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The benefits of being a multi-capital: The economic impact of the international and European institutions and interest groups

Nicola Francesco Dotti
Vrije Universiteit Brussel, Belgium

André Spithoven
Vrije Universiteit Brussel, Belgium; Universiteit Gent, Belgium; Belgian Science Policy Office, Belgium

Walter Ysebaert
Vrije Universiteit Brussel, Belgium

Abstract

Brussels is known worldwide for hosting (most of) the European institutions as well as several other international organisations like North Atlantic Treaty Organization (NATO). Besides the symbolic political value, their presence has an economic impact because of their administrative activities and staff remunerations. Estimating the economic impact poses two main challenges. First, the supranational nature of these organisations makes it challenging to quantify the size of these institutions and related bodies because country-based statistical systems hardly account for transnational organisations. Second, as these institutions and organisations mainly rely on taxpayers' funding, policymakers need transparent estimates to assess the implications of their decisions as well as for a matter of accountability. For these purposes, a meticulous data collection is carried out, and transparent assumptions are used to estimate the local economic multiplier effect of these activities accounting for operational expenditures, employees' consumption as well as (Belgian) taxes and saving. The results show that the economic impact for the Brussels-Capital Region lies between 23% and 26% of regional turnover and 19% and 20% of employment, while interregional spillovers are estimated being around 1.5% to 1.7% of regional turnover and 0.6% to 0.7% of employment for both Flemish and Walloon regions.

Keywords

Brussels, economic impact, European institutions, European interest groups, input-output multiplier, international organisations

Introduction

Worldwide, Brussels is known as the 'European capital' (Hein, 2000; The Economist, 2002). Although this claim is not formally correct (Van Parijs and Van

Corresponding author:
Nicola Francesco Dotti, Vrije Universiteit Brussel, Pleinlaan 2, 1050 Brussels, Belgium.
Email: Nicola.Dotti@vub.be

Parys, 2010), Brussels hosts most of the European Union (EU) institutions, together with other international institutions and transnational organisations such as North Atlantic Treaty Organization (NATO), United Nations (UN), Benelux and the International Red Cross (see the complete list in Annex A). This concentration of International and European Institutions (from now on IEI) in Brussels has attracted many interest groups to lobby decision-makers. This concentration has enormous impacts on Brussels, turning Belgium's capital simultaneously into a European and international capital city.

Being a 'multi-capital' (Lagrou, 2000), Brussels had to transform itself to create the space to host these new functions. These spatial transformations attracted new, international and European populations (Casier, 2019; Gatti, 2009). While the economic benefits are commonly recognised, scholars have shown the socio-spatial tensions underlying this transformation (Lord et al., 2014; Van Hamme et al., 2016). Political scientists have shown the growing concentration of interest groups in Brussels (Berkhout and Lowery, 2010). However, they reported difficulties tracking them to measure their size (Sorurbakhsh, 2014; Wonka et al., 2010).

It is assumed that IEIs are a source of wealth for Brussels, but this must be adequately estimated. Intuitively, IEI brought new functions to Brussels, with employees being mainly paid by external sources and earning a higher salary than the city average. However, the supranational nature of these institutions and related interest groups is difficult to detect in national statistical systems. In the past, the Brussels city-regional administration promoted two studies for this purpose (Dotti, 2015; Vandermotten et al., 2007), highlighting the difficulties in gathering accurate data and relying on an ad hoc survey to estimate the local economic impacts. The Brussels Institute for Statistics and Analysis (BISA) addressed this issue by developing a specific method to collect IEI-related data (Struyven et al., 2018). This article builds on this newly statistical source and applies a more advanced method to estimate the economic impacts of IEI and interest groups.

This article has two objectives. First, the new data about IEI are integrated with other available statistical sources. While previous studies adopted qualitative or mixed qualitative-quantitative approaches, this article provides a quantitative analysis, explaining how to (re-)construct missing data. Second, a multiplier approach adapted to the specificity of Brussels estimates the economic impact of IEI and interest groups (Dotti et al., 2021). Our approach draws on the inter-regional input/output (I/O) tables for Belgium (Federal Planning Bureau, 2016), integrating improvements from the 'local multiplier' approach (Moretti, 2010; Moretti and Thulin, 2013; Thulin, 2015). The distinctive features of our approach are (i) the distinction of impacts generated by operational and personnel costs, (ii) the inclusion of spatial spillovers caused by commuting flows, and (iii) the accounting for householders' saving and taxes to estimate the 'net' impacts. While grounded in the long-standing tradition of the I/O multiplier (Batey, 2018; Batey and Rose, 1990; Sonis and Hewings, 2006), our approach is innovative because it provides net impacts avoiding the risk of inflating the results, which is the most common critique when using multipliers (Hermannsson et al., 2013). Methodologically, the challenge is to extend I/O tables to estimate the impacts of a supranational demand for administrative services and the treatment of householders' consumption receiving salaries only partially included in the available I/O tables. Compared with previous I/O models (Batey, 2018; Batey and Rose, 1990; Hewings and Parr, 2007; Madden, 1993), our estimations focus on a specific type of input (IEI, interest groups and their employees) that are characteristic of city-regions hosting supranational institutions. In this respect, the case of Brussels is particularly evident given the extensive presence of IEI. It may be compared to similar cities such as Paris (OECD and UNESCO), Frankfurt (European Central Bank) and Vienna (UN and others), to mention a few European examples.

This contribution moves the debate forward in three directions. First, interest groups have unclear classifications in the statistical accounting systems because of their ambiguous conceptualisation and undefined legal statute. Given the difficulties in retrieving information from statistical sources, estimating their economic impact proves particularly challenging. Second, a new approach estimates the city-regional economic impacts of IEI presence,

highlighting the economic impact of being a 'multi-capital'. This case questions existing national statistical accounting systems because the IEI have significant supranational economic flows, especially for a city-region like Brussels. Third, our approach uses the existing Belgian I/O tables to estimate a Type II multiplier to complete the economy-demography interfaces for the specific case of IEI and interest groups that are usually only partially included in interregional accounting systems. This approach is relevant for other city-regions hosting supranational institutions, as estimating their local economic impacts requires meticulous data collection and appropriate integration with existing I/O tables.

The article is structured as follows. In the second section, the debate on 'being Brussels' and the presence of IEI and interest groups is discussed. Third section provides a measure of the size of IEI and interest groups located in Brussels. Fourth section explains the approach used to estimate the local economic impacts. In the fifth section, the results of these estimations are presented. Sixth section concludes.

Brussels, a multi-capital city

Brussels is known as the 'European Capital', often mirroring the role of Washington DC for the USA (Hein, 2000; Perchoc, 2017; Van Wynsberghe, 2013). While this claim is not formally correct (Van Parijs and Van Parys, 2010), Brussels hosts most of the EU institutions, namely the Commission, Council and one of the three branches of the Parliament, plus over 20 EU-related bodies (see Annex A). Consequently, Brussels attracted many interest groups lobbying international and European decision-makers (Berkhout and Lowery, 2010; Plehwe, 2012). Brussels also hosts other international institutions and transnational organisations such as NATO, UN, European Free Trade Association (EFTA), Benelux and the International Red Cross. This high concentration of International and European Institutions (henceforth, IEI) makes Brussels a 'multiple' capital city (Lagrou, 2000), playing a central role globally. 'Being Brussels' thus refers to this concentration of overlapping political institutions from the local to the global scale.

The choice of Brussels as the primary location of the EU institution is almost accidental, as Belgium was its first founding member following the alphabetical order (Van Parijs, 2007). NATO 'arrived' in Brussels when France withdrew from the Alliance in the 1960s, and the headquarters moved from Paris. Nonetheless, Brussels has proven to be an excellent compromise for international and European agreements, building its current statute over decades of European integration and Northern Atlantic military alliance. On the other hand, this decision has had enormous implications for the city itself and as Belgium's capital, a country going through tensions between its French- and Dutch-speaking sides (Deschouwer and Reuchamps, 2013). The co-existence of IEI with the role as the capital of Belgium has animated a vivid, multidisciplinary debate in urban studies and political sciences.

The urban perspective

In urban studies, the implication of being a multi-capital is extensively discussed, notably by Brussels-based scholars. Morphologically, the city went through significant transformations with enormous consequences for the city-regional urban planning, especially during the 1990s when the EU Commission drastically grew in size, and the (multiple) locations of the European Parliament were decided (Corijn et al., 2009; Hein, 2000; Lagrou, 2000; Van Parijs and Van Parys, 2010). These physical transformations led to significant social transformations by attracting a large proportion of EU civil servants. These high-skilled, non-Belgian and predominantly English-speaking 'expats' (Casier, 2019; Gatti, 2009) settled down in a city living the tensions between the French- and Dutch-speaking sides of Belgium. Thus, they often ended up in the so-called 'Eurobubble' with limited or no local embedment in Brussels. While new terms like the rather negative 'Eurocrats' were coined to interpret these dynamics, the new 'European' populations are seen causing gentrification and social polarisation within the city (Lord et al., 2014; Van Hamme et al., 2016). If the socio-spatial dynamics have been extensively investigated, the underlying economic ones are more difficult to identify: for instance, previous studies pointed out

the difficulty in quantitatively assessing the impacts of IEI on the Brussels real estate market (Bernard, 2008). The 'physical' presence of EU-related institutions and employees was hardly identifiable given the existing country-based statistical system.

In urban studies, scholars reflected on the 'international' role of Brussels (Corijn et al., 2009), highlighting the negative implications of the European presence in Brussels (mainly the EU Commission) against a 'too enthusiastic' pro-EU narrative (Papadopoulos, 2006). This narrative favouring Brussels as the European capital is accused of being led by economic interests, neglecting the socio-spatial implications of these transformations (Bernard, 2008; Christiaens, 2003; Van Hamme et al., 2020). Scholars agreed on the need for accurate measurement of the size of IEI in Brussels and the estimations of their economic impacts (Corijn et al., 2008). However, this quantitative economic assessment was particularly challenging because statistics and indicators were unavailable. The terms 'international' and 'European' are used interchangeably, despite referring to different legal and institutional frames. This confusion makes it difficult to retrieve consistent data to estimate the aggregated economic impacts.

The political perspective

In political science, the role of Brussels is extensively discussed, up to the level of speaking about the existence of a 'Brussels Consensus' mirroring the role of Washington DC (e.g. The Economist, 2002). From this perspective, the interest groups, lobbies and think tanks located in Brussels attracted much interest (Bajenova, 2019; Burley et al., 2010; Klüver, 2010). Political scientists identified, among others, their growing professionalisation (Klüver and Saurugger, 2013), the increased significance of regional delegations (Greenwood, 2011; Huysseune and Jans, 2008; Tatham and Thau, 2013) and knowledge brokers (Dotti and Spithoven, 2017), the presence of non-European lobbies (Rasmussen and Alexandrova, 2012), and the recent growth of the so-called 'climate diplomacy' (Biedenkopf and Petri, 2019). Without entering into the discussion on EU decision-making, the growth of interest groups is associated with the increased size of the EU-related administrations (Berkhout and Lowery, 2010).

Scholars tried to estimate the size of these Brussels-based interest groups (Greenwood, 2011; Huysseune and Jans, 2008; Plehwe, 2012), which is challenging because the absence of a proper, formal definition causes a lack of available statistics. In 2011, the European Parliament introduced the 'Transparency Registry', a first attempt to account for the interest groups at the EU level. Although based on self-declaration, interest groups must be registered to access the European Parliament. Scholars compared the Transparency Registry with other private, unofficial lists (i.e. professional address books by specialised consultancies) and concluded that the Transparency Register underestimates the presence of interest groups. However, it is the only official one and is progressively improving (Sorurbakhsh, 2014; Wonka et al., 2010).

Although Brussels is acknowledged for playing a central role in EU decision-making, the other Brussels-based international institutions have received less attention because of their smaller size, heterogeneous organisation and unclear relationship with interest groups. While the EU institutions provide complete data about the size of their administrations (more details in 'International and European Institutions' section), the related interest groups (lobbies, think tanks, delegations) are hardly definable and consequently measurable.

The 'missing' economic perspective

Hosting IEI and the growing size of interest groups has implications for its city-regional economy. Thanks to the recent method conceived for this purpose (Struyven et al., 2018), the 'Brussels Institute for Statistics and Analysis' (BISA) provides figures about IEI employees: about 50,000 Brussels-located jobs belong to IEI, out of a total regional amount of 700,000 (7% of total employment). While this presence is non-negligible, this figure does not provide a complete estimation of the local economic impact.

Our analysis estimates the economic impact of IEI and related interest groups from these available data and uses a new way to estimate the local economic impact (cf. Dotti et al., 2021). We draw on the long-standing tradition of input/output (I/O) tables to estimate the multiplier effect of economic shocks

(Batey and Rose, 1990; Brachert et al., 2016; Giffoni et al., 2018; Hewings et al., 2001; Madden, 1993). The Brussels regional administration selected this approach to estimate the impact of IEI and related interest groups because it adapts a well-established methodology to Brussels' specific case.

The fundamental intuition of a multiplier approach is that every euro spent in an industry spills over to other ones via supply chain and householders' consumption, leading to a 'multiplicative' effect (Miller and Blair, 2009; Wixted et al., 2006). This effect has been studied extensively to estimate the impacts, among others, of foreign direct investments (e.g. Merlevede et al., 2014) and universities (Hermannsson et al., 2015), with the latter case having significant similarities to IEI due to the combination of university's supply chains and (incoming) students' consumption.

Three recent methodological contributions provide the basis for the Brussels local multiplier. First, Moretti (2010) revived the interest for 'local multiplier' by introducing the distinction between 'tradeable' and 'untradeable' industries: tradeable industries are affected by exogenous demand, leading to multiplier effects, while untradeable industries only depend on the local, internal demand. This distinction avoids inflating the results as not all industries are directly affected by an exogenous increase (see also Faggio and Overman, 2014; Gerolimetto and Magrini, 2016; Hermannsson et al., 2014; van Dijk, 2017, 2018). In the case of IEI, this approach fits the need by distinguishing between the consumption of IEI-related employees and the operational expenditures affecting the supply chain.

Second, a local multiplier approach should account for savings, taxes, social security expenditures and interregional spillovers as argued, among others, by Thulin (2015). These 'leakages' are difficult to capture in the case of IEI because the transnational flows have a specific way of being reported in national statistics and (some) tax exemptions, which are not computed in ordinary I/O tables. While saving is treated as deferred consumption (Batey, 2018; Merlevede et al., 2014), spatial leakages are relevant for Brussels, where about half of the regional jobs are for people living outside the regional borders (BISA, 2018). Commuting is known for being a crucial 'spatial leakage', moving part of the multiplier effect out of the urban core favouring suburbs, often more than intra-metropolitan supply chains (Ferreira et al., 2017; Hewings and Parr, 2007; Hewings et al., 2001).

In the case of Brussels-based IEI and interest groups, the multiplier approach must be adapted as not all data are readily available as input. Furthermore, IEI and interest groups have different taxation and social security regimes and are therefore treated separately. While both IEI and interest groups mainly carry out desk-based activities with personnel costs representing the bulk of economic flows, the IEI operational and personnel expenditures are not reported in the national accounting, at least not the Belgian interregional I/O tables. Hence, the challenge is to make assumptions on the missing information to make reliable estimations. In the I/O terminology, calculating a Type II multiplier able to endogenise householders' consumption is challenging, adding an extra dimension to the Miyazawa-like approach (cf. Hewings et al., 2001). Unknown, exogenous financed salaries, such as those of the IEI employees, permanently increase consumption as IEI employees reside in Brussels or its surrounding areas. Unlike unemployment subsidies (Batey and Rose, 1990; Madden, 1993), the case of IEI requires integrating an existing but unreported input leading to an increase in householder consumption. In other cities, the amount of exogenous salaries might be negligible, but not for Brussels where IEI employment represents about 7% of the total city-regional employment. On the contrary, the operational expenditures of both IEI and interest groups can be treated as a 'normal' exogenous demand, as they are regularly accounted for by the I/O tables. The operational implementation is explained in 'The multiplier approach' section.

Measuring the size of international and European institutions and interest groups in Brussels

According to international and European treaties, the location of IEI offices in Brussels must be physically within the administrative borders of the Brussels-Capital Region (BCR), while Brussels-based employees must live in Belgium within commuting distance, that is, a radius of a maximum of 60 km from the BCR. The BCR is a city-regional administration with about

Table 1. Calculation of the FTE coefficient for the EU Commission.

Year	EU Commission and related agencies, total staff	EC part-time staff	EC full-time staff	Total staff	Ratio
	(HC)	(HC)	(HC)	(FTE)	
	A	*B*	*C* = (*A* – *B*)	*D* = *C* + *B**50%	*D*/*A*
2016	32,966	3649	29,317	31,142	0.94
2017	32,546	4020	28,526	30,536	0.94
Average	32,756	3835	28,922	30,839	0.94

Source: EU Commission (2016b, 2017b, 2018).
EU: European Union; EC: European Commission; HC: Head count; FTE: full-time equivalent.

1.3 million inhabitants in 160 km^2. It constitutes the core of the Brussels metropolitan area that includes parts of the Flemish and Walloon regions. Interest groups are known for physically clustering around IEI, that is, within the BCR, to maximise tacit knowledge exchange, though no formal requirements exist (Dotti and Spithoven, 2017; Huysseune and Jans, 2008; Plehwe, 2012; Tatham and Thau, 2013).

Measuring IEI and interest groups requires several steps because data are unavailable or refer to different samples. Assumptions are required to estimate the local economic impact of personnel costs and operational expenditures. Two scenarios are estimated: the so-called 'lower' scenario considers exclusively statistically certified sources (see sections 'International and European Institutions' and 'Interest Groups'); whereas the 'upper' scenario integrates other, official sources, which are not statistically certified (see section 'Official data from non-statistical sources'). All assumptions and data sources were validated with the Brussels Institute for Statistics and Analysis (BISA) and the Brussels regional office in charge of IEIs.

International and European institutions

BISA provides the number of employees working in Brussels-located IEI with an aggregated breakdown by residence. In 2016–2017, 48,511 employees worked in IEI, of which 72.5% live in the BCR, 18.4% in the Flemish Region, 8% in the Walloon Region. For 1.1% of them, the residence is unknown (BISA, 2018, Table 7.4.3.2). The complete list of IEI is in Table A-1 in the Annex.

Official data from BISA refer to headcounts, not to full-time equivalents (FTE). As this information is unavailable for other IEI, the EU Commission's data are used as a reference (Table 1). Part-time employees are assumed to work half time (50%) as detailed information is unavailable. The ratio obtained from these calculations (0.94) is applied to all employees for which data are missing (see section 'The lower and upper scenarios').

Estimating the economic impact of almost 50,000 IEI employees must be completed with the related personnel and operational expenditures. To the best of our knowledge, the only complete source of information comes from EU institutions: the average cost per administrative unit is calculated as being 184,188 euros per year (see Table 2). This is the average of all EU institutions, excluding European Schools, but including those located outside Brussels. As other IEI carry out similar administrative functions, this average is applied to the other IEI to estimate their economic impacts.

Finally, our approach requires distinguishing between operational expenditures, impacting the supply chain and personnel costs. A detailed breakdown is available only for the EU Commission, including its non-Brussels branches (see Table 3). This calculation excludes the budget for European Schools (3.4% of the total) and pensions (33%). The ratio 26/74% between operational and personnel costs is applied to other IEI where the information is unavailable.

Interest groups

The EU Transparency Registry provides the only official data source on European interest groups.

Table 2. Administrative expenditures and staff of EU institutions.

EU institutions	Total administrative expenditures (Mio EUR, average 2016–2017)	Administrative staff (FTE, average 2016–2017)	Average exp. per unit (expenditures / staff)
EU Commission	€ 3427.65	23,900	€ 143,416
European Parliament	€ 1873.85	6753	€ 277,505
European Council and Council	€ 553.35	3034	€ 182,413
Court of Justice of the European Union	€ 389.65	2068	€ 188,419
Court of Auditors	€ 139.40	858	€ 162,566
European Economic and Social Committee	€ 132.20	668	€ 198,052
Committee of the Regions	€ 91.90	493	€ 186,599
European Ombudsman	€ 10.55	66	€ 161,069
European data-protection Supervisor	€ 10.30	52	€ 200,000
European External Action Service	€ 648.05	1620	€ 400,154
Total	€ 7276.90	39,508	€ 184,188

Source: EU Commission (2016a: 78, 2017a: 85).
EU: European Union; FTE: full-time equivalent.

Table 3. Budget breakdown of the EU commission.

Article I. Type of expenditure of the EU commission* (average 2016–2017)	Operational costs (share)	Personnel costs (share)
Staff Remuneration		71.9%
Members		0.5%
Other Staff expenditures		1.9%
External services	2.9%	
Rent, purchase and linked to buildings	14.3%	
Meeting people	3.1%	
Information	1.0%	
General administrative expenditure	4.4%	
Total Section III	26%	74%

Source: EU Commission (2016a: 66, authors' elaboration).
EU: European Union.
*European Schools are considered separately.

Based on their address, it separates those located in Brussels and others, as shown in Table 4. Unfortunately, according to the EU rules, the data are self-declared and is known for under-representing the EU interest groups (Berkhout and Lowery, 2010; Wonka, 2008; Wonka et al., 2010).

The cost structure is assumed to be equivalent to the EU Commission as a detailed budget breakdown is unavailable for interest groups. Accordingly, the 26/74% ratio is applied to estimate their operational and personnel costs justified by the idea that they carry out similar desk-based activities. For non-Brussels-based groups, half of the operational costs are assumed to be spent in Brussels due to their regular missions to meet European decision-makers. In contrast, personnel costs are spent where employees live.

Table 4. European interest groups.

European interest groups (average values for 2016–2017)	Based in Brussels		Not in Brussels	
	Declared turnover (Mio EUR)	Staff (FTE)	Declared turnover (Mio EUR)	Staff (FTE)
I – Professional consultancies/law firms/self-employed consultants	€ 119.8	1309	€ 50.3	994
II – In-house lobbyists and trade/ business/ professional associations	€ 585.1	4512	€ 424.1	5653
III – Non-governmental organisations	€ 180.3	2668	€ 216.5	4696
IV – Think tanks. research and academic institutions	€ 68.5	927	€ 117.4	2047
V – Organisations representing churches and religious communities	€ 4.6	72	€ 0.6	33
Total	€ 958.3	9488	€ 808.9	13,423

Source: EU Commission (2019, data reported by BISA/IBSA).
FTE: full-time equivalent.

Official data from non-statistical sources

Data presented in the previous sections underestimates the size of IEI and interest groups in Brussels, even though they originate from official sources. Several institutions and organisations are known for being unable to provide statistically rigorous and publicly available data for various reasons.

An exemplary case is NATO, a military organisation with a specific structure due to its institutional mission. The Brussels headquarter hosts the national delegations combining military, diplomatic and civil staff. Military staff is not included in official statistics for security and operational reasons. In contrast, NATO-related diplomats are 'mixed' with others, depending on the internal organisation of each national delegation (see 'diplomatic organisations' in BISA, 2018). Although statistical sources are forcedly incomplete, the official NATO website reports a value of 500 FTE as staff, which is higher than the data provided by BISA. A 650 FTE extra staff works in NATO-related agencies (see NATO, 2018), leading to a total increase of 1150 FTE to be added to the number for 'international institutions' available in the city-regional statistics (BISA, 2018).

Second, official statistics report data about IEI employees working with an international or European contract. However, IEIs have also employees under Belgian contracts, which are counted separately as they contribute to Belgian social security. In the BISA statistics, the average 2016–2017 of employees working with a Belgian contract for IEI (NACE code U-99) amounts to 2538 FTE (BISA, 2018). Furthermore, EU institutions provide the 'blue book' internship programme, but these trainees are unreported in official statistics. EU sources report 1800 trainees staying for 5 months in Brussels, equivalent to 750 FTE (EU Commission, 2020).

The official number of trainees of European interest groups is unknown. A self-organised non-governmental organisation (NGO) called 'Brussels Interns NGO' reports a total of 8000 interns, equivalent to about 4000 FTE (Brussels Interns, 2018). The Brussels Commissariat for IEI assumes this number as a reliable estimation.

The lower and upper scenarios

Table 5 presents two scenarios: the lower one relies exclusively on statistically certified sources, while the upper one includes other official or reliable data. The difference for IEI is between 8.4 and 9.2 billion euros and 45,600 and 50,135 FTE. In the case of interest groups, the difference is more outspoken between 1.4 and 2 billion euros and 9488 and 14,250

Table 5. Size of IEI and Interest Groups, lower and upper scenarios.

Estimated scenarios on the size of IEI and interest groups in Brussels									
	Total expenditures (a + b)[e]	Personnel costs (a)	Operational costs (b)	Working in the BCR		Living in BCR	Living in Flemish reg.	Living in Walloon reg.	Abroad / unknown
	(Mio EUR)	(Mio EUR)	(Mio EUR)	FTE	HC	HC			
International and European Institutions									
_ lower scenario	€ 8399[a]	€ 6215[b]	€ 2184[b]	45,600[c]	48,511	35,183	6456	519	6
_ upper scenario	€ 9234[a]	€ 6833[b]	€ 2401[b]	50,135	53,335[c]	38,682[d]	7098[d]	571[d]	6[d]
Interest groups									
_ lower scenario	€ 1363[e]	€ 1008[b]	€ 354[b]	9488	10,094[c]	7320[d]	1343[d]	108[d]	1[d]
_ upper scenario	€ 2047	€ 1515[b]	€ 532[b]	14,250	15,160[c]	10,995[d]	2018[d]	162[d]	2[d]

BCR: Brussels Capital Region; FTE: full-time equivalent; HC: Head count; IEI: International and European Institutions.
[a]Values calculated based on the IEI average administrative cost per unit, as in Table 2.
[b]Values derived from the EC budget breakdown (ratio 26/74%, cf. Table 3).
[c]Values derived from the average rate of FTE/HC, see Table 1.
[d]Values derived from the spatial distribution of IEI employees (BISA, 2020).
[e]Values derived from the EU Transparency Registry, see Table 4.

FTE. The two scenarios were validated with BISA and the Brussels regional commissariat for IEI.

The multiplier approach

Once the size of IEI and interest groups in Brussels is known, it is possible to estimate their economic impact using the local multiplier approach (Dotti et al., 2021). This approach improves on previous estimations (Dotti, 2015; Vandermotten et al., 2007), which were based on coefficients derived from an ad hoc survey carried out in 2001. This new approach, however, relies on the regionalised input/output (I/O) tables for Belgium, from which multiplier coefficients are derived (Federal Planning Bureau, 2016). Based on the logic of I/O tables, the assumption is that the expenditures by IEI and interest groups generate a multiplicative effect by activating their supply chains. In addition, their employees consume, further generating economic impacts.

Compared with contributions aiming to endogenise householder's consumption (Batey, 2018; Batey and Rose, 1990; Madden, 1993), the challenge is that householders' income is only partially included in I/O tables, forcing to find an alternative solution to extend the I/O tables. IEI brings a significant number of residents, and therefore consumers that stay permanently in Brussels. Its presence further attracts various interest groups. IEI and interest groups mainly rely on supra-Belgian sources of funding. In other words, the economic-demographic interface is significantly affected by the permanent immigration of householders (see Batey, 2018), but the economic input (i.e. their personnel costs) is only partially traceable in the traditional I/O tables. Previous literature integrated unemployed consumption, immigration and public subsidies extending the available I/O tables, whereas our case requires a hybrid approach integrating supranational economic flows (i.e. mainly the IEI expenditures) and identifying a vaguely defined sector such as interest groups. IEI and interest groups generate 'only' two types of demand for suppliers and householder consumption. These two demands are considered final, local demand with limited or no re-selling (differently from the case of international harbour or airport). In this respect, the import/export flows are already included in the Belgian I/O tables. Our approach provides precise and transparent estimations for decision-makers while keeping a rigorous process applied to the selected actors and expenditures (Hermannsson et al., 2014).

Table 6. Operational steps for the multiplier approach.

The multiplier approach				
Input from Lower and Upper Scenarios (cf. Table 5)				
Steps	IEI personnel expenditures	Interest groups' personnel exp.	IEI operational expenditures	Interest groups' op. exp.
Employer's Taxes and (Belgian) Social Security	n/a	Average value for business services = 26.9% (cf. StatBel 2019)	n/a	n/a
Income Tax	n/a	Average value (2009–2015) for business services in the BCR = 23% (cf. StatBel 2019)		
Saving rate	National average for 2016–2017 = 13% (Source: National Bank of Belgium, 2021)			
Interregional distribution of employees by living place	(BISA, 2018)			
Householders' Consumption Profile	IV quartile, as in Table 7	III quartile, as in Table 7		
Commuters' correction	(see Table 8)			
VAT (21%)	Yes (only consumption)		n/a	Yes
Multiplier Coefficients based on the Supply and Use Tables (SUT) products category, as in Table 9 (cf. Federal Planning Bureau, 2016)	SUT = 68a 'Real Estate' SUT = 47a 'Retail'		SUT = 84a 'Public Admin'	SUT = 82a 'Business Services'

BCR: Brussels Capital Region; BISA: Brussels Institute for Statistics and Analysis; VAT: value added tax; SUT: supply-use tables. Economic Effects and Impacts of IEI and Interest groups in Brussels.

The interregional I/O tables for Belgium are based on 132 Supply-Use Tables (SUT) product categories harmonised with the NACE2 codes and following the Eurostat standard ESA2010 (for more methodological details, Federal Planning Bureau, 2016). This Leontief-like 'open' matrix will be 'closed', integrating consumption made by IEI and interest group employees to calculate a Type II multiplier. The operational steps to implement our approach are presented in Table 6.

The fundamental feature is the distinction between the supply chain and householder consumption for IEI and interest groups separately. Furthermore, economic impacts are estimated as net impacts, accounting for various types of (Belgian) taxes (VAT, employers' and Income Tax, when applicable), social security expenditures and householders' savings. These distinctions improve on the estimations compared to the predominant use of multipliers that limits itself to the gross impacts, leading to a potential overestimation of the results. Our approach, however, endogenises householder consumptions and accounts for supranational economic flows as they permanently impact the city-regional economy.

This approach accounts for two types of spatial spillovers based on where employees live and consume. First, all employees are distributed by place of residence (BISA, 2018) and associated with the corresponding consumption profile (see Table 7), as suggested by Batey and colleagues (Batey, 2018; Batey et al., 2001). Second, a commuters' correction is applied to allocate home-related consumption and rent where they live, and other consumptions halved between where they live and work (see Table 8).

Table 7. Consumption profiles.

Householder consumption profiles			
IEI (fourth quartile)	Living in BCR	Living in Flemish reg.	Living in Walloon reg.
Consumption, Rent (a)	26.7%	24.5%	25.8%
Consumption, Domestic (b)	15.2%	12.3%	11.0%
Consumption, Commuting (c)	58.0%	63.2%	63.2%
Total for IEI	100%	100%	100%
Lobbies (third quartile)			
Consumption, Rent (a)	36.0%	27.3%	29.7%
Consumption, Domestic (b)	9.9%	10.1%	11.3%
Consumption, Commuting (c)	54.1%	62.6%	59.1%
Total for Lobbies	100%	100%	100%

Source: BISA 2018, values for 2016.
IEI: International and European Institutions; BCR: Brussels Capital Region.

This twofold correction accounts for spatial leakages in consumption (Ferreira et al., 2017; Hewings and Parr, 2007; Hewings et al., 2001), while the interregional I/O tables already account for the spatial leakages for the supply chain.

Finally, the approach uses the resulting values as exogenous demand for the related industries to be multiplied by the coefficients provided by the Federal Planning Bureau (see Table 9).

The resulting approach is transparent to avoid the 'black box effect' (Hermannsson et al., 2014). Methodologically, this approach aims to close the open Leontief-like matrix endogenising householder consumption receiving a supranational income. Due to the presence of IEI and interest groups, consumption occurs locally and repeatedly, but their salaries remain unreported in I/O tables. The assumptions are based on averages for Belgian/BCR sectors, given data availability, and are validated by the city-regional authorities and statistical institute. This approach is replicable to other cities and sectors conditional on data availability.

The main constraint is the applicability of the VAT because IEIs are usually exempted, while interest groups are not. Another limitation is the existence of 'mixed' householders with income partially coming from IEI and other sources subjected to Belgian taxes and social security. Due to these uncertainties, gross value-added (GVA) could not be estimated, but the economic turnover (which includes taxes) can, though these are expected to converge.

Some assumptions require additional reflections. The multiplier coefficients presented in Table 9 capture the impacts generated by a change in any of the previous assumptions. The distribution of employees' living place mainly affects the householders' consumption with higher coefficients in the Flemish Region and lower for the Walloon Region. Thus, more interregional commuting increases the impacts out of the BCR. In Brussels, householders' retail consumption has higher returns than rent-related expenditures and lower returns in the other regions. For IEI, the higher impacts originate from householder consumption, whereas interest groups generate higher effects via their operational expenditures. Therefore, a shift in the balance between operational and personnel expenditures would exert different effects. The employment multiplier coefficients show a similar pattern with exceptionally high values for retail in both the Flemish Region and the Walloon Region. The fiscal return for Belgium is proportional to the size of the interest groups' economic turnover as they have the most significant tax base. Similar reasoning goes for

Table 8. Commuters' consumption corrections (cf. Dotti et al., 2021).

Type of consumption	Commuting correction	Type of demand
Rent	100% Region of Residence	Real estate (SUT = 68a)
Home-related consumption (health, education and home-related consumption)	100% Region of Residence	Retail (SUT = 47a)
Other consumption (Food & drinks, clothes, transport, communications, culture, restaurants).	50% Region of Residence 50% Region of Work (= BCR)	Retail (SUT = 47a)

BCR: Brussels Capital Region.

Table 9. Multiplier coefficients.

Multiplier coefficients					
	Region of expenditure/ consumption	Type of product / NACE industry (SUT code as in Federal Planning Bureau, 2016)	Regional production multiplier		
			Brussels-CR	Flanders	Wallonia
Article II.IEI & interest groups' personnel expenditures	Brussels-CR	47A 'Retail'	1.41	0.17	0.06
		68A 'Real Estate'	1.30	0.22	0.11
	Flanders	47A 'Retail'	0.14	1.49	0.06
		68A 'Real Estate'	0.08	1.61	0.04
	Wallonia	47A 'Retail'	0.14	0.22	1.32
		68A 'Real Estate'	0.08	0.10	1.36
IEI operational expenditures	Brussels-CR	84A 'Public Administrations'	1.20	0.10	0.03
Interest groups' operational expenditures	Brussels-CR	82A 'Business Services'	1.45	0.40	0.11
			Employment Multiplier		
			Brussels-CR	Flanders	Wallonia
Article III. IEI & interest groups' personnel expenditures	Brussels-CR	47A 'Retail'	9.2	1.1	0.5
		68A 'Real Estate'	3.4	1.3	0.7
	Flanders	47A 'Retail'	0.6	14.3	0.5
		68A 'Real Estate'	0.3	5.0	0.3
	Wallonia	47A 'Retail'	0.6	1.4	15.0
		68A 'Real Estate'	0.4	0.6	4.0
IEI operational expenditures	Brussels-CR	84A 'Public Administrations (excl. Defence)'	12.9	0.6	0.3
Interest groups' operational expenditures	Brussels-CR	82A 'Business Services'	7.5	3.3	1.0

Source: Federal Planning Bureau (2016).
IEI: International and European Institutions; NACE: Nomenclature statistique des Activités économiques dans la Communauté Européenne; SUT: supply-use tables.

savings: if IEI employees save more (or spend their income in their home countries), the effect through consumptive spending will be lower as purchasing power leaks out the city-regional economy. A sensitivity analysis simulating different scenarios is discussed in Annex B.

The local economic impact of international and European institutions and interest groups

Estimating the local economic impact considers the average input for 2016 and 2017 (Table 5). By referring to a single period (2016–2017), the estimations do not consider long-term effects and structural changes like inflation, local purchasing power or changes in the real estate market. The assumption is that this input, that is, the expenditures made by IEI and interest groups, is exogenous to the city-regional economy, generating an increase in the local demand. The main reason for their exogeneity is that their funding stems from outside Brussels. This assumption is reasonable as, for instance, Belgium (not just the BCR) contributes less than 4% of the EU budget, while the remaining budget comes from other member states. In the case of international institutions like NATO, Belgium contributes for an even lower share as every country gives an amount proportional to its size, though calculated differently than the EU budget. The Belgian contribution to the budget of interest groups is unknown, though likely to follow similar shares as the EU budget. Therefore, the assumption that the input of IEI and interest groups mostly comes from outside the BCR is defendable.

The results of the estimations are presented in Table 10 for both scenarios and with a regional breakdown. Direct effects refer to IEI and interest groups in the BCR where jobs are located. However, employees commute to the other regions 'moving' part of these effects to the rest of Belgium (see Annex B). The impacts via supply chain and consumption are presented separately, while householders' savings, taxes and social security are averages at the country level. At the bottom of Table 10, the total estimations are weighted by the size of the regional economies providing relative values.

These estimated economic impacts of IEI and interest groups on the BCR vary between 22.8% and 26% of the regional turnover and between 19% and 20.2% of regional jobs, that is, about one-fifth/one-fourth of the regional economy depends on IEI and related groups. These shares confirm the relevance of IEI and interest groups for the city-regional economy, that is, the importance of 'being Brussels'. For the Flemish Region, the economic impacts lie between 3.2 and 3.7 billion euros (1.4%–1.6% of the regional economy) and 16,312 and 18,811 new jobs (0.6%–0.7%); for the Walloon Region, between 1.3 and 1.5 billion euros (1.5%–1.7% of the regional economy) and 7365 and 8447 jobs (0.6%–0.7%).

Impacts via consumption are higher than the supply chain because IEI and interest groups mainly carry out desk-based activities, that is, personnel costs are about three times higher than operational costs. Therefore, the economic impacts are predominantly generated by employees' consumption, and 72.5% of them live within the BCR. For the economy in Belgium as a whole, the total net effect is about 6% of the country turnover and 3.6% of jobs and between 3077 and 3821 million euros of householders' savings and between 1327 and 1703 million euros for taxes and social securities, mainly stemming from interest groups.

Conclusions

By hosting a high concentration of IEI and related interest groups, Brussels plays a fundamental role at the European and international levels. In addition to the symbolic, political value, being a multi-capital city brings economic benefits that the previous literature discussed but struggled to quantify. Based on the most recent statistical sources, Brussels-based IEI and related interest groups are measured and used as input to estimate the economic impacts using a local multiplier approach. About one-fifth and one-fourth of the city-regional economy is due to the presence of IEI and interest groups with significant spillovers to the other regions of Belgium. These estimations result from a theoretically rigorous and transparent approach based on interregional input/output tables.

These estimations endogenise householders' consumption from supranational income with a more traditional increase in the local demand for IEI-related operational expenditures. The IEI and interest groups' impact on the supply chain is similar to the location of a multinational company; however, the householders' generated impact is more challenging because they are not reported in interregional I/O tables. IEI and interest group's employees cannot be equated with immigrants, unemployed

Table 10. Estimations of the economic effects and impacts of IEI and interest groups in Brussels.

Economic effects and impacts of IEI and interest groups in Brussels									
		Brussels-CR		Flemish Reg.		Walloon Reg.		Belgium	
		Lower scenario	Upper scenario	Lower Sc.	Upper Sc.	Lower Sc.	Upper Sc.	Lower Sc.	Upper Sc.
Direct Effects	Turnover (Mio EUR)	€6.839	€7.791	€1.104	€1.253	€483	€549		
	Jobs (FTE)	64.385	64.385	0	0	0	0		
	Saving (Mio EUR)							€791	€898
	Taxes & Social Security (Mio EUR)							€466	€701
Impacts via Supply Chain	Turnover (Mio EUR)	€2.942	€3.396	€282	€349	€89	€108		
	Jobs (FTE)	30.363	34.267	2.287	2.901	945	1.160		
Impacts via Consumption	Turnover (Mio EUR)	€5.928	€6.729	€1.864	€2.116	€727	€827		
	Jobs (FTE)	38.084	43.139	14.025	15.910	6.421	7.287		
From both Impacts	Saving (Mio EUR)							€2.286	€2.923
	Taxes & Social Security (Mio EUR)							€861	€1.002
Total	Turnover (Mio EUR)	€15.709	€17.916	€3.249	€3.718	€1.299	€1.483	€20.257	€23.117
	_ as reg. share	22,8%	26,0%	1,4%	1,6%	1,5%	1,7%	5,3%	6,0%
	Jobs (FTE)	132.832	141.791	16.312	18.811	7.365	8.447	156.509	169.049
	_ as reg. share	19,0%	20,2%	0,6%	0,7%	0,6%	0,7%	3,3%	3,6%
	Householders' Saving (Mio EUR)							€3.077	€3.821
	Taxes & Social Security (Mio EUR)							€1.327	€1.703
Regional Economies (Total)	Turnover (Mio EUR)	€68.804		€227.607		€88.997		€385.408	
	Jobs (FTE)	700.520		2.742.014		1.252.262		€4.694.796	

IEI: International and European Institutions; FTE: full-time equivalent.

consumers, or beneficiary of public subsidies, as done by the previous literature (Batey et al., 2001; Hermannsson et al., 2013; Wixted et al., 2006). The presence of IEI and interest groups in Brussels significantly affects the economic-demographic interface by permanently bringing an exogenous population of householders having income mostly paid by supranational funding. Finally, our approach confirms previous studies on the importance of householder consumption in generating spatial spillovers from the inner city (i.e. the BCR) to the surrounding areas (the other regions of Belgium).

Our findings confirm that attracting the IEI brings regional economic benefits. For Brussels, our estimation of the economic impacts is the first using the I/O tables and a local multiplier approach. The total effect varies between 23% and 26% of the city-regional economy and about 19% and 20% for employment, making IEI and the related interest groups an essential part of the BCR economy. Local scholars have already highlighted the socio-cultural tensions due to the EU presence, whereas our estimations complement existing perspectives by adding the 'missing' economic perspective. A similar approach can be applied in other cities hosting supranational institutions. An international comparison would be relevant to triangulate the results of our estimations and understand how to solve the methodological issues underlying the use of I/O tables to estimate the local multiplier effects.

A final, open issue is the impact of 'smart/homeworking' that is likely to become more common in the post-COVID-19 pandemic. IEI brought a large share of non-Belgian workers to Brussels, and this effect might be reverted if they adopt remote working extensively, especially for the administrative functions. While it is too early to make predictions, our estimations refer to 2016–2017, before the COVID-19 pandemics and after the 2008–2011 financial crisis.

The main theoretical limitation of our approach is the static nature of these estimations providing just a 'picture' of these impacts, ignoring the long-term effects leading to structural changes for the city-regional economy. Moving towards a dynamic perspective requires improving data availability as well as a new methodological approach. A dynamic perspective needs to include the impact on the real estate market for houses and offices and possible substitution effects across industries and householder populations. Furthermore, the impacts of business tourism might be integrated with these estimations (cf. Clerbaux and Orianne, 2004). Finally, the integration of transnational economic flows in the Belgium I/O tables necessitates a structural upgrade at the data collection level.

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ORCID iD

Nicola Francesco Dotti https://orcid.org/0000-0003-1029-173X

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Annex A

Table A-1. List of Brussels-based International and European Institutions by type (Source: Brussels Commissariat for International and European Institutions, 2019).

TYPE	NAME
EU Bodies	European Commission (EC)
	European Parliament (EP)
	Council of the European Union
	Committee of the Regions (CoR)
	European External Action Service (EEAS)
	European Economic and Social Committee (EESC)
	Innovation & Networks Executive Agency (INEA)
	Education, Audio-visual and Culture Executive Agency (EACEA)
	Research Executive Agency (REA)
	Executive Agency for Small and Medium-sized Enterprises (EASME)
	European Research Council Executive Agency (ERCEA)
	European Centre for the Development of Vocational Training (CEDEFOP)
	European Union Intellectual Property Office (EUIPO)
	European Foundation for the Improvement of Living and Working Conditions (Eurofound) Liaison Office
	European Union Institute for Security Studies (EUISS)
	Representative Office of the European Central Bank (ECB)
	Bio-based Industries (BBI) JU
	European Aviation Safety Agency (EASA)
	Shift2Rail Joint Undertaking
	Fuel Cells and Hydrogen JU
	ECSEL JU
	European Ombudsman
	SESAR JU
	Innovative Medicines Initiative 2 (IMI 2 JU)
	Clean Sky JU

(Continued)

Table A-1. (Continued)

TYPE	NAME
	European Investment Bank (EIB)
	European Data Protection Supervisor (EDPS)
	European Defence Agency (EDA)
	Single Resolution Board (SRB)
European Schools	European Schools
International Institutions	Eurocontrol
	NATO
	NATO Communications and Information Agency (NCI Agency)
	United Nations (UN)
	Economic Community of West African States (ECOWAS)
	European Forest Institute (EFI)
	International Institute for Democracy and Electoral Assistance (IDEA)
	World Organization for Animal Health (OIE)
	Regional Cooperation Council (RCC)
	Technical Centre for Agricultural and Rural Cooperation (CTA)
	European Patent Office (EPO)
	International Monetary Fund (IMF)
	African, Caribbean and Pacific Group of States (ACP States)
	CEFTA- Central European Free Trade Agreement
	International Committee on Military Medicine (ICMM)
	International Federation of The Red Cross and Red Crescent Societies (IFRC)
	Energy Charter Secretariat (Encharter)
	International Committee of The Red Cross (ICRC)
	Benelux
	European Free Trade Association (EFTA)
	EFTA Surveillance Authority (ESA)
	World Customs Organization (WCO)

Annex B

Sensitivity Analysis

The following Tables from B-1 to B-3 show the result of three hypothetical scenarios. Table B-1 compares the gross and net impacts, which demonstrates the effect of including or excluding taxes, saving and social security, mainly affecting interest groups. Table B-2 shows an extreme scenario when expenditures are used exclusively for personnel or operational costs. Although irrealistic as personnel and operational costs are usually correlated, this scenario shows the sensitivity of the balance between the two types of expenditures and how this potentially affects the local economic impacts. Operational expenditures generate higher impacts as they have higher multiplier coefficients and IEIs are not subject to taxes and other 'leakages' like householders' consumption (i.e. VAT on final consumption, savings and social security for interest groups' employees). Finally, Table B-3 assumes the extreme cases where IEI employees have to live within (or outside) the BCR. These scenarios refer to the constraint imposed by the location of the IEI offices in Brussels, highlighting the spatial distribution of local economic impacts. Even in the extreme case where there would be a concentration of IEI employees within the BCR, it would still generate spatial spillovers due to the high degree of interconnection between the three regions of Belgium. The opposite, extreme scenario is where all employees work from outside the BCR, a situation not unlikely in pandemic times where remote working is becoming standard practice.

Table B-1. Sensitivity Analysis: gross vs net impacts.

		NET IMPACTS *(including taxes, saving and social security)*				**GROSS IMPACTS** *(excluding taxes, saving and social security)*			
		BRUSSELS-CR	*FLANDERS REG.*	*WALLONIA REG.*	*BELGIUM*	*BRUSSELS-CR*	*FLANDERS REG.*	*WALLONIA REG.*	*BELGIUM*
IMPACTS VIA SUPPLY CHAIN: Turnover (Mio Eur)	Lower Scenario	€ 2,942	€ 282	€ 89		€ 3,129	€ 366	€ 114	
	Higher Scenario	€ 3,396	€ 349	€ 108		€ 3,647	€ 460	€ 141	
IMPACTS VIA SUPPLY CHAIN: Jobs (FTE)	Lower Sc.	30,363	2,287	945		30,824	2,488	1,008	
	Higher Sc.	34,267	2,901	1,160		34,959	3,203	1,255	
IMPACTS VIA CONSUMPTION: Turnover (Mio Eur)	Lower Sc.	€ 5,928	€ 1,864	€ 727		€ 8,210	€ 2,529	€ 981	
	Higher Sc.	€ 6,729	€ 2,116	€ 827		€ 9,484	€ 2,924	€ 1,136	
IMPACTS VIA CONSUMPTION: Jobs (FTE)	Lower Sc.	38,084	14,025	6,421		45,589	16,834	7,713	
	Higher Sc.	43,139	15,910	7,287		52,541	19,444	8,914	
TOTAL TURNOVER (Mio Eur)	Lower Sc.	€ 8,870	€ 2,145	€ 816	€11,015	€ 11,339	€ 2,895	€ 1,095	€14,233
	Higher Sc.	€ 10,125	€ 2,465	€ 935	€12,590	€ 13,131	€ 3,384	€ 1,276	€16,515
JOBS (FTE)	Lower Sc.	123,413	16,044	7,243	139,457	123,413	16,044	7,243	139,457
	Higher Sc.	141,791	18,811	8,447		151,885	22,648	10,170	
HOUSEHOLDERS' SAVING (Mio Eur)	Lower Sc.				€ 861				€ -
	Higher Sc.				€ 1,002				€ -
TAXES & SOCIAL SECURITY (Mio Eur)	Lower Sc.				€ 2,286				€ -
	Higher Sc.				€ 2,923				€ -

Table B-2. Sensitivity Analysis: operational vs personnel costs.

		ALL BUDGET FOR OPERATIONAL EXPENDITURES *(no personnel exp.)*				**ALL BUDGET FOR PERSONNEL EXPENDITURES** *(no operational exp.)*			
		BRUSSELS-CR	*FLANDERS REG.*	*WALLONIA REG.*	*BELGIUM*	*BRUSSELS-CR*	*FLANDERS REG.*	*WALLONIA REG.*	*BELGIUM*
IMPACTS VIA SUPPLY CHAIN: Turnover (Mio Eur)	Lower Scenario	€11,314	€1,083	€341		€-	€-	€-	
	Higher Scenario	€13,062	€1,342	€415		€-	€-	€-	
IMPACTS VIA SUPPLY CHAIN: Jobs (FTE)	Lower Sc.	116,781	8,796	3,634		0	0	0	
	Higher Sc.	131,794	11,156	4,462		0	0	0	
IMPACTS VIA CONSUMPTION: Turnover (Mio Eur)	Lower Sc.	€-	€-	€-		€8,011	€2,518	€983	
	Higher Sc.	€-	€-	€-		€9,093	€2,860	€1,117	
IMPACTS VIA CONSUMPTION: Jobs (FTE)	Lower Sc.	0	0	0		51,465	18,953	8,677	
	Higher Sc.	0	0	0		58,296	21,501	9,847	
TOTAL TURNOVER (Mio Eur)	Lower Sc.	€11,314	€1,083	€341	€12,397	€8,011	€2,518	€983	€10,530
	Higher Sc.	€13,062	€1,342	€415	€14,405	€9,093	€2,860	€1,117	€11,953
JOBS (FTE)	Lower Sc.	123,413	16,044	7,243	139,457	123,413	16,044	7,243	139,457
	Higher Sc.	196,179	11,156	4,462		122,681	21,501	9,847	
HOUSEHOLDERS' SAVING (Mio Eur)	Lower Sc.				€-				€1,163
	Higher Sc.				€-				€1,355
TAXES & SOCIAL SECURITY (Mio Eur)	Lower Sc.				€911				€2,769
	Higher Sc.				€1,173				€3,538

Table B-3. Sensitivity Analysis: personnel residing within or outside the BCR.

		STAFF RESIDING ONLY WITHIN THE BCR *(no commuting from other regions)*				**STAFF RESIDING ONLY OUTSIDE THE BCR** *(50% employees residing in the Flanders Region, 50% in the Wallonia Region)*			
		BRUSSELS-CR	*FLANDERS Reg.*	*WALLONIA Reg.*	*Belgium*	*BRUSSELS-CR*	*FLANDERS Reg.*	*WALLONIA Reg.*	*Belgium*
IMPACTS VIA SUPPLY CHAIN: Turnover (Mio Eur)	Lower Scenario	€2,942	€282	€89		€2,942	€282	€89	
	Higher Scenario	€3,396	€349	€108		€3,396	€349	€108	
IMPACTS VIA SUPPLY CHAIN: Jobs (FTE)	Lower Sc.	30,363	2,287	945		30,363	2,287	945	
	Higher Sc.	34,267	2,901	1,160		34,267	2,901	1,160	
IMPACTS VIA CONSUMPTION: Turnover (Mio Eur)	Lower Sc.	€7,221	€980	€378		€5,928	€1,864	€727	
	Higher Sc.	€8,197	€1,114	€430		€6,729	€2,116	€827	
IMPACTS VIA CONSUMPTION: Jobs (FTE)	Lower Sc.	45,478	6,742	3,152		38,084	14,025	6,421	
	Higher Sc.	51,505	7,655	3,581		43,139	15,910	7,287	
TOTAL TURNOVER (Mio Eur)	Lower Sc.	€10,162	€1,262	€467	€11,424	€8,870	€2,145	€816	€11,015
	Higher Sc.	€11,593	€1,463	€538	€13,055	€10,125	€2,465	€935	€12,590
JOBS (FTE)	Lower Sc.	123,413	16,044	7,243	139,457	123,413	16,044	7,243	139,457
	Higher Sc.	150,157	10,555	4,741		141,791	18,811	8,447	
HOUSEHOLDERS' SAVING (Mio Eur)	Lower Sc.				€870				€861
	Higher Sc.				€1,013				€1,002
TAXES & SOCIAL SECURITY (Mio Eur)	Lower Sc.				€2,292				€2,286
	Higher Sc.				€2,933				€2,923