authority across the region. The authority consists of 209 communes, 2 Swiss cantons and 2 French departments. With an initial interest in protecting the ecological environment in the region, Grand Geneva coordinates all essential projects including new mobility measures. For example, the Léman Express is a train servicing 50,000 passengers daily funded by the authority and connecting the region with 42 stations across 6 different lines spanning over 230 km of track. Other mobility enhancing actions currently include expanding their tramway, improving bus service, developing a cross-border greenway and building more cycle lanes (Grand Genève, 2022).

Despite strong efforts to improve mobility across the region, traffic congestion is still a major issue as thousands of commuters living in France drive into Geneva each day for work (Grand Genève, 2022). As housing prices are lower and the housing market is more flexible in France, many employees on Swiss salaries choose to migrate across the border to meet their housing needs (von Ehrlich, et al., 2018). This migration flow of workers settling in France and working in Switzerland has generated unique dynamics within local housing markets. Hence, the Genevan border region case study is representative of a cross-border housing market which is highly impacted by border dynamics.

1.4 Drivers & Factors

1.4.1 Housing Shortage in Geneva

While construction for housing and accommodation is increasing in the City of Geneva, a Credit Suisse study has found that the new construction is still not keeping up with demand, resulting in an exodus of people to France and Vaud. The study notes how only 18.5% of residents in Geneva own their home and how the rest of the population rents. This is significantly below the national average of 38.2% owning their home (Bradley, 2018).

Moreover, the study notes that Geneva has always suffered from an acute housing shortage of both places to buy and places to rent with about 2,000 people moving to France every year (Bradley, 2018). From 2008-2018, the report notes that over 20,000 people have left Geneva to settle in France. Meanwhile, at least 600-700 people a year move to the neighbouring Canton of Vaud. The study estimates that because of this exodus there is a loss of CHF530-700 million a year in tax revenue (Bradley, 2018).

One constraint slowing new residential accommodation from being built is the length of time it takes to bring new development through the planning process. In Geneva, the process to build new construction is lengthy and subject to municipal vetoes which further delays new supply from entering the market (Boucher, et al., 2022). In France, a plan-led zoning system ensures an expedient development process, but as French communes have densified and

developed more intensely over the past twenty years, local opposition to new housing is beginning to slow the development process on the French side as well (Boucher, et al., 2022).

1.4.2 Inelastic Supply in Geneva

Inelastic supply in the city of Geneva and towards the centre of the region represents a major obstacle toward developing a fluid and dynamic market (von Ehrlich, et al., 2018). High demand for housing near the city centre remains a major issue as the constant influx of new migrants continues to place pressure for housing in central locations. Conversely, low supply is a consequence of restrictive land-use measures and local opposition. Protected cropland around the city creates an effective greenbelt which significantly constrains the city's capacity to grow (Hilber & Schöni, 2016). Moreover, physical boundaries such as Lake Geneva and the surrounding mountains also limits Geneva's land supply. Additionally, local land-use controls enforcing height restrictions in urban areas and the municipal veto stifles the densification and intensification of urban zones (Hilber & Schöni, 2016).

Rising pressure is mostly due to a flourishing economy coupled with high immigration. Despite this though, vacancy rates have risen in the Greater Geneva region from .95% to 1.66% from 2012 to 2019 as the residential building boom has focused on smaller towns and commuter suburbs (Bradley, 2018). This vacancy is partly due to locational factors where demand is highest for city centres and less so for residential commuting communities. Conversely, the city of Geneva has a low vacancy rate of just 0.5% representative of the inelasticity and severe controls placed on the Genevan housing market (Büchler, et al., 2021).

1.4.3 Price Control and the Rental Sector

Given that about 60% of the Swiss population live in rented accommodation (with this percentage increasing to almost 80% in the City of Geneva), there are strong rental protections for tenants where landlords are only able to increase rent when their own costs increase (due to renovation costs, interest rate increases, etc) (O'Dea, 2020). This means that long-term tenants have been afforded a high level of tenancy protections along with more affordable rents. On the other hand, individuals entering the rental market are forced to bear the brunt of price pressure from rising demand (O'Dea, 2020).

Since 2007, Swiss government authorities have played a larger role in regulating the market and controlling prices for both new build accommodation and renovated housing. Rents are controlled and regulated across the PRS in order to ensure tenants are guaranteed stability of housing (Petite & Perrella, 2022). Prices in the owner-occupied market are also controlled and regulated with authorities placing caps on prices and controls on selling apartments (Petite & Perrella, 2022).

Of note is a rule forbidding foreign institutional investors from investing in residential property in Switzerland. Yet given Switzerland's large financial sector, many Swiss institutional investors have been buying up apartment complexes and carrying out mass evictions to extract higher profits from their properties (O'Dea, 2020).

1.4.4 Income Inequality

Inequality in income is a major issue impacting the stability of the Greater Geneva housing market. As Swiss employees take residence in French communes, the cost of housing on the French side of the border has increased sixfold over the previous five years as developers and sellers take advantage the higher incomes of Swiss workers (Boucher, et al., 2022). As this process has pushed the market further upwards, French residents reliant on French incomes are disadvantaged and unable to compete in the market (Boucher, et al., 2022). In fact, the municipality of Annemasse has the fourth highest income inequality in France (INSEE, 2021). Consequently, local governments are increasing their output of social and affordable housing to house those pushed out of the market.

Another underlying issue across the Greater Geneva housing market is the spatial segregation of its population where foreigners (in particular less educated, non-Western Europeans) tend to live in areas of lower quality housing (Schaerer & Baranzini, 2009). While the spatial segregation of its population is not equivalent to the extremities of some Western European city regions, there is evidence that foreign populations in Geneva tend to live in smaller accommodation, have smaller kitchens and live in rooms with multiple occupants. Swiss residents on the other hand tend to have larger accommodation, are less exposed to outside noise pollution and are more likely to own their home (Schaerer & Baranzini, 2009).

1.4.5 Accessibility Across the Border

A central aspect to this research is how the formation of a cross-border housing market is integrated with the level of accessibility present across the border region. Hence, accessibility can act as either a driver or an impediment to promoting opportunities for further housing integration across border regions.

As this case study encompasses the Greater Geneva metropolitan area and the Annecy Functional Urban Area, it has some of the highest levels of accessibility observed throughout the research. At the border specifically, there is an extremely high level of cross-border integration as public transport and infrastructural links allows for high accessibility between French suburbs and central Geneva. Because of its integrated, connected and accessible transport network, we observe that Swiss workers are more motivated to take up housing in France as their dwellings will be in close proximity and have easy access to jobs based in Geneva.

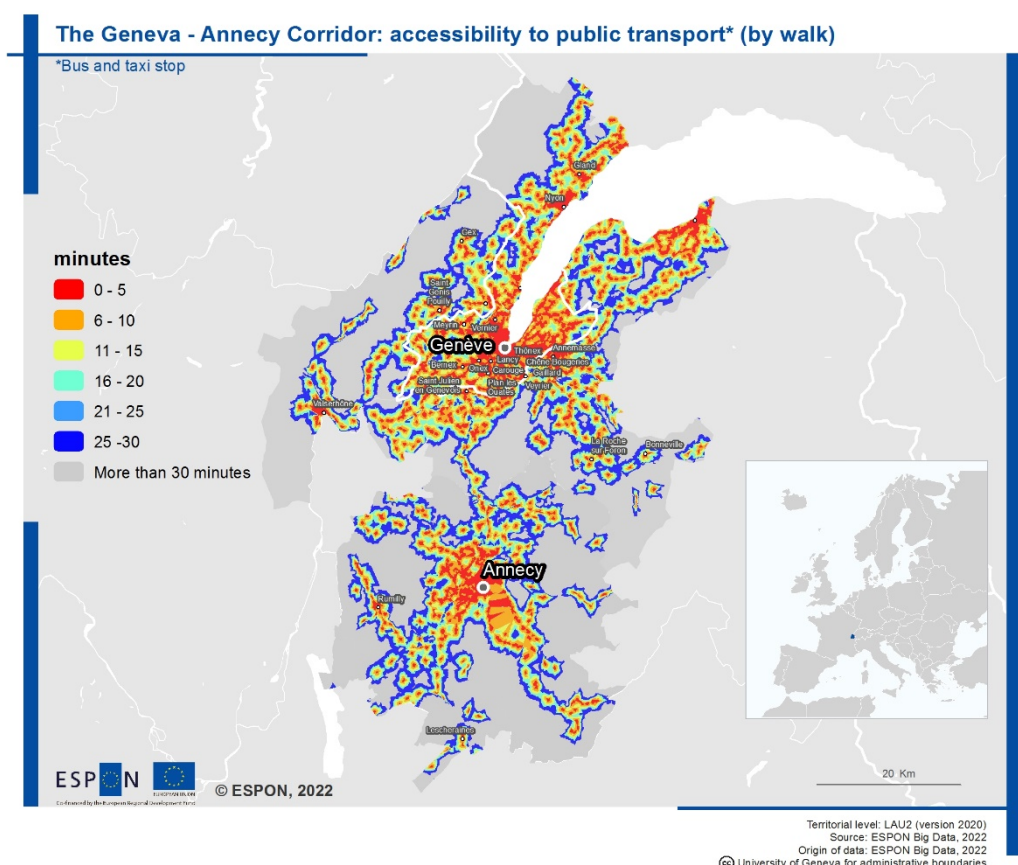


Figure 4: Accessibility by Public Transport

This map shows the accessibility to public transport bus and taxi stops, measured as the required walking time from any point in the analysed area to the nearest stop. Results are delivered as isochrones with a 5-minute interval. The map reveals that Annecy and Geneva are well connected through a corridor and in fact throughout the whole case study region.

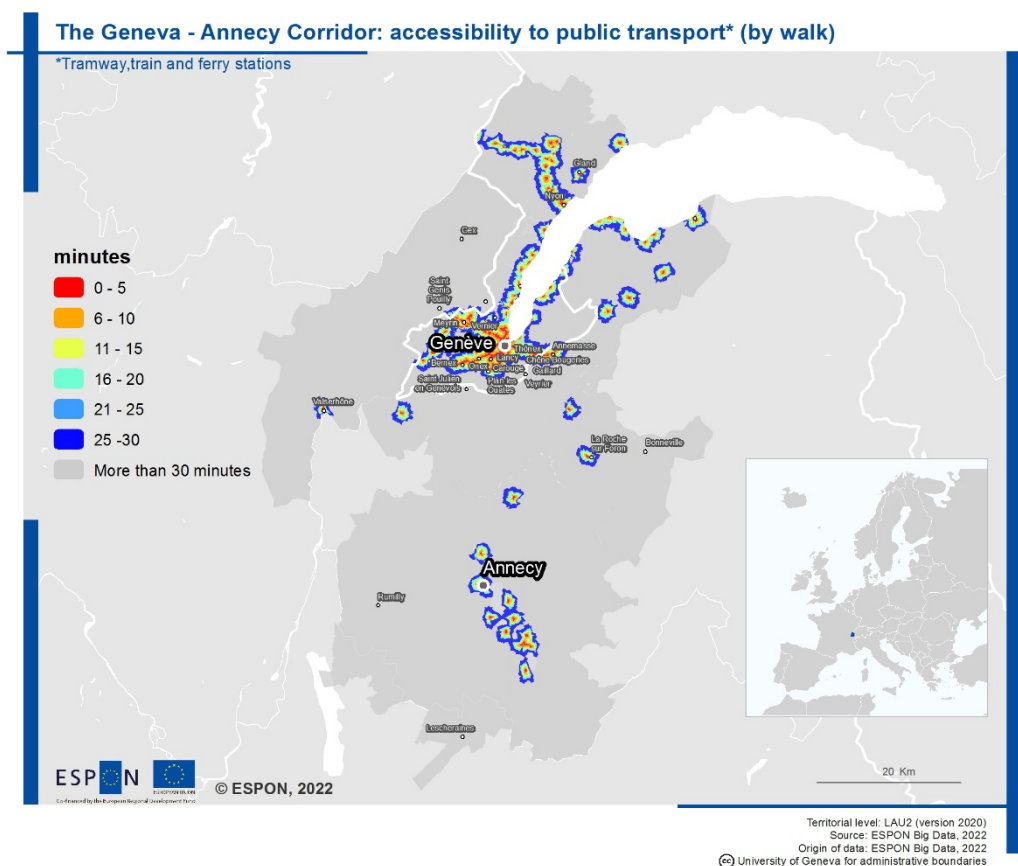


Figure 5 : Accessibility by Public Transport (Rail)

This map shows the accessibility to public transport tramway, train and ferry stations, measured as the required walking time from any point in the analysed area to the nearest station. Results are delivered as isochrones with a 5-minute interval. As in other case studies the accessibility to railway infrastructure is more limited, indicating that the direct border region is less integrated than through other means of transport.

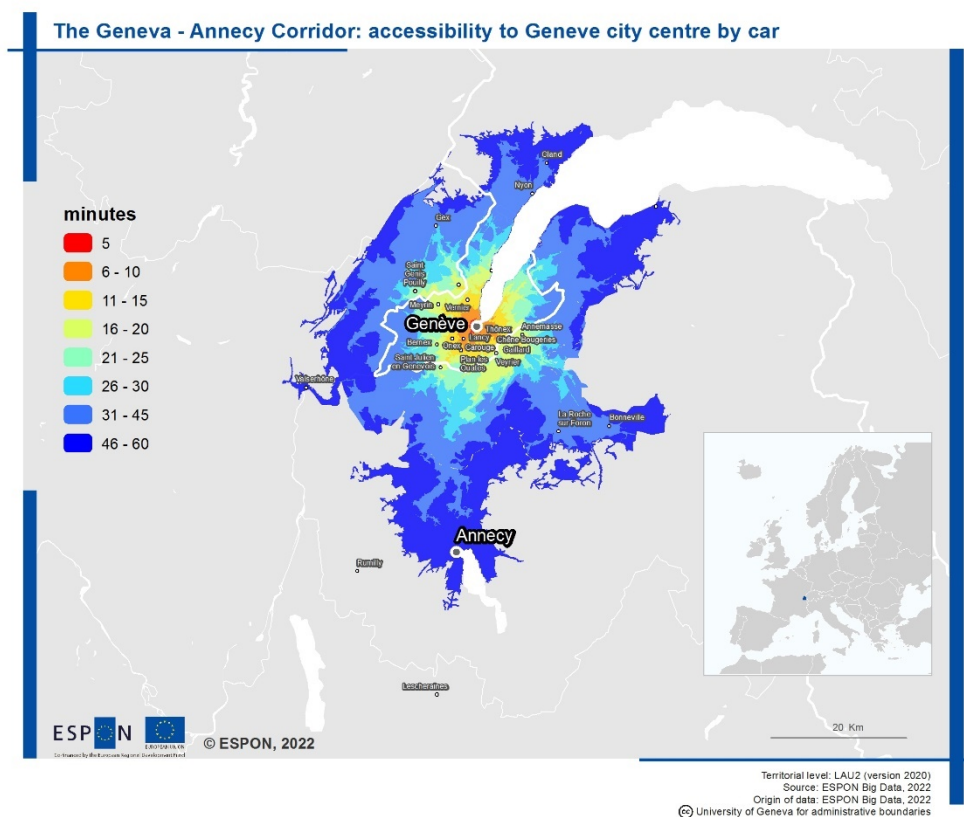


Figure 6: Accessibility to Employment Centres – Swiss side

This map shows the accessibility to retail shops, measured as the required driving time by car from any point in the analysed area to the city centre in Geneva. Results are delivered as isochrones with a 5-minute interval. The accessibility by car over the border region clearly indicates the accessibility of Geneva centre in less than 45 minutes far above the border regions. Specifically, the Annemasse border region is very well connected with less than 25 minutes timeframes.

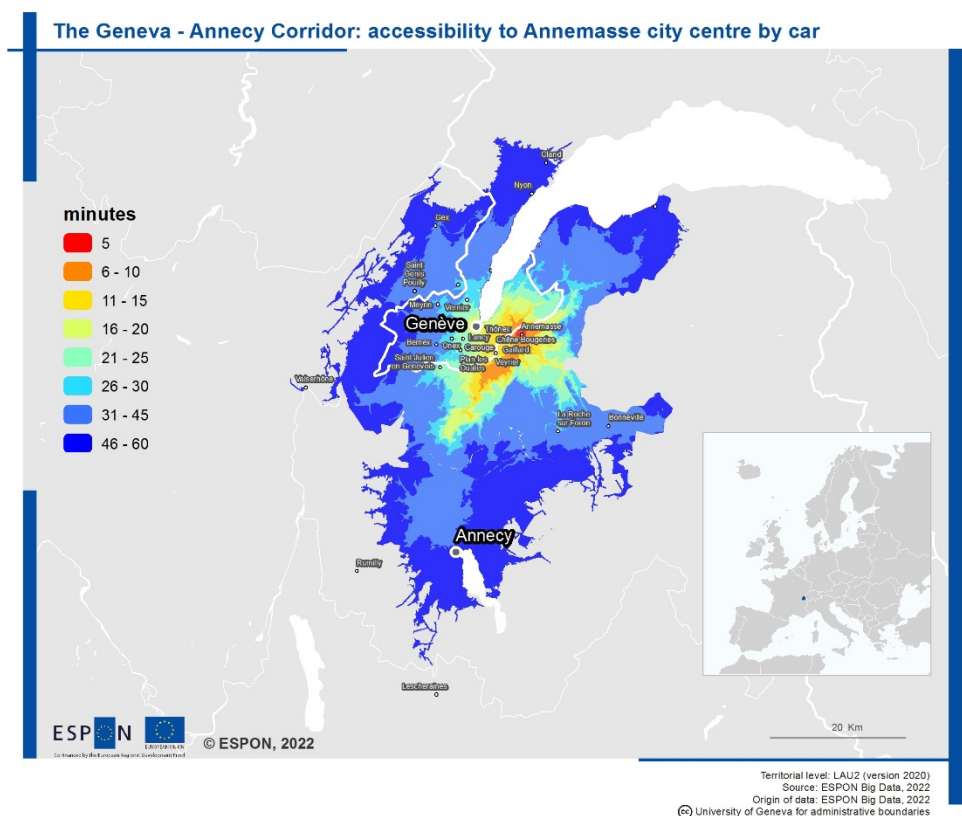


Figure 7: Accessibility to Employment Centres – French side

This map shows the accessibility to retail shops, measured as the required driving time by car from any point in the analysed area to the city centre in Annemasse. Results are delivered as isochrones with a 5-minute interval. The connectivity between Annemasse and Geneva becomes very visible here as well.

1.5 Policy Analysis

1.5.1 Spatial Planning Strategies

In Switzerland, the Federal government has decentralised planning powers to the Cantonal level. Most cantons have further devolved planning matters to municipalities, except for Geneva. In the Canton of Geneva, the canton has decided to retain its planning functions, and the canton is ultimately responsible for permitting new building and development (L'office de l'urbanisme , 2022). When new construction is planned for a municipality in Geneva, the municipality does play a limited role during the planning process by offering advice and representing local interests, but ultimately, the zoning, planning and permitting of development is completed by the Canton (Petite & Perrella, 2022).

When a municipality objects to a new proposal for development, it can implement the municipal veto as a tool to object to new construction and stall further development (Petite & Perrella, 2022). Often when a municipality uses its veto, it allows the municipality to have a greater say in the future development of its area as new development cannot progress with a veto (Petite & Perrella, 2022).

The 'Plan Directeur Cantonal 2030' (PDCn) is the current spatial planning strategy for the Canton of Geneva. The PDCn is a binding statutory document for the Canton of Geneva, and it coordinates activity between itself and the Federal Republic, neighbouring cantons and bordering regions (L'office de l'urbanisme , 2022). The PDCn acts both as a regional and local plan and also sets the framework for local activities in its municipalities.

To the north of the Canton of Geneva, the region of Nyon is a sub-area within the Canton of Vaud which has agreed to coordinate planning matters across 40 municipalities. The region of Nyon is also a member of the Grand Geneva

Agglomeration. The region of Nyon coordinates its spatial planning strategy similarly to the Canton of Geneva with a 'Plan Directeur Régional du District de Nyon'. It also agrees to collaborate and coordinate its spatial planning across borders with membership to the Grand Geneva Agglomeration (Grand Genève, 2022).

In France, the central government has decentralised spatial planning matters to the regional and local levels of governance (MLIT, 2012). There is no overall national plan driving a cohesive development strategy although the state does play a role in administering interregional projects of national significance (OECD, 2017). Additionally, the state can outline spatial planning frameworks and priorities which regions and communes must adhere to.

At the regional level, each region is responsible for developing a 'Schéma Régional d'Aménagement de Développement Durable et d'Égalité des Territoires' (SRADDET) (OECD, 2017). The SRADDET for Auvergne-Rhône-Alpes sets the regional goals for the French territory surrounding the Canton of Geneva. Regional strategies focus on a number of themes relating to the economic, social and environmental objectives of the territory (OECD, 2017). Moreover, local planning matters must adhere to and be compatible with the components of the SRADDET to ensure regional cohesiveness.

As Grand Geneva is a large, interconnected metropolitan region, local planning for French municipalities within the cross-border region is coordinated together across communes. There are eight intercommunal planning authorities across the Grand Geneva region. Each of these authorities publishes a 'Schéma de Cohérence Territoriale' (SCOT) which defines the land-use strategy with respect to guiding the urban development of the area. It aims to develop balanced urban areas particularly in relation to housing, social inclusion, public transport and economic development needs (OECD, 2017).

Additionally, communes are expected to layout their local buildings regulations and sustainable development strategies through a 'Plan Local D'Urbanism' (PLU) (MLIT, 2012). Some municipalities elect to combine their PLUs into one cohesive 'Plan Local D'Urbanism intercommunal' (PLUi) where local planning matters across several communes are integrated under one strategy (OECD, 2017). Regardless of whether a commune creates its own separate PLU or coordinates activity with neighbouring communes through a PLUi, these localised planning documents must adhere to guidelines set out in both the SCOT and the SRADDET.

Grand Geneva coordinates development and planning activities across the different authorities through 'projets d'agglomération' (Grand Genève, 2022). These projects serve as cross-border planning guides and provide for the sustainable, holistic development of the region. All participating authorities in the Grand Geneva agglomeration collaborate and agree to a set of guiding principles which controls development and enhances mobility measures throughout the region. While the projects are non-binding in principle, their cross-border focus (often incorporating trans-boundary infrastructure projects) along with their funding mechanism (generally Swiss federal funding stipulating for cohesiveness) ensures that all policymaking across different authorities are aligned and mutually agreed upon (Boucher, et al., 2022).

1.5.2 Housing Policies

Housing policy across this cross-border region varies greatly as Swiss housing policies favours a more controlled market while French housing policies are more dependent on free market conditions and centralised decision-making (Boucher, et al., 2022). What we see is that the inability to effectively moderate the housing crisis within Geneva causes issues to cross the border and generates negative externalities elsewhere throughout the region. For instance, in Geneva, the majority of the population rents housing through a regulated market with many price controls (Petite & Perrella, 2022). Additionally, the development process is often long winded and slow, especially when compared to French development process (Boucher, et al., 2022). These conditions cause many Swiss workers to migrate as a lack of new, affordable supply to purchase causes households to look elsewhere. In France, the market is less regulated, and there is more supply to purchase at prices which are substantially lower than Genevan prices (Boucher, et al., 2022). As this process of Swiss migration has continued, French housing prices have spiralled upward, and French workers are less able to compete with Swiss incomes in the housing market. Consequently, French authorities are required to build new social and affordable housing units for households priced out of the market while centralised policymaking prevents them from effectively legislating to the unique needs and dynamics present within their border region (Boucher, et al., 2022).

Typology	Switzerland	France
<i>Statutory</i>	<ul style="list-style-type: none"> Le Plans Directeur Regional/Cantonal – Spatial planning strategies Second Homes Act 2015 Lex Koller Law 1983 – restricts foreigners from purchasing Spatial Planning Act (LAT/LaLAT) Le Loi générale sur les zones de développement(LGZD) – Genevan law regulating housing & development General Housing and Tenant Protection Act (Geneva) 1977 	<ul style="list-style-type: none"> DATAR(Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale) – national spatial planning legislation setting out frameworks Le Schéma de cohérence territoriale (SCOT) & PLU (plan local d'urbanisme) SRU (Solidarité et Renouvellement Urbain) – stipulates that 25% of housing in urban communes are reserved for HLM stock ALUR (officielle de loi n°2014-366 du 24 mars 2014 pour l'accès au logement et un urbanisme rénové) – places penalties on communes missing 25% HLM residential stock ELAN (loi pour l'évolution du logement, de l'aménagement et du numérique)– housing reform legislation modernising planning system
<i>Fiscal</i>	<ul style="list-style-type: none"> Price Controls on Housing Markets LDTR (law on Demolitions, Transformations and Renovations of Residential houses) – price control on renovated housing Opening a Home Savings Account with State Bank State-backed Guarantee System Registration Fee Reductions Repayable Advances & State-Backed Loans Surcharge placed on subsidised housing tenants who exceed income level 	<ul style="list-style-type: none"> Caisse des Depots et Consignations – public investment banks providing low-cost loans Tax exemptions/reductions for landlords commanding lowered rental rates Rent controlled zones Housing Savings Plans (Compte Epargne Logement) Regulated Loans for Owner-Occupied ownership PTZ (Prêt à Taux Zéro) – 0% subsidised loans from Tax rebate for new PRS construction ANAH (Agence nationale de l'habitat) Grants – for landlords upgrading property
<i>Public</i>	<ul style="list-style-type: none"> HBM (agency administering affordable housing– affordable housing blocks owned by public utility real estate agencies HLM (Social Housing associations)– low-income social housing HM – mixed housing intended tenants on subsidy LUP (types of public housing) – public utility housing within category of HBMs 	<ul style="list-style-type: none"> HLM (habitation à loyer modéré) – low-income socialised housing owned by public companies or municipalities Subsidised affordable housing
<i>Universal</i>	<ul style="list-style-type: none"> Housing Allowance Subsidized Housing Non-profit Housing Cooperatives 	<ul style="list-style-type: none"> APL (l'aide personnalisée au logement – universal rental assistance payment PAH (l'amélioration de l'habitat) – home improvement subsidy for low-income owner occupiers

Figure 8 : Table of Housing Policies Overview

One of the primary differences across the collective housing market is a predominance for living in the rental sector in Geneva compared to a predominance for buying in the owner-occupied market in France. As the Canton of Geneva exhibits a constrained, highly regulated market with extreme inelasticity, households seeking to purchase a property are often pushed to buying across the border (von Ehrlich, et al., 2018). As much of the housing policy for the French Genevan region is set by national authorities in Paris, local management of the housing market is difficult to implement as local policymakers are subject to national policies and mandates. Hence, many of the dynamics and peculiarities unique to the region are not adequately accounted for in local policymaking as lawmakers and politicians are beholden to national policy. When comparing the housing policies across both states, there is a focus on regulating and controlling the housing sector through statutory policies along with many fiscal

measures which seek to implement alleviate high housing prices. The Canton of Geneva has a more expansive public housing sector given the canton's historic reliance on the PRS. Overall, there is a clear picture that issues in relation to the Canton of Geneva's overheated housing market are causing issues in housing markets across the border while a lack of unitary, cohesive housing policy for the whole region continues to allow this housing imbalance between Geneva and its surrounding metropolitan communes to continue (Hilber & Schöni, 2016).

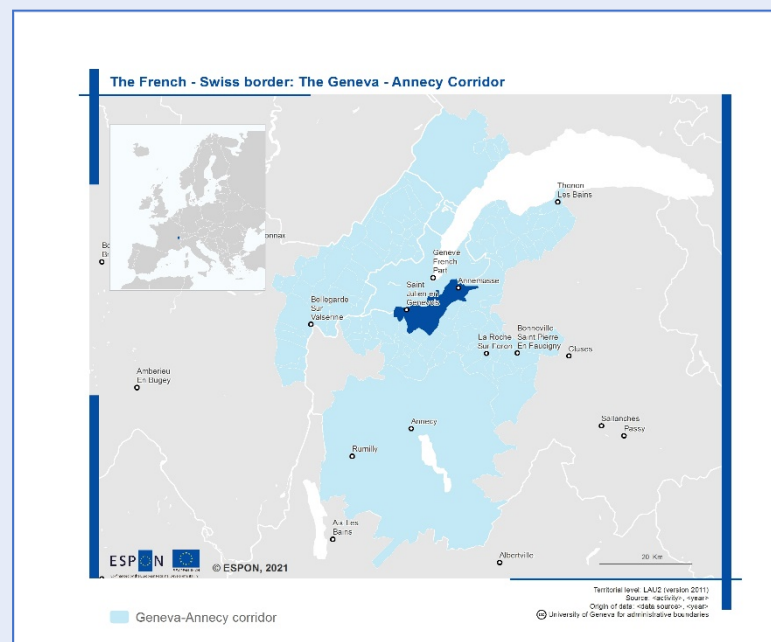
1.6 Local Interview Material

The below table documents findings collected from semi-structured interviews with local stakeholders within the case study region. Findings from these interviews have been referenced and referred to throughout the text.

Representative	Region	Key Points
Representatives from Annemasse	France	<ul style="list-style-type: none"> - Local housing market: new development is small, expensive, built to Swiss incomes - French salaries are unable to compete in Annemasse requiring affordable housing help from the government - More construction and development on the French side of the border due to less restraints on building new supply - State imposed quota of 25% social housing on new development with fines and annual observation if the local authority does not meet quota - High income inequality (fourth largest in France) - Within private market, 20% price increase in Annemasse over last 6 years - Challenges to implement local housing policies as centralisation of policymaking does not meet needs of region - New innovations within social/affordable housing sector
Representatives from Grand Geneva	Grand Geneva	<ul style="list-style-type: none"> - Disagreement with map perimeters, should be cohesive with one of their boundaries - INSEE – data access to cross border workers - Collaboration amongst institutions is sought for - Grand Geneva has competency over interregional mobility and ecological issues but no competency over housing except to push for higher densification of the region
Representatives from Canton of Geneva	Switzerland	<ul style="list-style-type: none"> - Missing information of cross-border dynamics due to households refusing to declare to authorities - Flat ownership (PPE) is a new concept to Geneva commencing in the 1970s - Discussed the municipal preview in planning decisions - Benefits from tax allocations contingent on cross-border cooperation which promotes policy coordination - Strong control of housing pricing from the State - New legislation seeks to promote new housing development while also seeking to protect against any further environmental degradation

Figure 9: Table of Interviews

2 Regional Fiche: Switzerland – France: Geneva Metropolitan Region



Section 1: Housing

Legislation

Region-wide

Second Homes Act 2015 – *Swiss Federal Law*
Lex Koller 1983 – *Swiss Federal Law*
Spatial Planning Act (LAT/LaLAT) – *Swiss Federal Law*
DATAR – *France National Planning Laws*
SRU – *France National Affordable Housing Law*
ALUR – *France National Social Housing Law places*
ELAN – *France Housing Reform 2017*

Strategies

Le SRADDET – *Regional Plan for Auvergne-Rhône-Alpes*
Le Project D'Agglo – *Coordinated Cross-Border Strategies for Geneva metro*

Local-areas

Le Loi générale sur les zones de développement (LGZD) – *Canton of Geneva Law*
General Housing and Tenant Protection Act 1977 – *Canton of Geneva Law*

Plan Directeur Cantonal – *Geneva*
Plan Local D'Urbanism – *Annemasse & St Julien en Genevois*

2 Regional Fiche: Switzerland – France: Geneva Metropolitan Region

Administrations	Federal Office for Housing (BWO) – <i>Switzerland</i> Ministry of Ecological Transition & Solidarity – <i>France</i>	Department of Territory – <i>Canton of Geneva</i> Maison de l'Habitat – <i>Annemasse Agglo</i> Service Habitat – <i>CC du Genevois</i>
Tenure	44.1% – <i>Homeownership Rate in CH</i> 62.8% – <i>Homeownership Rate in FR</i>	18.3% – <i>Homeownership Rate in Geneva</i> 42% – <i>Homeownership Rate in Annemasse</i> 47% – <i>Homeownership Rate in St Julien en Genevois</i>
Affordability	CHF 6,250 (€5,896) – <i>Avg Price of House per SQM in CH</i> €3,800 – <i>Avg Price of House per SQM in FR</i>	CHF 15,437 (€14,561) – <i>Avg Price of House per SQM in Geneva</i> €4,483 – <i>Avg Price of House per SQM in Annemasse</i> €5,000 – <i>Avg Price of House per SQM in St Julien en Genevois</i>
Supply Gap	~3,000 new residential units – <i>required each year to keep apace with population growth for Geneva</i>	
Section 2: Cross-Border Dynamics		
Inhabitants	Region-wide 1,017,920 – <i>Population of Grand Geneva Agglo 2018</i>	Local-areas 506,343 – <i>Population of Canton Geneva</i> 36,250 – <i>Population of Annemasse</i> 15,509 – <i>Population of St Julien en Genevois</i>
Net Migration	635,000 – <i>Daily crossings a day</i>	555,000 – <i>Daily border crossings into Geneva</i> ~30,000 – <i>Daily commuters from Annemasse</i>
Border Crossings	14 – <i>Physical Border Crossing Checkpoints</i>	2 – <i>Cross-Border Motorways</i> 5 – <i>Cross-Border Railways</i> 3 – <i>Cross-Border Tramways (2 planned)</i> 17 – <i>Cross-border Bus Lines</i> Leman Express – <i>Cross-border commuter rail service</i>
Purchasing Power	81,758.300 CHF (€77,143,936) – <i>GDP per Capita in CH</i> €37,440 – <i>GDP per Capita in FR</i>	€33,600 – <i>GDP per Capita in Auvergne-Rhône-Alpes</i> 110,074 CHF (€103,862) – <i>GDP per Capita in Geneva</i>
Inflation	1.96% – <i>Inflation rate in FR 2021</i> 0.6% – <i>Inflation rate in CH 2021</i>	<i>Due to recent Eurozone inflation, the value of the CHF is rising in comparison to the EUR</i>
Unemployment	8.1% – <i>Unemployment rate in FR</i> 2.5% – <i>Unemployment rate in CH</i>	4.9% – <i>Unemployment rate in Geneva</i> 6.3% – <i>Unemployment rate in Annemasse</i> 7.6% – <i>Unemployment rate in St Julien en Genevois</i>
Mortgage Interest Rates	1.14% – <i>Average Mortgage Interest Rate in FR</i> 1.6% – <i>Average Mortgage Interest Rate in CH</i>	<i>Long-term fmortgage interest rates have recently been climbing in CH while they have been declining in FR.</i>
Language Barriers	French – <i>Official language of FR & CH</i>	English – <i>Common second language</i> Italian – <i>Another Official Language of CH</i> German – <i>Another Official Language of CH</i>
Section 3: Spatial Planning Frameworks		
	Region-wide	Local-areas

2 Regional Fiche: Switzerland – France: Geneva Metropolitan Region

Regional Plans	Projet D'Agglomeration – <i>Cross-Border Development Strategies</i>	PDC – <i>Canton of Geneva</i> Le SCOT – <i>Annemasse Agglo & CC du Genevois</i> PLU – <i>Annemasse & St-Julien-en-Genois</i> Interreg Mediterranean – <i>France only</i> Interreg Sea Basin ENI CBC – <i>France only</i>
EU/Cross-Border Programmes	Interreg Alpine Space – <i>EU Interreg Region</i> Interreg Northwest – <i>EU Interreg Region</i> Interreg France-Switzerland – <i>EU Interreg Region</i> Schengen Area – <i>European Zone of Free Movement</i>	
Cooperative Agreements		Leman Express – <i>operated by both FR & CH authorities</i> Tax Agreement – <i>French frontier workers charged Swiss taxes</i>
Governance	Grand Genève Agglo – <i>Cross-Border Regional Authority</i>	Office de l'urbanisme – <i>Geneva spatial planning authority</i> Service Urbanisme Foncier – <i>Annemasse planning authority</i> Service aménagement urbain et commercial – <i>St Julien en Genevois planning authority</i>
Local Initiatives	GGBA – <i>Greater Geneva Bern Area</i>	LLGC – <i>local grouping of cross-border cooperations</i>
Legal Frameworks	EU Directives – <i>overarching legal frameworks for region</i> Swiss Federal Legislation – <i>overarching legal frameworks for region</i>	Cantonal Autonomy – <i>Geneva has independent rights granted as an autonomous canton</i>

3 Indicators from Swiss-French Case Study

This chapter reviews and analyses both the updated and new indicators in a cohesive fashion in order to arrive at some interim conclusions which provide us further detail on the activity of the cross-border housing market along with an understanding of general wellbeing in relation to the affordability of housing.

3.1 Offerings and Prices

This subchapter details information pertaining to the offerings and prices found in the web scraping process through a number of different indicators.

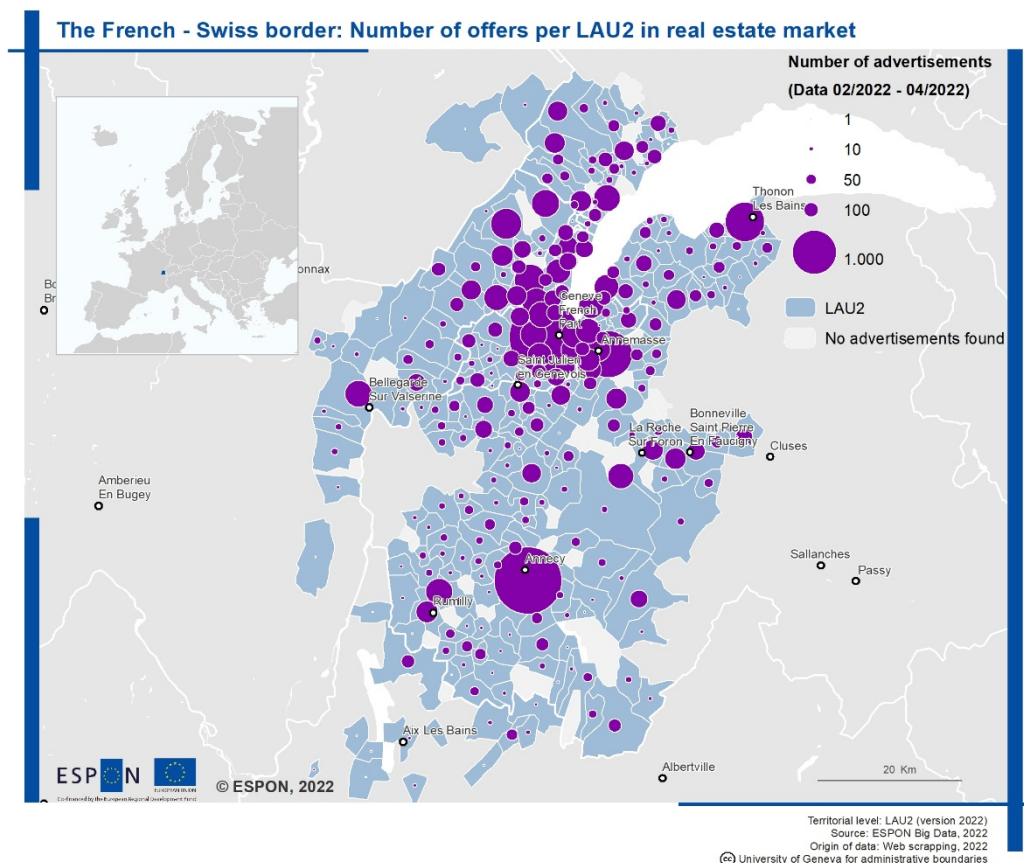


Figure 10: Number of Offers on Advertised Dwellings per Municipality across Real Estate Market

Indicator and data

This map displays the number of advertisements for buying dwellings scraped from web portals in the period of February to April 2022. The advertisements are aggregated at LAU2 level, and they are unique and avoid counting multiple instances of the same advertisement across time.

The collected advertisements are cleaned according to the methodology explained in the technical annex. For some LAU2 units, no valid advertisements are found. The list of valid advertisements is used in all subsequent indicators.

Trends and patterns

As one would expect the number of offers is highest in the metropolitan cities in Geneva, Annemasse and Annecy, with fewer offers in the more rural areas in between. It is worth mentioning that the offer within Geneva is fragmented in several LAU2 units, so the number of advertisements is bigger than what it seems in the map.

The French side has a much higher number of advertisements than the Swiss region (+80%), with many of them concentrated in the LAU2 units close to the border with Switzerland (Annemasse, Thonon-Les-Bains).

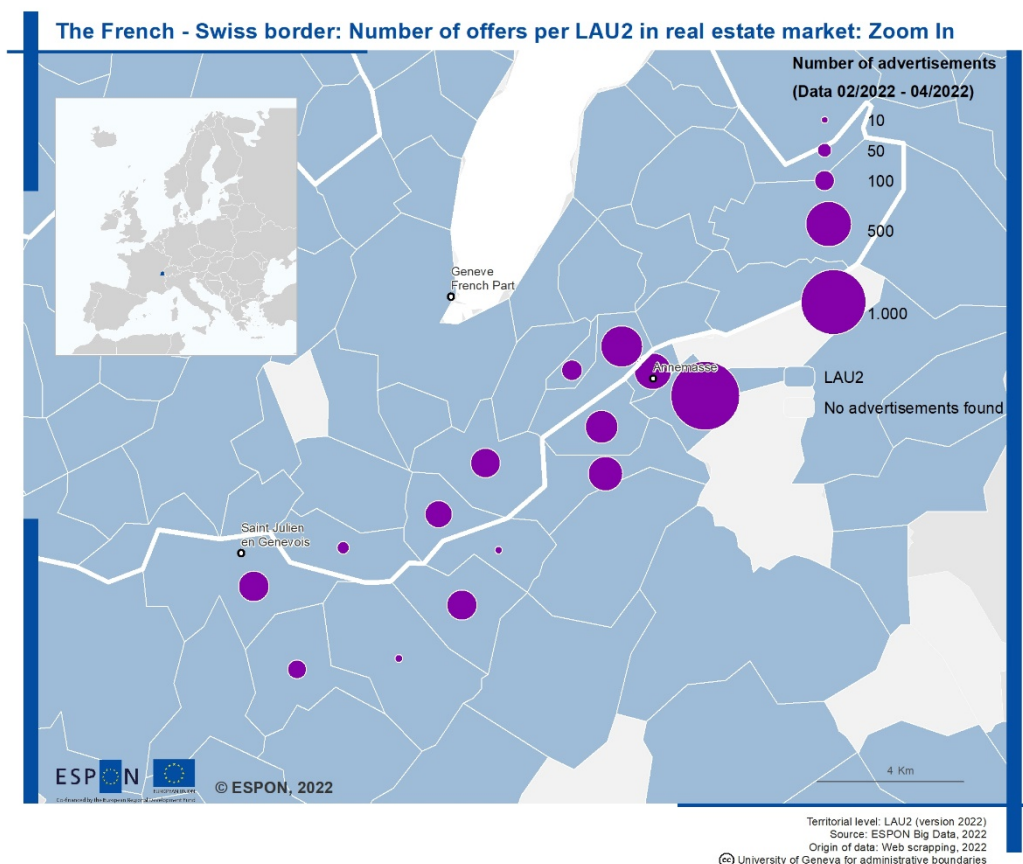


Figure 11: Border Zoom In - Number of Offers on Advertised Properties

Indicator and data

This map displays the number of advertisements for buying dwellings scraped from web portals in the period of February to April 2022. The advertisements are aggregated at LAU2 level, and they are unique and avoid counting multiple instances of the same advertisement across time.

The collected advertisements are cleaned according to the methodology explained in the technical annex. For some LAU2 units, no valid advertisements are found. The list of valid advertisements is used in all subsequent indicators.

Trends and patterns

The map indicates the number of offers alongside the border region, with the region of Annemasse having the most number of offers indicating an active market.

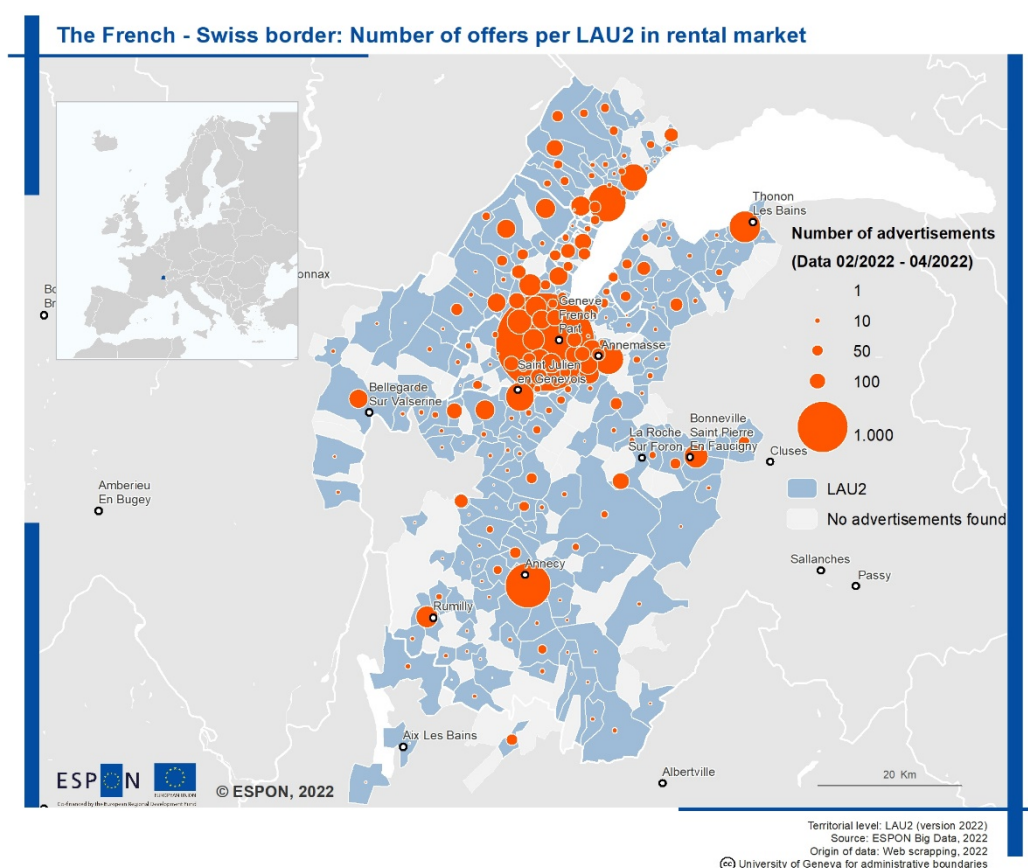


Figure 12: Number of Offers on Advertised Dwellings per Municipality across the rental market

Indicator and data

This map displays the number of advertisements for renting dwellings scraped from web portals in the period of February to April 2022. The advertisements are aggregated at LAU2 level, and they are unique and avoid counting multiple instances of the same advertisement across time.

The collected advertisements are cleaned according to the methodology explained in the technical annex. For some LAU2 units, no valid advertisements are found. The list of valid advertisements is used in all subsequent indicators.

Trends and patterns

The rental market shows a different pattern from the real estate market. Although many advertisements still appear for Annecy and Geneva, we now observe a higher number directly around the border especially on the French side (Annemasse, Saint-Julien-en-Genevois) but also in the areas of Geneva that are a bit away from the border.

The proportion of rental vs buying advertisements changes in a significant way depending on the side of the border. In Switzerland we have roughly the same amount of rental adds and buying adds (~2500) while on the French side the number of rental advertisements is less than half of the buying ones (45000 vs 2000).

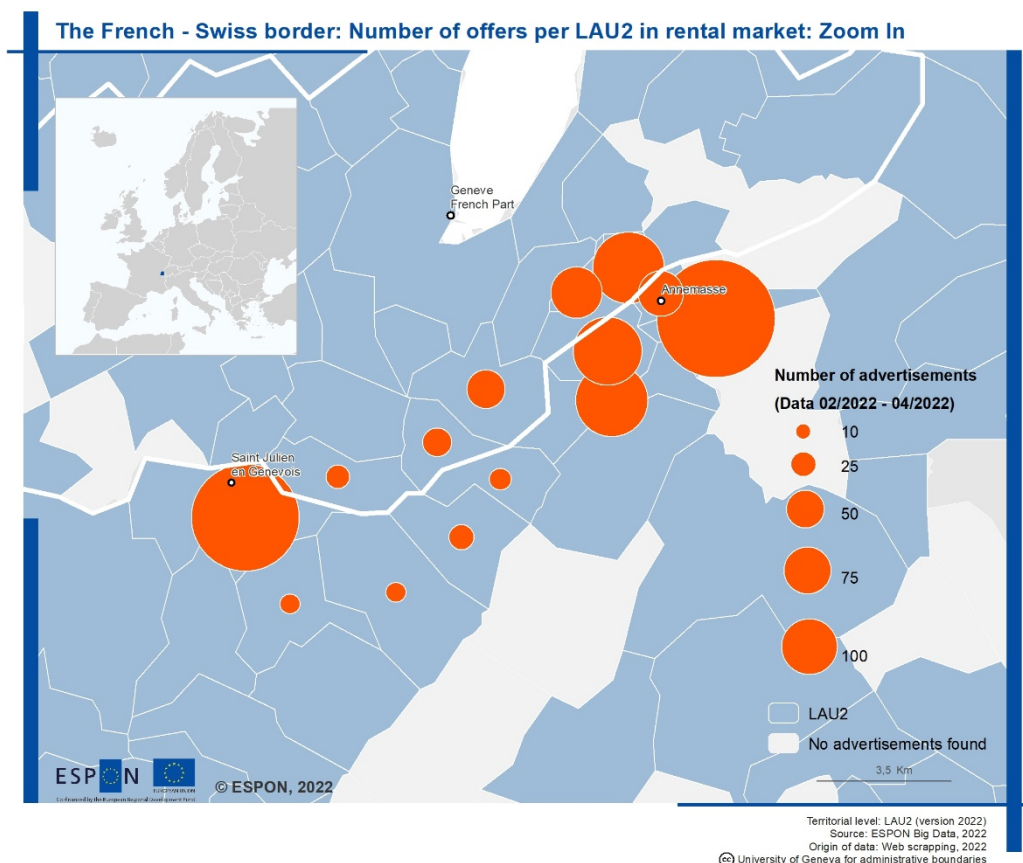


Figure 13: Border Zoom In - Number of Rental Offers on Advertised Properties

Indicator and data

This map displays the number of advertisements for renting dwellings scraped from web portals in the period of February to April 2022. The advertisements are aggregated at LAU2 level, and they are unique and avoid counting multiple instances of the same advertisement across time.

The collected advertisements are cleaned according to the methodology explained in the technical annex. For some LAU2 units, no valid advertisements are found. The list of valid advertisements is used in all subsequent indicators.

Trends and patterns

The number of rental offers is substantially higher in the region than the buying offers. The rental offers are highest in Saint-Julien-on-Geneva and Annemasse.

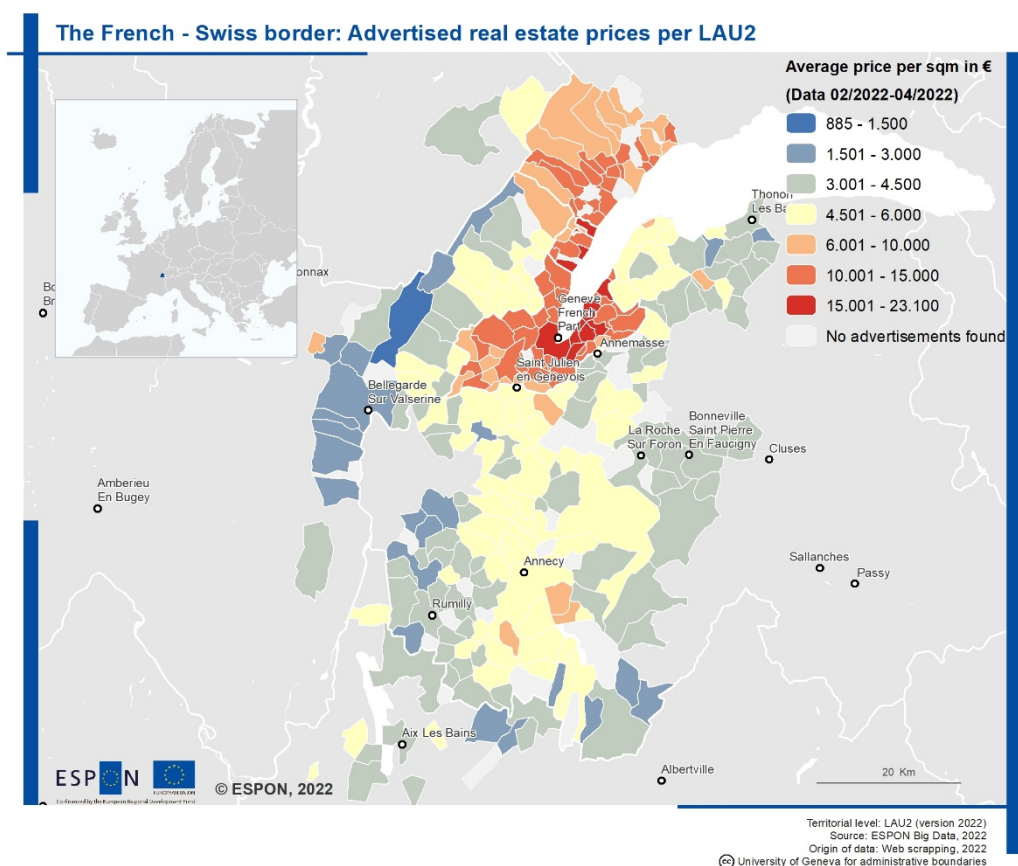


Figure 14: Advertised Price of Residential Property for Sale

Indicator and data

This visualization shows the advertised price of real estate. The data shown is the average price of buying a property in €/sqm per LAU2 unit computed from web scraped data obtained from online portals. All typologies are included (multifamily / single family, new / old) Data availability within the scraped period limits the calculation of the indicator, thus whenever no adds exist for a given LAU2, the indicator is empty.

Trends and patterns

There is a clear pattern of consistently higher prices in Geneva and the bordering Swiss LAU2 units. All of them fall within the ranges of +10.000€/sqm.

The moment we jump the French side, prices drop significantly to less than half (4101-5500€/sqm) and the further away we move from the border, the lower the prices get in France, only to increase again in Annecy.

This indicates that the border is a hard barrier for the real estate market.

Project Update

Since data collection for advertised housing prices in the Greater Geneva in 2015, we are witnessing that housing prices are increasing. In Geneva, there has been a substantial difference since 2015 where the average advertised price per sqm was between €11370-17800 per sqm. By 2019, the prices had increased to €11750-20350 per sqm, and now in 2022, we witness the prices range from €15000-23100 per sqm.

In Annemasse, increasing prices are also observed since data collection began in 2015. In 2015, the average advertised sale prices ranged from €2490-4830 per sqm while in 2019, the range had increased to €3330-5800. In 2022, prices decreased slightly from 2019 prices but were still larger than 2015 prices at €3000-4500 per sqm.

In Annecy a similar trend as Annemasse is witnessed. In 2015, the price was €2490-7950 per sqm while in 2019, the price was €2410-11750 per sqm. For 2022, the price range was €4500-6000 per sqm for Annecy.

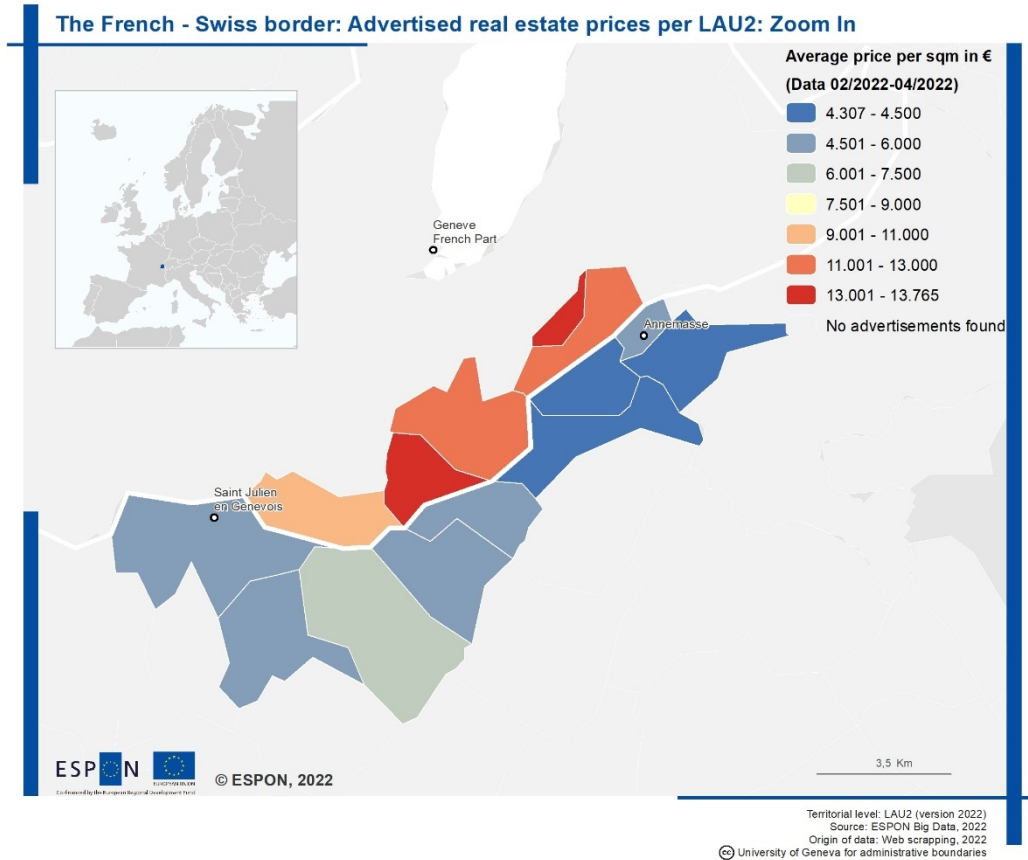


Figure 15: Border Zoom In - Advertised Real Estate Prices

Indicator and data

This visualization shows the advertised price of real estate. The data shown is the average price of buying a property in €/sqm per LAU2 unit computed from web scraped data obtained from online portals. All typologies are included (multifamily / single family, new / old) Data availability within the scraped period limits the calculation of the indicator, thus whenever no adds exist for a given LAU2, the indicator is empty.

Trends and patterns

Zooming into the case study regions the price differences become even more striking. The price differences are highest at the border next to Annemasse.

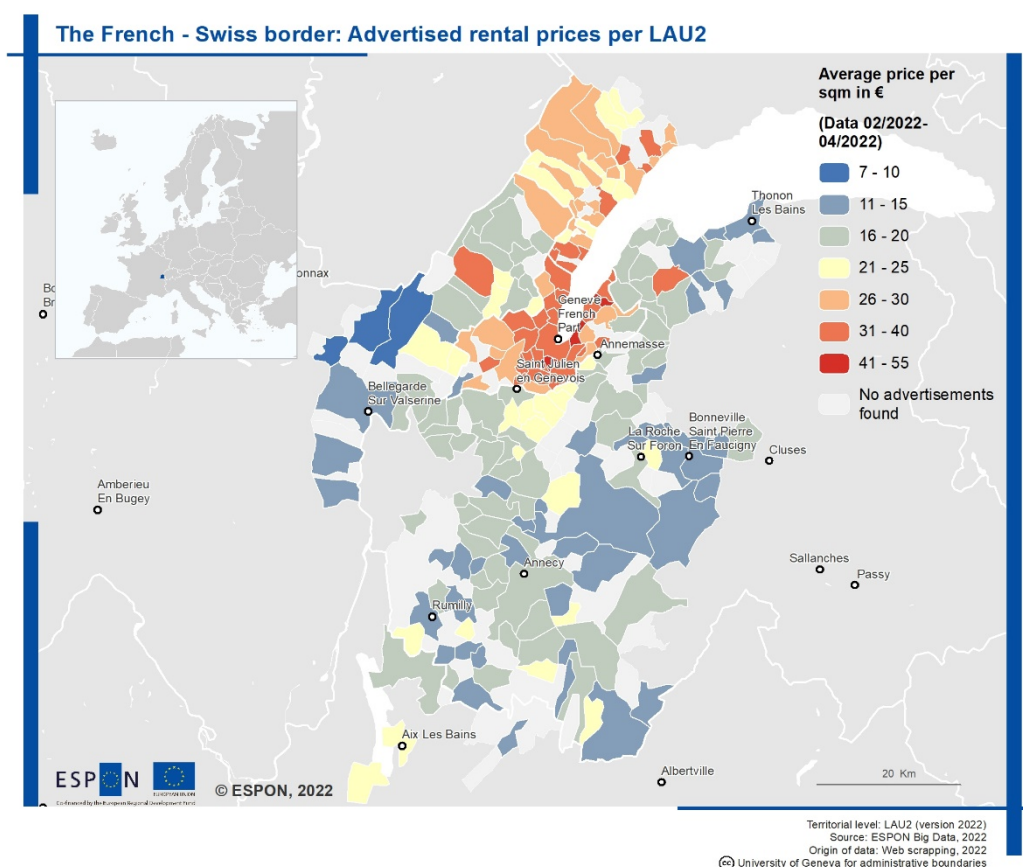


Figure 16 : Advertised Price of Residential Property for Rent

Indicator and data

This visualization shows the advertised price of rental. The data shown is the average price of renting a property in €/sqm per LAU2 unit computed from scraped data obtained from online portals. All typologies are included (multifamily / single family, new / old) Data availability within the scraped period limits the calculation of the indicator, thus whenever no adds exist for a given LAU2, the indicator is empty.

Trends and patterns

The rental market follows the same pattern as the real estate market in the sense that prices are consistently higher within Geneva and the immediate surroundings (with values between 31-54€/sqm). As soon as we move away, prices drop significantly to 9-20€/sqm.

The huge difference in GDP per capita that we will see next is one the main reasons to explain this important difference in prices at either side of the border.

Project Update

Regarding how rental prices have changed since 2019, Geneva has witnessed an increase in its advertised rental prices where the range was €15.5-16.8 per sqm in 2019 to €31-40 per sqm in 2022. In Annemasse, the highest rental prices recorded have increased where the average range in 2019 was €11.2-20.5 per sqm whereas it is now €21-30 per sqm in 2022. In Annecy, rentals remained at similar prices where the average range in price for 2019 was €14.4-20.5 per sqm to €16-20 per sqm in 2022. Below, we have attached a map of average advertised rental prices from the 2019 project for visual comparison.

Advertized price for property rental, 2015–2019

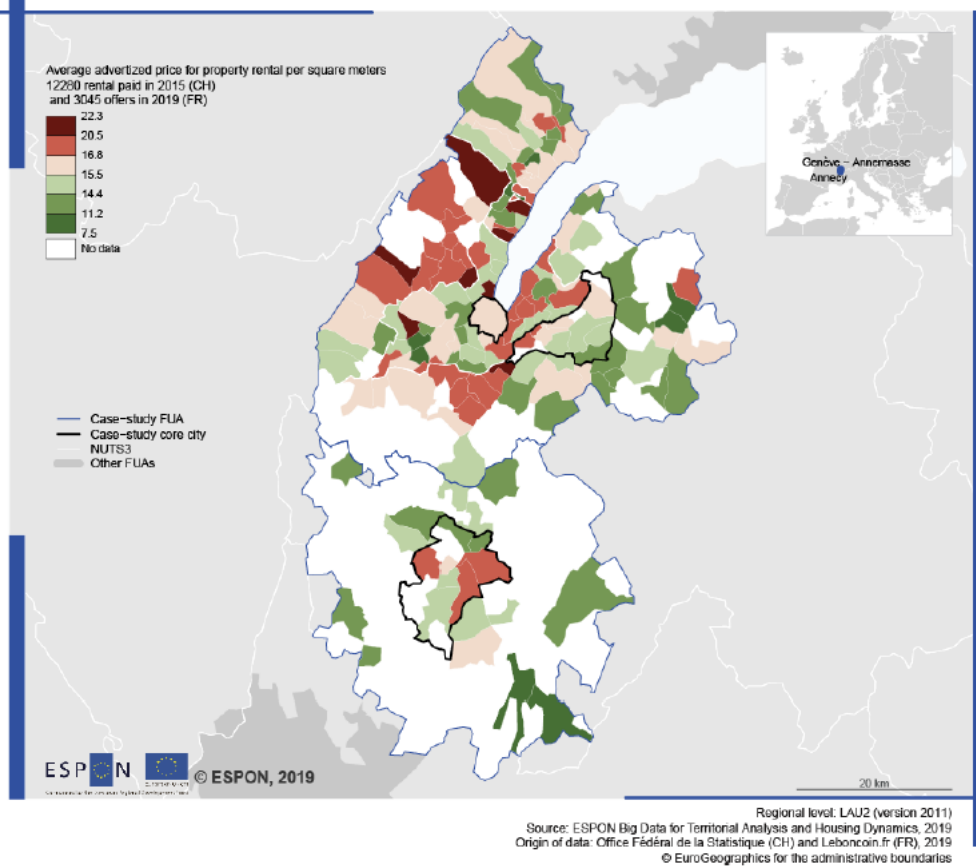


Figure 17: Advertised Rental Prices from 2015-2019

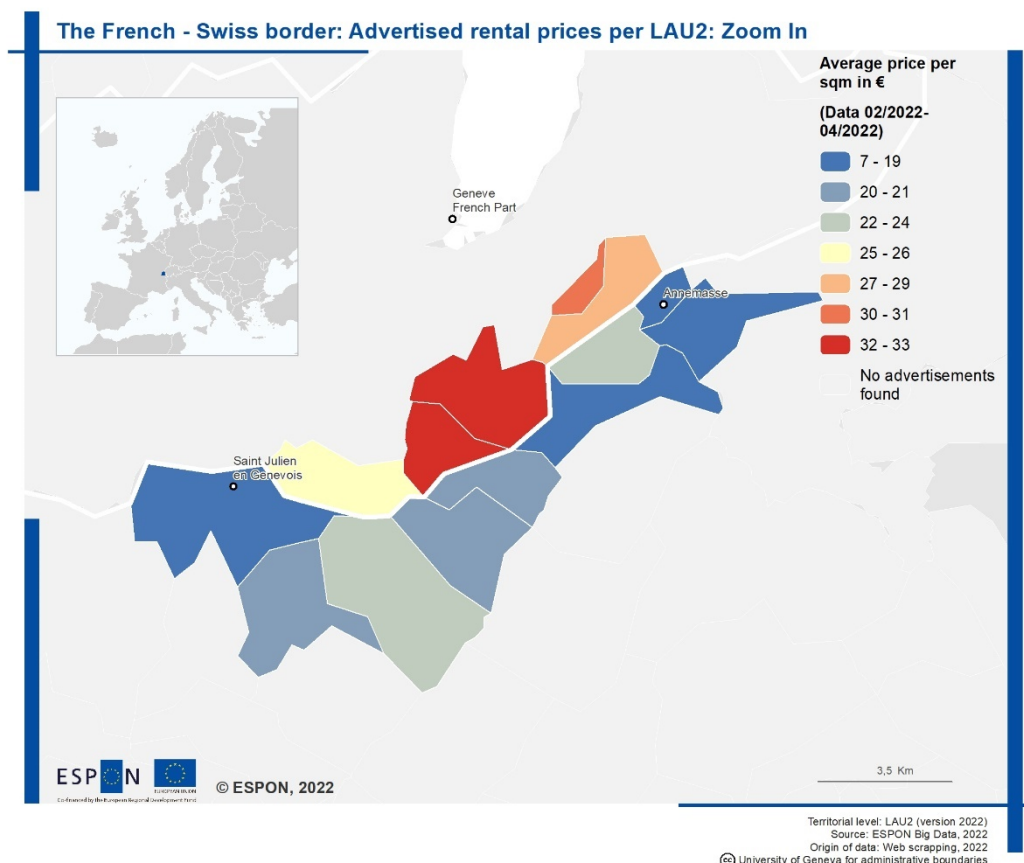


Figure 18: Border Zoom In - Advertised Rental Prices

Indicator and data

This visualization shows the advertised price of rental. The data shown is the average price of renting a property in €/sqm per LAU2 unit computed from scraped data obtained from online portals. All typologies are included (multifamily / single family, new / old) Data availability within the scraped period limits the calculation of the indicator, thus whenever no adds exist for a given LAU2, the indicator is empty.

Trends and patterns

Similarly to the pattern of the owner-occupied market, the advertised rental prices for rental prices differ considerably presenting a hard border for the real estate market.

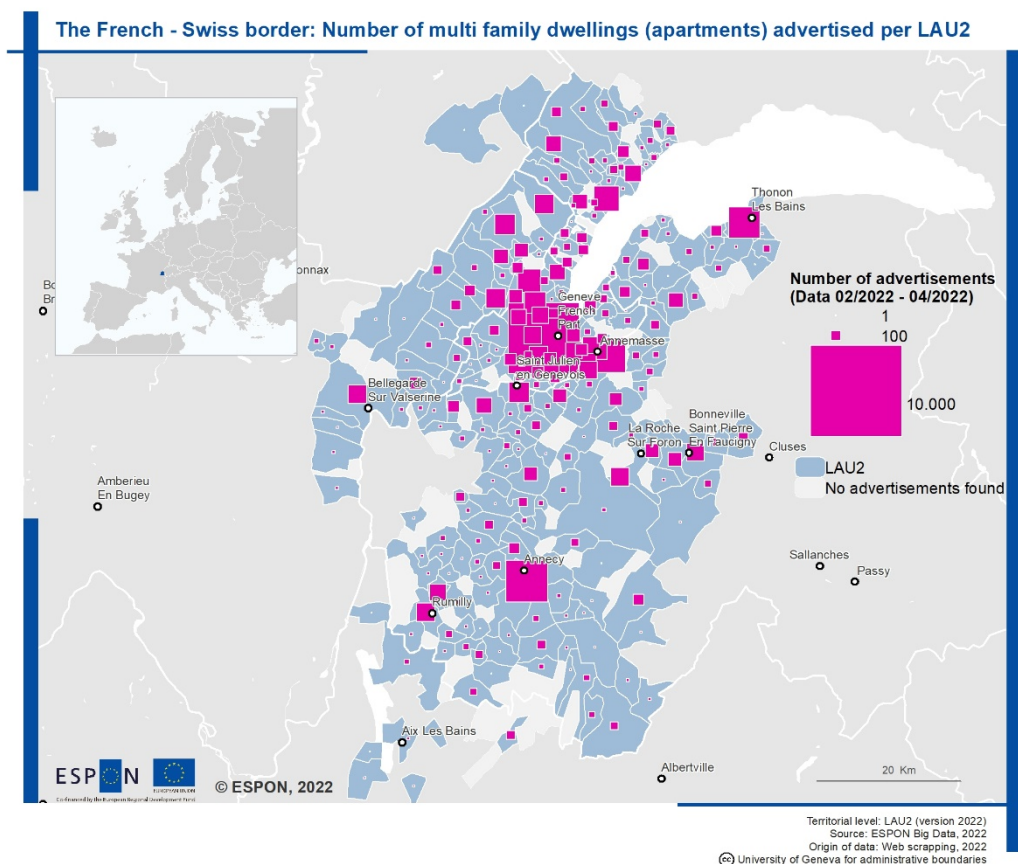


Figure 19: Multifamily Housing Type

Indicator and data

The indicator shows the number of valid scraped advertisements for multifamily dwellings (apartments) aggregated at LAU2 level. It includes both rental and buying advertisements and requires homogenising the housing typologies, which are slightly different in each country.

Trends and patterns

The number of scraped multifamily dwellings tends to be higher in big cities, and the offer is proportionally higher everywhere when compared to single family dwellings.

Proportions of multi vs single-family number of advertisements are similar at either side of the border (74% in France, 76% in Switzerland) indicating a similar type of dwellings in both countries.

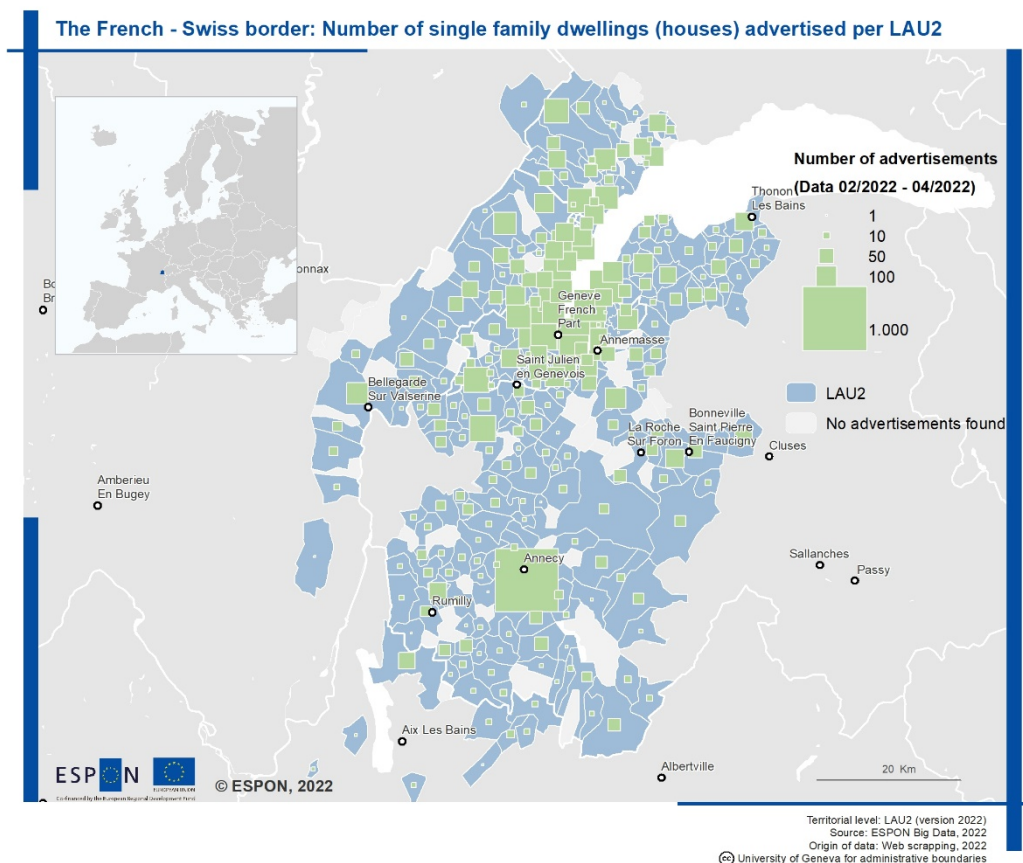


Figure 20: Single-family Housing Type

Indicator and data

The indicator shows the number of valid scraped advertisements for single family dwellings (single houses) aggregated at LAU2 level. It includes both rental and buying advertisements and requires homogenising the housing typologies, which are slightly different in each country.

Trends and patterns

Regarding single-family dwellings, we observe that they tend to be more abundant in rural LAU2 units illustrating an urban sprawl and suburbanisation effect.

Proportions of single vs multifamily number of advertisements are similar at either side of the border (26% in France, 24% in Switzerland), indicating a similar type of dwellings in both countries

3.1.1 Interim Conclusions: Offerings and Prices

Across these indicators, we can clearly observe a strong border effect impacting the cross-border housing market of the Greater Geneva as well as verify many of our preliminary research findings with the data collected.

Regarding offerings, we can clearly observe the inelasticity of the Swiss market discussed in the interviews in the fact that the French market has more offerings than the Swiss market. Despite Geneva being the largest city and centre of the region, the French market still had more rental and owner-occupied offerings exemplifying both the supply constraints facing the Genevan market as well as the over proliferation of residential, commuter housing in the French suburbs and towns surround Switzerland. The housing type indicator also reveal similar information as the multifamily dwellings are primarily concentrated in the largest urban centres of Geneva and Annecy while the surrounding countryside has a higher amount of single-family dwellings on offer illustrating the more suburban, residential character that these border communities are taking up.

With regard to the prices, we can clearly see a strong border effect as prices in Switzerland and Geneva are significantly higher and pricier than neighbouring prices in France and Annemasse. Hence, given this large disparity of housing prices within close proximity of each other, it is not surprising that a cross-border movement of Swiss

workers living in France and commuting to Geneva has emerged as the proximity between Central Geneva and lower cost housing in France is less than a 20 minute drive as observed in Figure 6.

3.2 Affordability and Profitability

This subchapter details information pertaining to the affordability and profitability of the cross-border housing market found in the web scraping process through the incorporation of several different indicators.

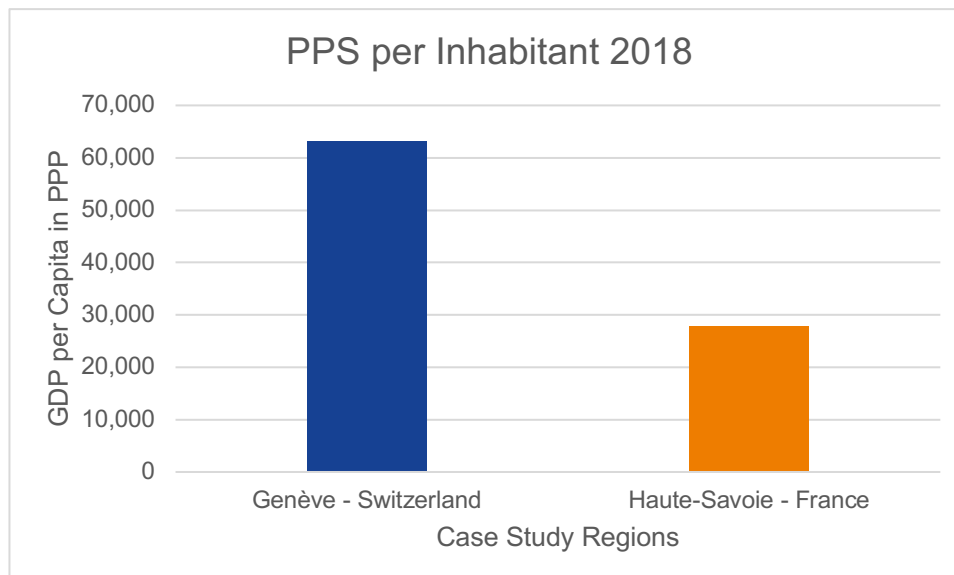


Figure 21: PPP (at NUTS3)

Indicator and data

This chart displays an indicator measuring income differences on either side of the border for each case study. Data is available as PPP per capita at NUTS3 level for the case studies with the most recent year of complete information being 2018. For Switzerland, we take the data from the **Genève NUTS3 region** and for France, we take the data from the **Haute-Savoie NUTS3 region**.

Trends and patterns

It is clear that the French GDP per capita in PPP lies substantially below the Swiss GDP, a trend that has been maintained for many years now. This big gap is directly translated into the real estate and rental prices as seen in Figure 14 and Figure 16.

3.2.1 Sales Affordability

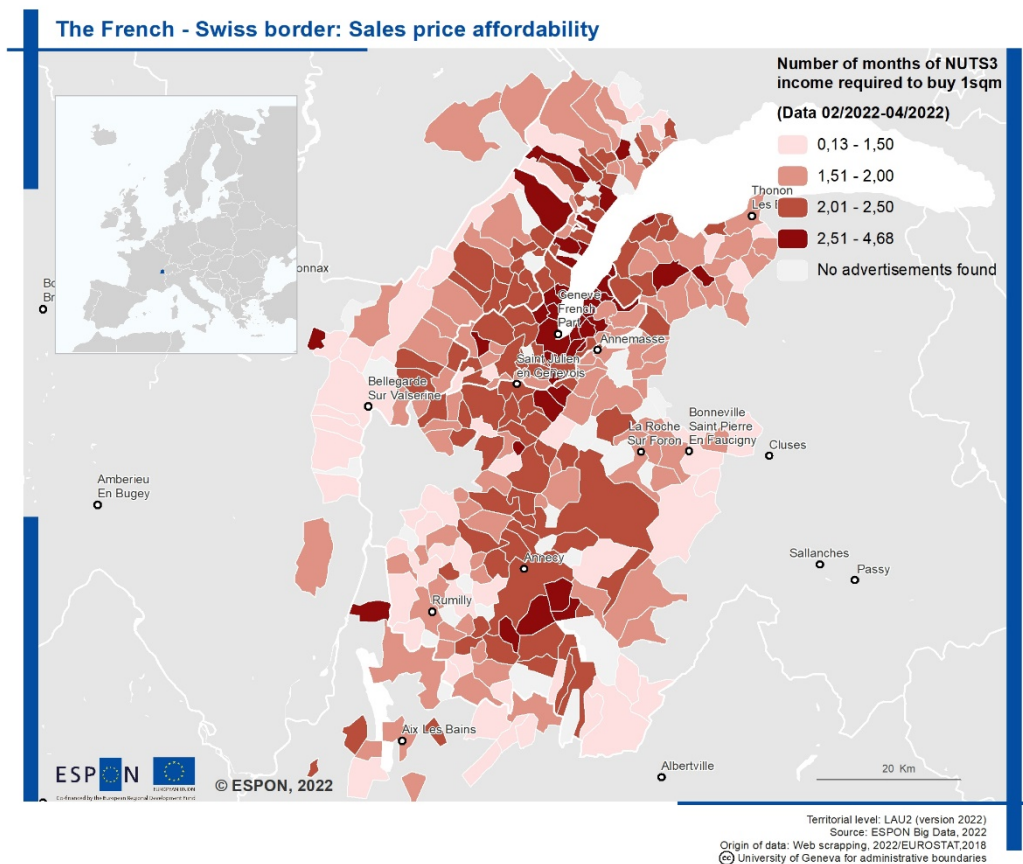


Figure 22: Sales Price Affordability

Indicator and data

This map displays a composite indicator on affordability of buying real estate. The indicator is calculated as the average price per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region in which the advertisement is located. The resulting figure is the number of months of income required to buy a sqm of property.

Trends and patterns

The measure of number of months of NUTS3 income required to buy 1sqm discussed as sales price affordability for the case study regions does not show a border effect. Most of the more metropolitan or cross-border LAU2 units, fall within the 2-4,6 months range and only in the more rural areas do we observe this number go down to 1-2 months.

It is worth noting how the map illustrates the affordability of Swiss property for a Swiss citizen to be similar to that of French property for a French citizen. This means that there is no border effect for this metric.

Project Update

From the previous ESPON Housing and Data project, we see that the sales price affordability of the Greater Geneva region has trended toward becoming more unaffordable since data collection began on this region in 2010. From the 2010 to 2015 time period, the average sales price affordability for Geneva was 1.5-5.4 months of saving. From the 2015 to 2019 time period, the average sales price affordability for Geneva was 1.8-6.2 months of saving. From our 2022 time period, the average sales price affordability for Geneva was 2.01-4.68 months of saving. This indicates that while the most expensive areas may have indeed become more affordable over the most recent period that the bottom of the market has increasingly become more expensive and less affordable requiring over 2 months of saving as compared to 1.5 months in 2010.

For the cross-border city of Annemasse, a similar trend is tracked. Average sales affordability for Annemasse in 2015 was 1.4-2.7 months of saving. In 2019, the average sales affordability was 1-1.8 months of saving. Now in 2022, the average sales affordability for a dwelling in Annemasse requires 1.51-2 months of saving. While trends swayed throughout the years, overall this constitutes a decrease in affordability as savings time increased from 1.4 to 2 months over the past decade.

For Annecy, affordability seems to be improving. Average sales affordability for Annecy in 2015 was 1.4-4.5 months of savings. In 2019, this increased to 0.7-6.2 months of savings. By 2022, the average sales affordability was 2-2.5 months of savings. Hence, it requires less time to save for the most expensive housing in Annecy in 2022 than it did in 2015.

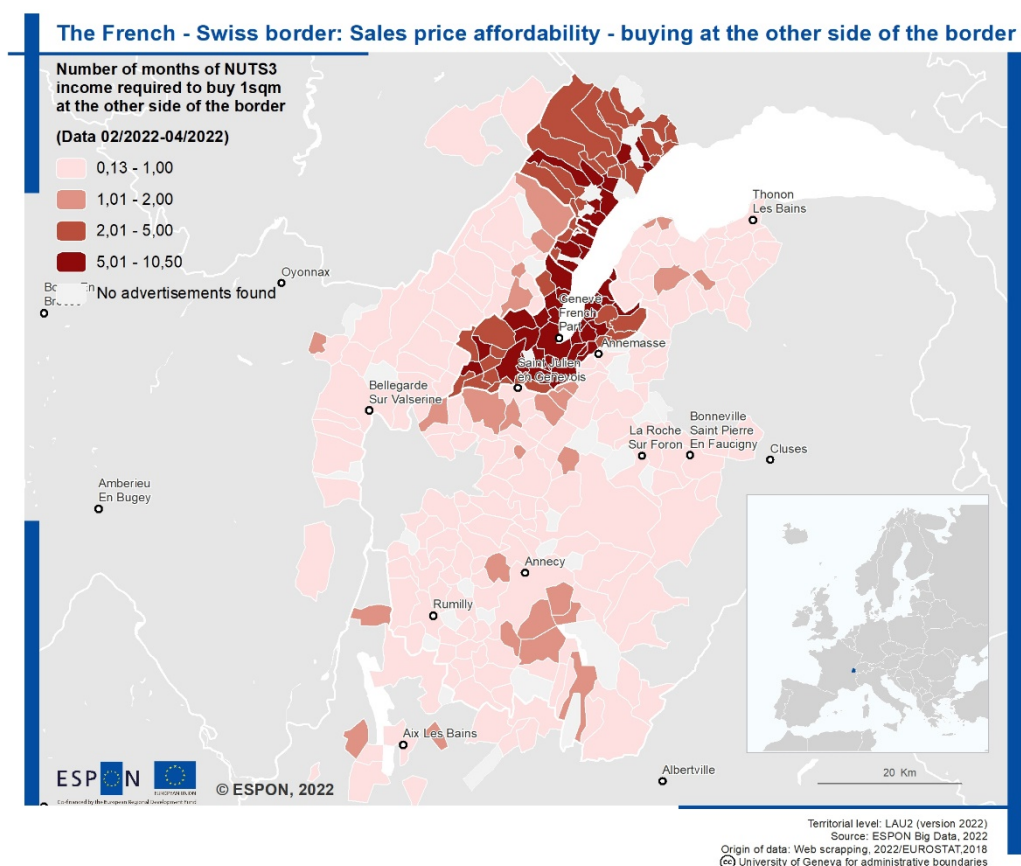


Figure 23: Sales price affordability-buying at the other side of the border

Indicator and data

This map displays a composite indicator on affordability of buying a dwelling. The indicator is calculated as the average price per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region opposite to that in which the advertisement is located. The resulting figure is the number of months of income required to buy a sqm of dwelling on the other side of the border. So here we simultaneously see for example how many months of income from Geneva (CH013) would be needed to buy 1 sqm in France and how many months of income from France (FRK28) would be needed to buy 1 sqm in Geneva. This map needs to be seen in conjunction with Figure 22.

Trends and patterns

In view of the mean difference in Income Affordability to Purchase 1sqm, we can see huge difference not only on the border area but across the whole corridor. This is a direct effect of the big difference in GDP per capita when comparing Geneva and Haute-Savoie.

Owing to these figures, for a French citizen, buying on the Swiss side is very expensive whereas a Swiss buying in France would perceive very low prices.

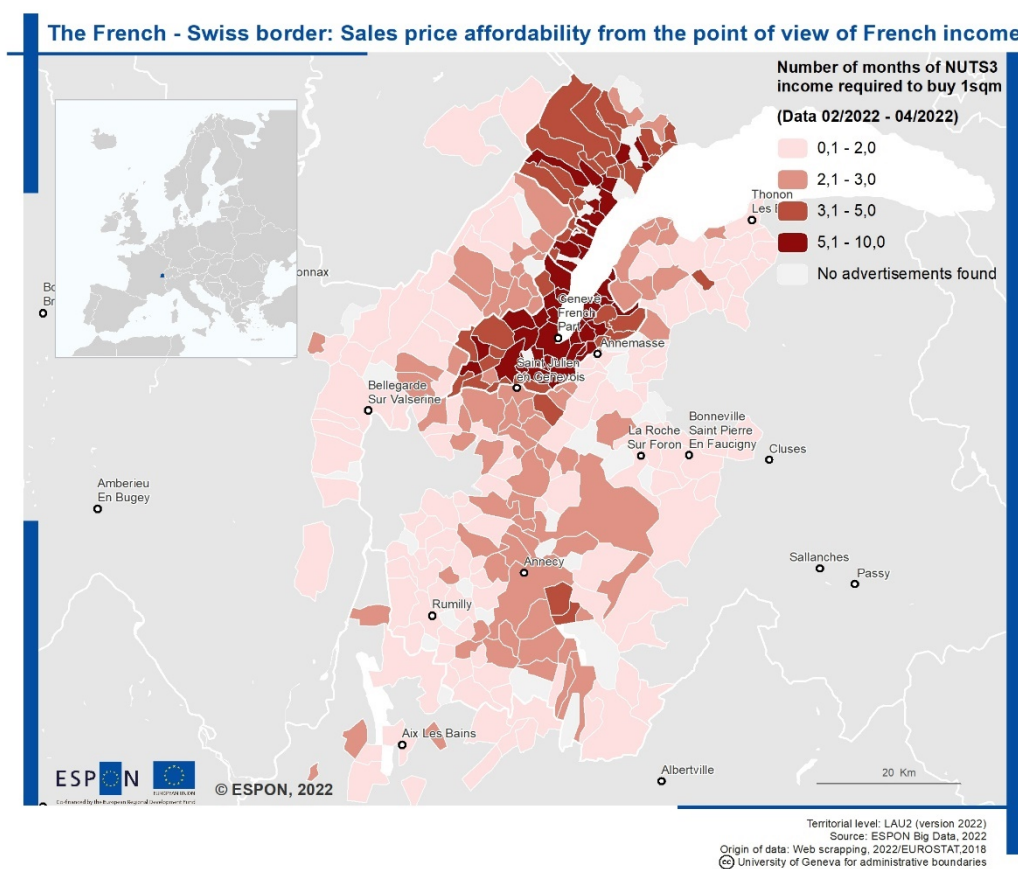


Figure 24: Sales Price Affordability from a French income

Indicator and data

This map displays a composite indicator on affordability of buying a dwelling. The indicator is calculated as the average price per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region of Haut Savoie (FRK28). The resulting figure is the number of months of income required to buy a sqm of dwelling in any municipality of the analysed area. This tells us how expensive it is for a person working in the French side to live in the cross-border area.

Trends and patterns

In this mapping, when we focus on the intervals of the legend, we clearly observe how French workers are placed at a disadvantage within this housing market as it would require them over 5 months of savings to afford a sqm of housing in Switzerland while in the French border communities, they still require about 2 months of savings to afford a sqm in housing. Hence, French workers in this region are increasingly unable to afford housing even within their home region and instead are pushed to the outer parts of the region in order to find affordable housing.

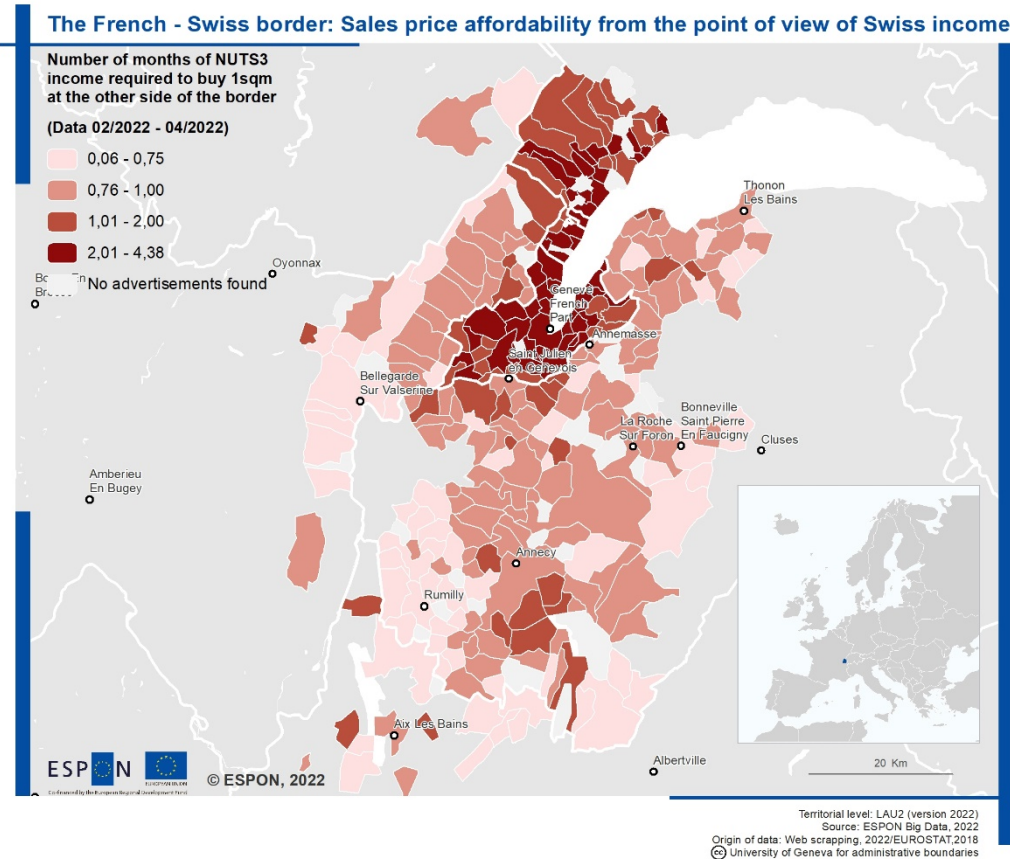


Figure 25: Sales Price Affordability from a Swiss worker's perspective

Indicator and data

This map displays a composite indicator on affordability of buying a dwelling. The indicator is calculated as the average price per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region of Geneva (CH013). The resulting figure is the number of months of income required to buy a sqm of dwelling in any municipality of the analysed area. This tells us how expensive it is for a person working in the Swiss side to live in the cross-border area.

Trends and patterns

This mapping from a Swiss worker's perspective still exemplifies how relatively unaffordable the entire Greater Geneva region is as they would be required to work between 2 and 4 months of savings to afford housing in Switzerland while in the neighbouring French communities, they require about .75 to 2 months of savings to afford the same amount of housing. This shows how housing across the region is still quite unaffordable even for high Swiss incomes, yet Swiss workers have a comparative advantage of their French counterparts in being able to afford and save for housing given their higher salaries.

Months to buy 1 sqm	French income	Swiss income
French LAU	2,25	0,98
Swiss LAU	5,27	2,31

- Prices are 56% more affordable on average with a Swiss salary
- Prices are 57% more affordable on average in the French side

Figure 26: Mean Difference in Sales Affordability

Indicator and data

This indicator is built using the affordability per LAU2 unit considering the income of either sides of the border. In this case, we restrict ourselves to actual cross border LAU2 units (the dark blue area appearing in the case study definition map)

We calculate the average affordability measured as number of months of salary needed to buy 1 sqm of property (or 1 room in the case of Ireland-Northern Ireland). Given that we do not have the real average salary figures, we use the GDP per capita PPP as a proxy.

The indicator provides 4 figures with the affordability of property at either country, with the perspective of a person working at either side of the border. In addition, we calculate the affordability variation depending on the country and depending on the income.

Trends and patterns

The mean difference in sales affordability summarises our findings with regard to the housing affordability within the Genevan cross-border housing market as Swiss workers have a distinct advantage in terms of higher incomes while they also have a strong incentive for migrating across the border as housing prices are considerable more affordable in neighbouring France.

3.2.2 Rental Affordability

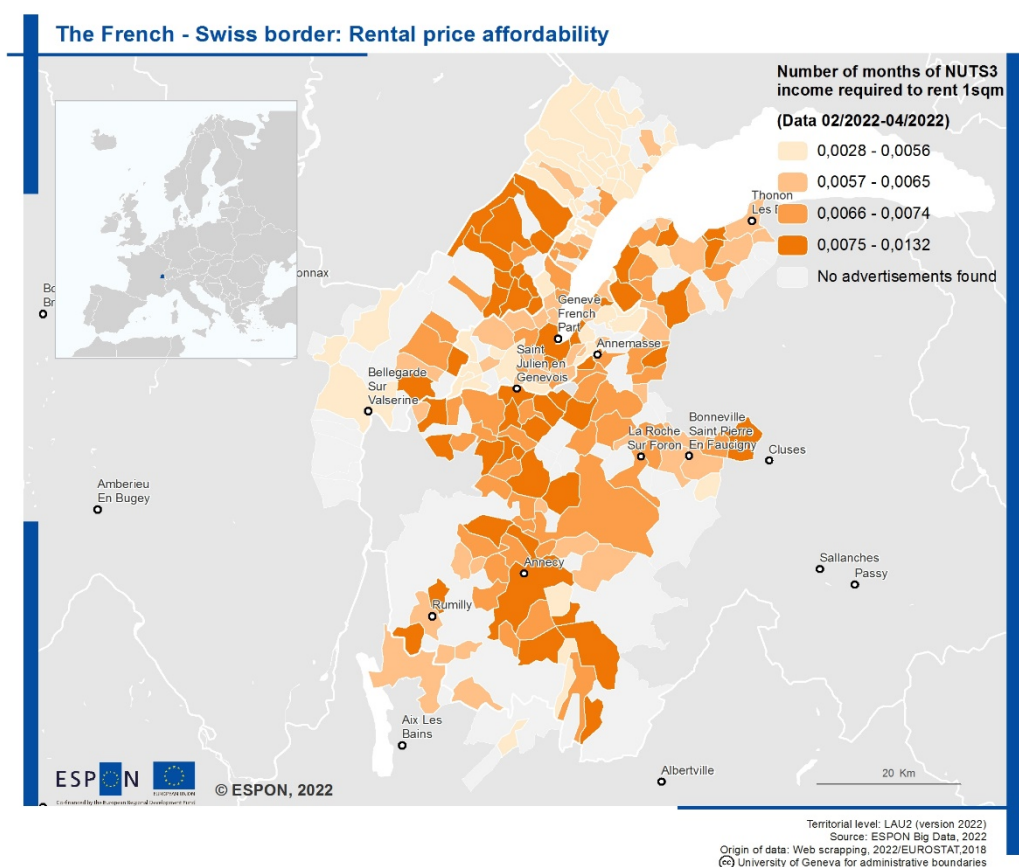


Figure 27: Rental Price Affordability

Indicator and data

This map displays a composite indicator on affordability of renting a dwelling. The indicator is calculated as the average price per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region in which the advertisement is located. The resulting figure is the number of months of income required to rent a sqm of dwelling.

Trends and patterns

Contrary to the real estate market, the rental market shows more diversity in terms of affordability.

There is an important effect to observe in that here the border can be seen in terms of prices. The rental of a French property for a French citizen is significantly more expensive than a Swiss property being rented by a Swiss citizen in the Geneva surroundings, especially in the neighbourhoods directly north of Annemasse.

This means that the border clearly affects the price of the rental market in France.

Project Update

In 2019, the average rental affordability for Geneva was between 0.1-0.2 months of saving. In 2022, the average rental affordability was .0057-.0132 months of savings. This indicates that affordability has slightly improved but is similar in range to its previous data collection.

In Annemasse, the average rental affordability in 2019 was 0.2-0.4 months of saving. In 2022, the average rental ranged from .0028-.0132 months of savings. This indicates that affordability has slightly improved but is similar in range to its previous data collection.

In Annecy, the average rental affordability in 2019 was 0.2 to 0.3 months while in 2022, it was .0075-.0132 months of saving representing an improvement in rental affordability since the previous data collection point.

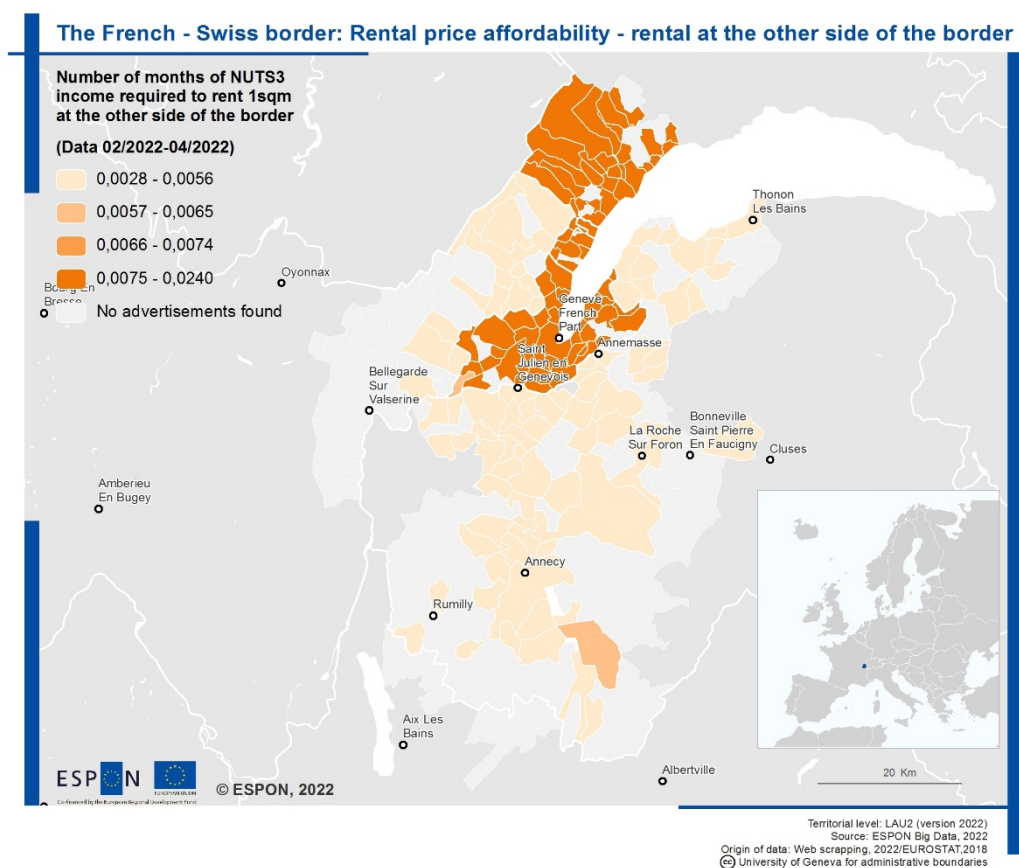


Figure 28: Rental price affordability- rental at the other side of the border

Indicator and data

Description of visualisation and commentary on indicator for this case study. This map displays a composite indicator on affordability of renting a dwelling. The indicator is calculated as the average price per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region opposite to that in which the advertisement is located. The resulting figure is the number of months of income required to rent a sqm of dwelling on the other

side of the border. So here we simultaneously see for example how many months of income from Geneva (CH013) would be needed to rent 1 sqm in France and how many months of income from France (FRK28) would be needed to rent 1 sqm in Geneva. This map needs to be seen in conjunction with Figure 27.

Trends and patterns

The pattern we observe is exactly the same as in the real estate market. The huge difference in GDP per capita causes an affordability gap, and thus, a French citizen will have to pay a sizeable amount if they want to rent property in Switzerland whereas for a Swiss worker can rent property for a lot less in France.

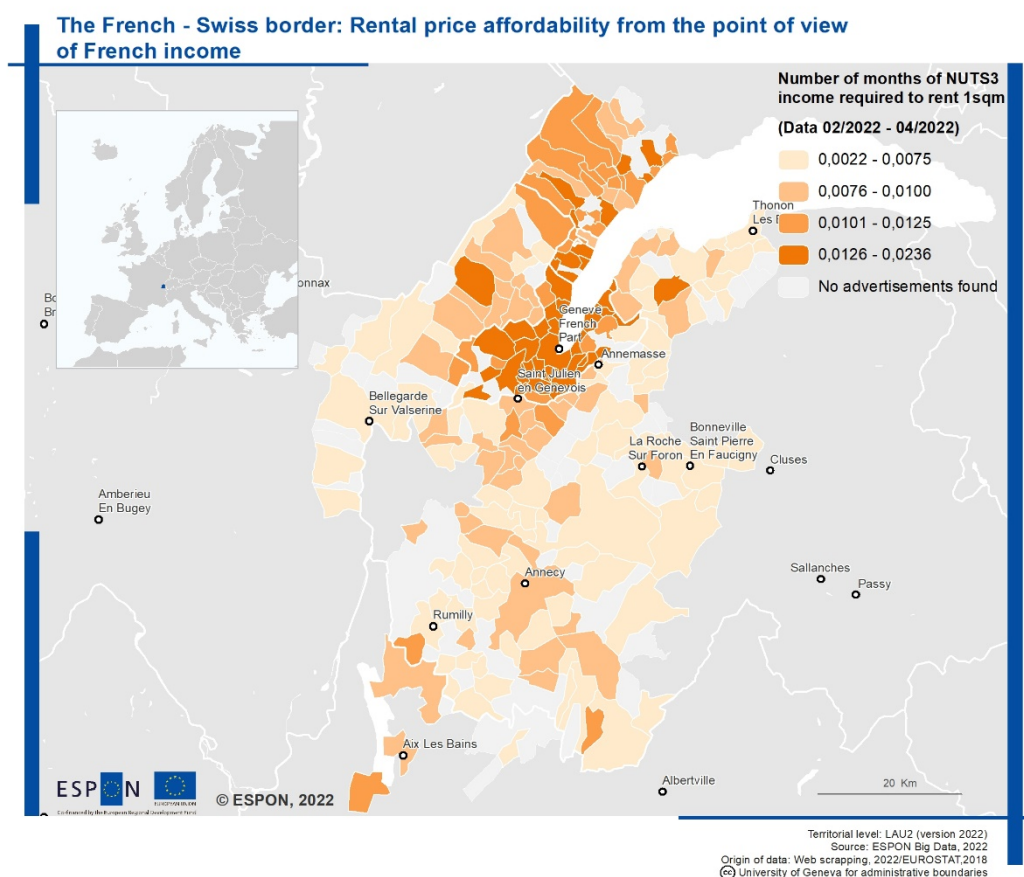


Figure 29: Rental Affordability from French worker's perspective

Indicator and data

This map displays a composite indicator on affordability of renting a dwelling. The indicator is calculated as the average rent per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region of Haut Savoie (FRK28). The resulting figure is the number of months of income required to rent a sqm of dwelling in any municipality of the analysed area. This tells us how expensive it is for a person working in the French side to live in the cross-border area.

Trends and patterns

Similar to Figure 24, this indicator shows how much of the region is becoming increasingly unaffordable for a French worker. French workers would require over .0126 of a month of savings to afford rental accommodation in Switzerland while in the French border communities, they require over .0075 of a month of savings to afford accommodation there. While rental affordability is not as extreme as how unaffordable the owner-occupied market is, it still represents a sizable portion of a French worker's income to afford basic housing.

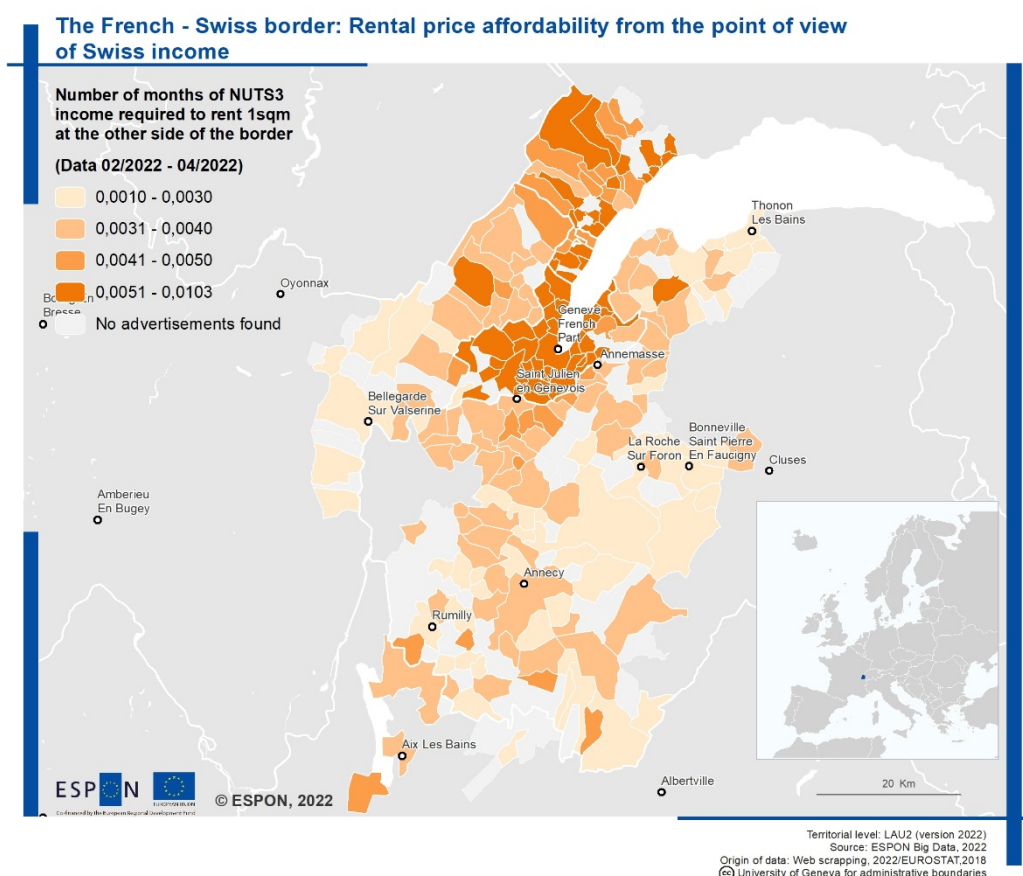


Figure 30: Rental Affordability from a Swiss worker's perspective

Indicator and data

This map displays a composite indicator on affordability of renting a dwelling. The indicator is calculated as the average rent per sqm in each LAU2 over the monthly income measured as PPP in the NUTS3 region of Geneva (CH013). The resulting figure is the number of months of income required to rent a sqm of dwelling in any municipality of the analysed area. This tells us how expensive it is for a person working in the Swiss side to live in the cross-border area.

Trends and patterns

When compared to Figure 29, Swiss workers require significantly less savings to afford the same amount of rental accommodation across the region. Hence, while renting in Switzerland is the least affordable option, Swiss workers can rent across the border in France for considerably less. This illustrates the dominant position which Swiss workers hold within the cross-border housing market in both the rental and owner-occupied sector.

Months to rent 1 sqm	French income	Swiss income
French LAU	0,0086	0,0038
Swiss LAU	0,0132	0,0058

- Prices are 56% more affordable on average with a Swiss salary
- Prices are 34% more affordable on average in the French side

Figure 31: Mean Difference in Rental Affordability

Indicator and data

This indicator is built using the affordability per LAU2 unit considering the income of either sides of the border.

We calculate the average affordability measured as number of months of salary needed to rent 1 sqm of property (or 1 room in the case of Ireland-Northern Ireland). Given that we do not have the real average salary figures, we use the GDP per capita PPP as a proxy.

The indicator provides 4 figures with the affordability of property at either country, with the perspective of a person working at either side of the border. In addition, we calculate the affordability variation depending on the country and depending on the income.

Trends and patterns

The mean difference in rental affordability summarises are expectations that Swiss incomes again are weighted with more importance given its higher value across the rental market. Likewise, Swiss workers are motivated to take up rental accommodation in France given the significant increase in affordability for living in France.

3.2.3 Profitability

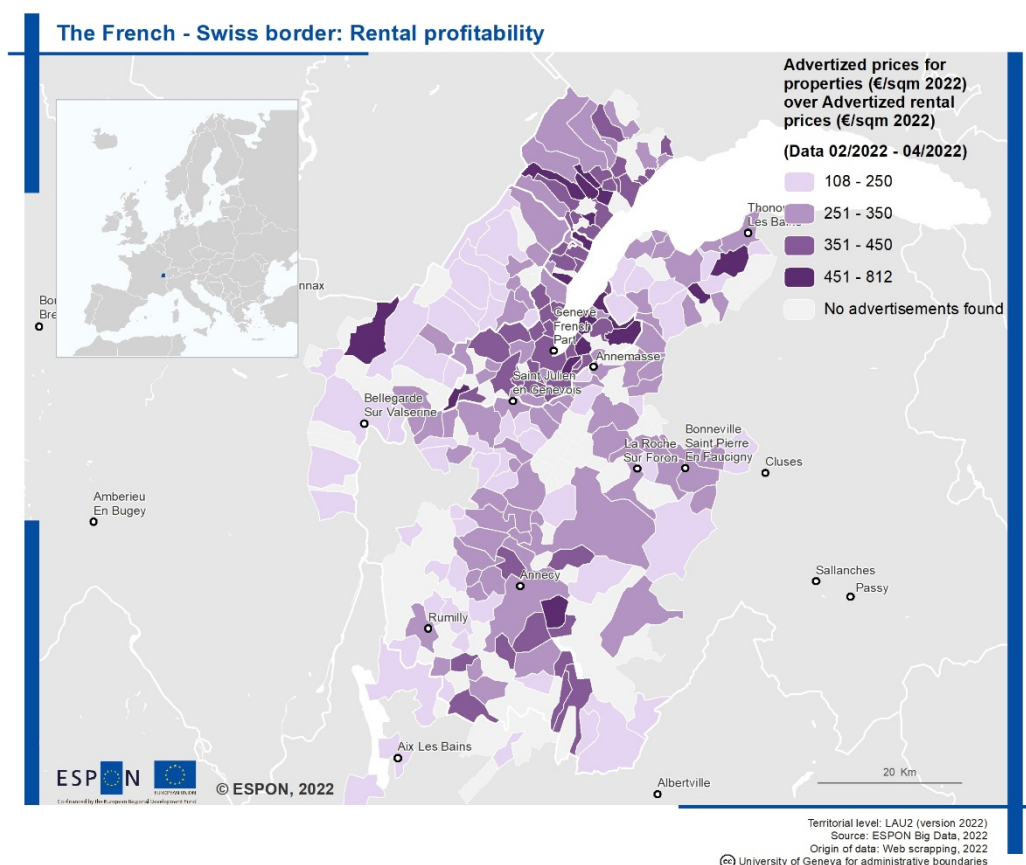


Figure 32: Rental Profitability

Indicator and data

This indicator is a quotient between the average buying price over the average rental price in each LAU2 unit, both prices are calculated in previous indicators. It is available only in LAU2 units where both valid buying and renting advertisements exist.

Given that buying price is much higher than renting (per square meter), this quotient is always a big number and so it is never even (equal to one). To interpret the map, we need to compare values across the different LAU2

units: higher values indicate that buying is proportionally more expensive than renting; thus, renting might be a better option. Lower values indicate the opposite.

Trends and patterns

The maps on rental profitability indicate that the highest profits are being made in Geneva. In there, renting instead of buying is the more expensive choice. Immediately across the border this trend is reversed with the French LAU2 units showing a value half of that in Geneva. This exemplifies a border effect where Genevan workers can migrate across the border to take advantage of better housing prices in France.

Project Update

Regarding how the rental profitability indicator has changed since data was first collected on the rental sector in 2019, the results are more mixed. Renting has become less economical in Geneva where the range in profitability has decreased from €322.77-1074.09 in 2019 to €351-812 in 2022. In Annemasse, rental profitability has become more economical where the range has changed from €205.65-322.77 in 2019 to €108-350 in 2022. Likewise in Annecy, the rental profitability has remained similar as the range has changed from €205.65-522.65 in 2019 to €251-450 in 2022.

3.2.4 Interim Conclusions: Affordability and Profitability

Similar to Annex 3: Denmark-Sweden case study, in this case study we observe how a major urban agglomeration extends its influence over a border to generate a large cross-border metropolitan region where regional imbalances in income and housing price serve as major drivers of a cross-border housing market. In both the owner-occupied and rental sector, we observe how dominant Swiss incomes are able to afford the most housing through the functional cross-border region while French incomes are increasingly unable to afford housing even with their own region as cross-border workers price them out of local housing. This corresponds with findings from the interviews that local French communes are building more affordable and social housing than ever before as their local populations require state-supported housing in order to maintain living in their home region. Clearly, the cross-border housing market dynamics within this region are generating negative externalities in terms of wellbeing and housing affordability for French residents as they are less able to compete and find accommodation within their local area. Conversely, as the Swiss market continues to remain relatively inelastic and local government policies are not supporting the increase in housing supply that Geneva desperately requires, Swiss workers will continue to look over the border for more affordable housing as they are unwilling or incapable of affording the extortionate prices found within Switzerland. Hence within this case study region, we see the strongest case for cross-border collaboration on housing policy as market constraints within one region are spilling over its border and negatively impacting housing affordability in neighbouring regions. This evolving situation threatens social cohesion of the region as one group is very clearly being negatively impacted and their interests in finding affordable, stable accommodation is being undermined by cross-border dynamics.

With regard to the profitability measurements, we observe that it is most profitable to rent in urban locations while it is more profitable to purchase in more suburban or rural locales. While many city centres are struggling to maintain a cost-effective rental sector as their housing supply becomes commodified and incorporated into the global financial system, the core cities of this region seem to be able to maintain some affordability in renting still as the private rental sector is heavily regulated and protected in both Switzerland and France.

3.3 Advertisement Duration

This subchapter details information pertaining to duration of how long the advertisements were posted and adds a temporal dimension to the indicators and analysis.

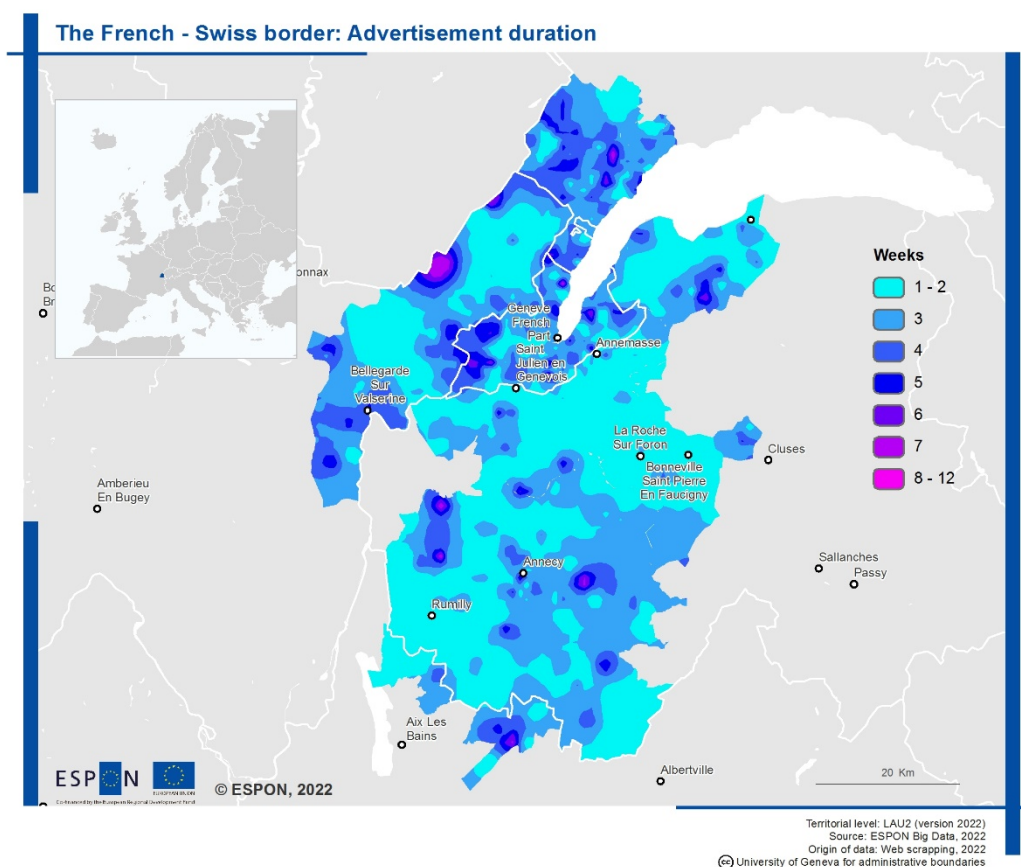


Figure 33 : Length of Advertisement Posting

Indicator and data

This map shows average length of the scraped advertisements. It is computed by counting how many times each advertisement appears during the 7 weeks we have scraped data (so it takes a value from 1 to 7). Afterwards, we apply the Inverse Distance Weight (IDW) methodology from ArcGIS toolbox to compute a surface grid to extrapolate the advertisement length in the whole region analysed.

Trends and patterns

The analysis of the duration of advertisements reveals that overall, the duration of offers staying online for most of the analysed area is around 1 weeks with some places rising up to 4 weeks. But in general, we observe no border effect and no difference between the two countries meaning that the market is equally dynamic on both sides, albeit with some specificities, as we have seen that the French side has proportionately more buying ads and the Swiss market has relatively more rental ads.

3.3.1 Interim Conclusions: Advertisement Duration

For this indicator, we do not see a border effect emerge as both sides of the market are very active with many adverts remaining online for one week or less. In the more remote, mountainous areas of the map, the advert time lengthens, but by-in-large, the market is highly active regardless of which region you are in with a very quick turnaround. This matches interview findings where local stakeholders identified the market as either supply inelastic or very competitive.

4 Discussion & Conclusions

This case study has focused on the metropolitan region of Greater Geneva with specific focus on Geneva and large French commuter towns such as Annemasse or St-Julien-en-Genevois. Annecy has been incorporated into the functional cross-border region as over 7,000 commuters travel between Annecy and Geneva a day. We acknowledge from both the interviews and desktop research that Annecy is treated as a separate region within most of the metropolitan planning regimes of this area as Annecy is not included into local planning documents. Nevertheless, we believe the extent of this cross-border movement should be recognised and that cross-border collaborations should be better facilitated between the Greater Genevan authorities and the Annecy region. For this case study, we have specifically investigated how a cross-border housing market is manifesting itself across the border as central Geneva is within very close proximity of the French border. We note how the migration of Swiss workers into the French border region has served as an instigator for developing a cross-border housing market within this region as there are more reasonable housing prices found within close proximity of Central Geneva on the French side of the border.

Overall, **there is a clear border effect evident as there is a major economic incentive for Swiss workers to buy or rent across the border** as both renting and buying with a Swiss income allows these households to find a place with more sqm for less money. Hence, since the loosening of border regulations between Switzerland and France, the primary factors motivating migration were **improvements in accessibility** across the Greater Geneva through **integrated public transport systems** and **access to low land values** in France. Hence, improving accessibility through coordinating transport across the border has allowed the metropolitan area of Geneva to extend over the border and spread across the surround French communes.

Hence, there is clear evidence of a cross-border housing market evolving as Swiss workers do migrate and choose to become cross-border commuters in order to **take advantage of the regional imbalances in economic purchasing power and cost of living differences** as their higher incomes can afford them more housing and a greater lifestyle in France. Hence, this cross-border housing market is a **primarily Swiss phenomenon** as French workers are excluded by law from living in Switzerland. Moreover, French households are beginning to be priced out of their own region as housing affordability in the French border communities continues to steepen as the market continues to spiral due to the influx of Swiss wealth.

Swiss workers are motivated to move into the French border region as **the supply inelasticity of the Swiss market forces them to look elsewhere for housing**. Interestingly, many cross-border workers ultimately refuse to declare themselves to the French authorities as this would prevent themselves from accessing Swiss social services. So within this case study, we see the cross-border housing market develop, where questions about social security became important beyond primarily economic reasons, prices and affordability.

Hence, **we find the need for cross-border collaboration on housing policy to be the greatest within this functional cross-border region**. By implementing a cross-border collaboration on housing policy within this region, this will encourage Swiss authorities to consider the impact their housing policies are having on neighbouring communities as at the moment, their focus on ensuring affordable housing through a controlled market with strict controls on price is simply outsourcing their affordability problems to France. Conversely, if local French authorities are given more autonomy to implement housing policies which best serve their unique situation instead of needing to adhere to central government policies, the French authorities will be more capable of responding to local housing needs while also being able to better work and negotiate with their Swiss partners. At the moment, there are no cross-border collaborations for housing policy although the governance structures promoting cross-border collaboration are already in existence.

Box 2: Household Scenario Conclusion

Following their housing search, Remy and Giovanni found a suitable house to purchase in Annemasse. Despite being a new build, they found the size of the house to not be as large as they were searching for especially given their decision to look across the border for housing. Upon speaking to the realtor, it was revealed that the influx of Swiss workers seeking new housing has allowed developers to take advantage of the local situation and build new accommodation with smaller sqm and poorer specs. Given the pressure which local government is under to permit more housing and provide additional supply, the local government is forced to accept the poorer standards as if they don't, the developer could choose to build elsewhere, and the government may miss meeting its crucial housing targets. Remy and Giovanni were surprised at the extent to which Swiss workers have impacted the housing situation in Annemasse, but they were ultimately happy to settle for the house they found as it met their basic needs despite its smaller than expected size. Crucially, the house was more affordable and larger than any type of housing they could potentially find in Geneva, so their decision to purchase the house permit them to access homeownership and the property ladder whereas if they remained in Geneva, it would have been impossible for them to afford to purchase housing.

Another key determinant affecting the results of this research has been **the impact of Covid-19** on the case study region. Given the unpredictability of the pandemic, all of our results must be considered with regard to its major impact. While research on how Covid-19 has impacted housing trends is still forthcoming, we understand that demand for more rural, single-family houses with greater access to greenspace has been in high demand since the second half of the pandemic as households acclimatised to teleworking and mandatory public health guidelines regarding social distancing. Hence, more rural and remote areas of this picturesque, mountainous region may have experienced an increase in demand as households capable of teleworking choose to relocate their homes. As our research takes place in Q1 of 2022, when many of the pandemic's restrictions were coming to an end, we must caution that our results will have been skewed by the disproportionate effect the pandemic has had on changing housing trends and demands.

The Swiss-French region presents an interesting case study as we can observe how the significant cross-border housing markets are having on policymakers on both sides of the border. Housing policymaking is completely autonomous from each other within this region, and it appears that the housing policy choices of one community is simply just exporting problems to surrounding areas which in turn places greater social pressures on the inhabitants of the surrounding communities. We believe that greater coordination and collaboration of housing policymaking will be better able to produce affordable housing across the entire functional cross-border region as it can limit the exporting of housing issues to neighbouring regions by communicating with each other. Given how the cross-border governance structures are already in place, we do not believe conceiving of housing policy through a cross-border lens will be difficult to achieve. The issue remains in the political commitment and will to actually tackle housing unaffordability instead of choosing the easier solution of just passing the problem off to a neighbouring region.

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