

Centripetal and centrifugal forces in the wake of external shocks: A case of financial and business services in the Visegrád Four[☆]

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ABSTRACT

This paper investigates the spatial distribution of employment in financial and business services (FABS) across major metropolitan areas in the Visegrád Four (V4). It addresses a gap in research on financial centres by illustrating overlapping institutional arrangements as an interplay between centripetal and centrifugal forces with the Global City as a theoretical backbone. The interplay is contextualised in two external shocks – EU accession and the Global Financial Crisis (GFC). The regulatory harmonisation and the general trend of capital movement create an opportunity for the capital cities to function as the national gateways to investments. However, the increasing capacity to produce larger and more complex FABS in secondary cities incentivises foreign firms to rearrange their regional office networks. Similarly, while the GFC directly impacted the financial sector, demand for the majority of services was maintained, sustaining the growth trajectories of national financial centres. The empirical analysis reveals that FABS growth in the V4 did not really accelerate in the wake of the accession, nor decelerate in the wake of the GFC. While significant differences between countries remain, the configuration of financial centres within Poland has not changed significantly, suggesting a resilient concentration and hierarchy of financial centres.

1. Introduction

How do financial and business services (FABS) firms react to events such as EU accession and 2007/08 financial crisis? How are the spatial dynamics of services trade and employment altered by these external shocks? What role do the overlapping institutional arrangements such as intrafirm office networks, national rules, regional (e.g. EU-level) regulatory harmonisation, and international division of labour play in shaping the spatial distribution of FABS in the wake of abrupt changes? The geography of FABS is often depicted as an interplay between centripetal and centrifugal forces (Contel & Wójcik, 2019). Firms are agglomerated in international financial centres, enjoying various economies of scale (McCann, 2001; Taylor & Derudder, 2016). Their capacity to handle larger and more complex services strengthens the hierarchical interurban structure while other services are outsourced to smaller

financial centres, forming an international division of labour (Coffey, 2000; Sassen, 2001). While FABS (in terms of firms, services trade, and labour market) themselves constitute institutions, shocks also influence other institutions (e.g. regulation), forming a complex regional urban system. This paper investigates how overlapping institutional arrangements (cf. Rodríguez-Pose, 2013), characterised by these forces react to external shocks.

To put the above questions into a Central and Eastern European context, Polish accession to the EU (an example of a ‘positive’¹ shock) has led to a situation in which sophisticated financial transactions like mergers and acquisitions are often advised by firms located in London or Frankfurt while Warsaw, Kraków, Poznań, and Wrocław are active in hosting shared services centres (SSC) and business process outsourcing (BPO) firms (Hashimoto, Pažitka, & Wójcik, 2021). At the same time, however, the regulatory harmonisation has made Warsaw an attractive

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¹ This is in comparison to the Global Financial Crisis.

destination for capital investment, thus increasing a demand for both foreign and domestic capital market services.² Likewise, the impact of 2007/08 Global Financial Crisis (an example of a 'negative' shock) can be ambiguous. On one hand, the crisis reduced the number and scale of many financial market activities. On the other, it was an opportunity to restructure the intrafirm division of labour (cf. Taylor & Derudder, 2016), increasing the demand for cost-cutting outsourcing. In other words, the *interplay* between centripetal and centrifugal forces remains in place, while its manifestations are reshaped by external shocks. FABS in the Visegrád Four (V4, i.e. Poland, Hungary, Czechia, and Slovakia) represent a suitable case study to highlight the link between the post-shock rearrangement of *overlapping* institutions and the spatial dynamics of urban hierarchies.

This study focuses on FABS because the rise of cities as financial centres touches all aspects of urban development (Aalbers, 2020) as well as the configuration of interurban systems (Bassens & van Meeteren, 2015). Unlike manufacturing, FABS do not require large investments in fixed assets, thus enabling them to react quickly and flexibly to external shocks and rearrange their international office (service production) networks. In the V4, while the primacy of capital cities is well established within each national urban system, the rise of secondary cities (e.g. Kraków, Poznań, Wrocław) in SSC/BPO adds global intrafirm networks (and the corresponding labour markets) as another layer of institutional arrangement.

Empirically, this paper investigates the sudden changes in the spatiotemporal distribution of FABS in the V4 with focus on the years surrounding the events of 2004 and 2008, accompanied by an analysis of capital market services (as high-value added FABS). While the former provides a more general and horizontal map of financial centres, the latter emphasises their hierarchy. We use data on FABS employment and gross value added from *Oxford Economics* and on capital market services trade from *Dealogic*, covering major metropolitan areas in the V4 from 2000 to 2016. Building on our previous studies (Hashimoto et al., 2021; Hashimoto & Wójcik, 2021), the interurban hierarchy among financial centres in the V4 is contextualised within the theoretical framework of the Global City (Sassen, 2001). It is hypothesised that this landscape exhibits a certain degree of stability (with sectoral and regional resilience) despite the abrupt changes, as the division of labour absorbs the changing territoriality of institutional arrangements.

The paper follows with Section 2, which revisits the institutional economic geography literature in the context of the V4, and develops hypotheses. Section 3 reflects on the conceptual ambiguity concerning the definition of FABS and describes the dataset. Section 4 presents empirical findings while Section 5 concludes and presents directions for future research.

2. Overlapping institutions and hierarchy of financial centres

In conceptualising the link between the post-shock rearrangement of institutions and the spatial dynamics of urban hierarchies, this section positions this study with regard to 'institutions'. Once the overlapping nature of institutions (in the context of the V4) is stated, the section links it to the hierarchical nature of interurban relations with the Global City as a theoretical linchpin. The link is further elaborated by considering sectoral and regional resilience, allowing us to formulate a number of hypotheses.

Institutional thinking in economic geography is relatively young and the process of '[conceptual] differentiation, refinement, and evolution' (Amin, 2001) continues to this day. Rodríguez-Pose, for example, differentiates '*institutional arrangements*, which refer to place-specific customs and procedures that shape interaction' from 'the overall *institutional environment*, which is embedded in higher level institutions' (2013:1042). While Yeung (2019) calls for the separation between

'mechanism' and 'process', MacLeavy (2019) highlights the difficulty to separate 'contingent' and 'necessary' relationships in empirical observations. North (1991), on the contrary, does not categorise institutions in such a binary manner and refers them as the 'rules of the game', after which Gertler's influential article (2010) took its name. This broad definition includes customs, habits, norms, and other behavioural constraints, as well as various incentive-giving mechanisms (cf. Gertler, 2004), similar to Rodríguez-Pose's institutional 'arrangement'. As such, labour market is a form of institution where the demand and supply of labour influence firms' employment behaviours (cf. Christopherson, 2002). Intrafirm office networks and agglomeration of firms are also institutions that exhibit a unique set of spatial reach: many offices deal with local markets, while a handful deal with larger regional markets. This difference in spatial reach is a core characteristic of the interurban hierarchy (Taylor, 2004), in which the size of market areas corresponds with the financial centre's relative position.

Institutions overlap, and their spatial configurations are not concentric. A straightforward example is regulation, where the national and EU laws coexist. While the capital cities largely control the national legal systems from legislative and judiciary perspectives, it is the Brussels-based organisations which coordinate the European legislation process, combined with the influence from the capital cities of powerful Member States, with Berlin and Paris in the lead. These cities function as 'regulatory centres' where the local ecosystem includes not only formal regulatory bodies and organisations, but also informal networks of think-tanks and business lobbyists (see e.g. De Bruycker & Beyers, 2019; Hanegraaff & Berkhout, 2019; Kelstrup, 2018; Sherrington, 2000). The duality of (thus, overlapping) national and European legal systems is enunciated as national differences in the V4. Golecki (2018), for example, finds three different, though gradually converging, approaches to EU law. While both Poland and Czechia prioritised their own constitutional laws over EU law, Czechia took a stance of 'constitutional review', allowing the Prague government to reform the relevant domestic legislation. The Hungarian court declared the separation of EU law from the Hungarian constitutional law, avoiding any controversial judgements. These differences make national boundaries more relevant in investigating the spatial reach of institutions and their post-shock rearrangements. The uneven distribution of FABS employment among the capital cities, thus, is attributed to the hierarchical nature of the intrafirm networks, as well as the variance in the regulatory environments – two attributes influencing each other.

A similar observation of national differences can be made for the securities markets. Responding to a wave of securities market consolidations in Europe (e.g. Euronext), Vienna launched its own regional project (CEESEG) and bought the majority stakes in the Budapest, Prague, and Ljubljana exchanges. Warsaw, however, maintained its institutional independence, reducing the economies of scale the CEESEG envisioned, while the Orbán government re-nationalised the Budapest exchange, ending the Viennese endeavour (Hashimoto, 2021). Furthermore, despite the objections from Brussels, Poland continued to utilise the special economic zones as tools for the development of secondary cities (Kaneko, 2018). In FABS, for example, the Zürich-based investment bank UBS planned to open an office in Wrocław. The local policymakers suggested that the office building in question could be designated as an exclave of the nearby Legnica Special Economic Zone, helping UBS receive substantial corporate tax benefits. The designation ultimately did not materialise, but UBS nonetheless moved to Wrocław. The incident was used 'as a sign of a new maturity in the Polish economy' (Meek, 2019, p. 212), but it was also suggested that the unpegging of Swiss franc (another example of external shock) made the eastward expansion more attractive for UBS. In 2011, the Swiss National Bank fixed ('pegged') the exchange rate between the franc and euro, stimulating service exports from Switzerland to the Eurozone. The sudden

² As such, FTSE Russell promoted Poland to a 'developed market' in 2018.

termination of the currency peg in 2015 made the franc to sharply appreciate, increasing operating costs in Switzerland.³

These episodes in FABS development depict three intertwining themes in analysing institutions. Firstly, despite the general movement towards regulatory harmonisation in Europe, there are policies that underline the national differences in institutional arrangements. Secondly, the agency of secondary cities (cf. Hashimoto, 2021) leads to the differentiation of financial centres *within* a national urban system, and ad hoc interurban linkages (e.g. Wrocław and Zürich) bypass the national boundaries. Thirdly, observations based on local regulations may ignore corporate rhetoric on the global scale: for example, the temporary corporate tax reduction in Wrocław may not be the main reason for UBS's relocation when the high currency risk is their core strategic concern. This paper, therefore, investigates the spatiotemporal distribution of FABS employment and trade among capital cities (i.e. Warsaw, Budapest, Prague, and Bratislava), corresponding to the first theme, and within the national urban system of Poland (e.g. Warsaw, Wrocław, Poznań, and Kraków), corresponding to the second theme.

An empirical challenge to the third theme is an investigation of the decision-making processes internal to firms and private actors. Instead, drawing insights from the Global City framework (Sassen, 2001), we can assume that firms respond to changes in institutional arrangements by rearranging their production networks. The complex nature of FABS leads to an international division of labour, with firms taking advantages of various agglomeration economies by organising intrafirm office networks and outsourcing relations (Coffey, 2000), linking the hierarchy of FABS with the hierarchy of cities (Coe et al., 2014). In other words, the spatial dynamics in FABS employment mirror FABS firms' aggregate responses to the changing institutional arrangements (Christopherson, 2002; Hall & Thelen, 2009; Jessop, 2001).⁴ Furthermore, larger and more complex capital market services, such as bond and equity securities underwriting, loan syndication, and mergers and acquisitions advisory, typically involve higher value added than shared services centres or business process outsourcing (SSC/BPO), such as bookkeeping and human resources. Capital market services are expected to exhibit centripetal movements towards international financial centres in the face of regulatory harmonisation, while cost-cutting SSC/BPOs exemplify centrifugal movements away from these cities in reaction to negative shocks. Thus, the gross value added (GVA) from FABS shall systematically differ from one city to another depending on their profile of FABS production.

Looking at the past 20 years, two external shocks stand out: EU accession and the Global Financial Crisis (GFC). The impact of these events on FABS in the V4 is expected to be ambivalent. While the V4 joined the EU in 2004, regulatory harmonisation and institutional integration commenced a few years earlier. At this earlier stage, we do not necessarily expect FABS outgrowing the rest of the economy, since most FABS employment is tied to domestic demand.⁵ However, since capital cities function as the gateways for investments in the rest of the country (or 'articulator' of local and regional economy, see Friedmann, 1986), the EU accession is expected to strengthen the primacy of capital cities. At the same time, cities such as Wrocław and Poznań benefit from

their geographical and socio-economic proximity to Germany as potential locations for SSC/BPO. Thus, over time, some secondary cities are expected to rise in terms of FABS employment. Given the cost-cutting nature of these outsourced operations, this trend is expected to hold throughout and in the wake of the GFC. Surely, the deceleration of growth should be evident in FABS since the GFC affected the financial sector directly. Yet, the broader definition of FABS (see the next section) includes relatively mundane professional services such as accounting and human resources which were hardly hit by the GFC. Cassis and Wójcik (2018) argue that demand for certain services (e.g. legal and consulting services helping firms to deal with the impact of crisis) actually grew. They also claim that no economic crisis has ever changed the hierarchy of leading financial centres – it took wars to do so. Such inertia is well documented in historical and geographical scholarship, and the relatively stable hierarchy among international financial centres is the linchpin of centrality depicted in the Global City (Sassen, 1991) and the World City literatures (Taylor, 2004).

In the V4, the legacy of socialist economic structure (with centralisation of skilled labour and capital resources) strengthens the hierarchical relationship between the capital city and local financial centres in each national system (Brühlhart & Koenig, 2006). Yet, it takes a conceptual framework such as the Global City to explain the centrality *between* capital cities and *between* national financial centres, especially when FABS are understood broadly to include SSC/BPO. As the framework theorises a relatively stable interurban hierarchy in FABS, sectoral and regional resilience (Fromhold-Eisebith, 2015; Wójcik & Cojoianu, 2018) links the changes in horizontal network configuration with the hierarchical interurban relations depicted in the Global City.

The above observations lead to several scenarios in the face of abrupt changes which can serve as hypotheses for this study. The first scenario is that the interurban network of FABS is hierarchically stable (at least within the regional urban system of the V4 or Central Eastern Europe), and the external shocks do not disturb the relative positioning of financial centres. This scenario includes a variant where the changes in the hierarchy of regional financial centres come from long-term secular trends, and the external shocks do not alter these trends. The second scenario is that, due partly to regulatory harmonisation, FABS firms swiftly and dramatically change their intrafirm office configurations, whereby some cities change their FABS profile from the services with less to those with more value added. Unlike the first one, this scenario emphasises the centripetal force in relation to the 2004 EU accession and hypothesises an increase in capital market services trade for certain financial centres. The third scenario, in contrast, emphasises the centrifugal force and hypothesises the decentralisation of FABS production in the V4, whereby the rise of secondary financial centres (particularly in Poland) is accompanied by the stagnant growth of FABS production in the capital cities. The next section briefly describes the dataset and translates these scenarios in empirical terms.

3. Dataset and ambiguity in defining FABS

This study investigates FABS development in the V4 between 2000 and 2016. The time period is determined by the availability of comparable and compatible data across the V4, retrieved from *Oxford Economics*, which compiles the relevant data from the national statistical offices (up to 2016 for Poland, Hungary, and Czechia and up to 2015 for Slovakia) and provides an estimate for 2016 in Slovakia. The period covers two major events in the region: EU accession (2004) and the Global Financial Crisis (2007/08). As the new Member States, the V4 went through both formal and informal rearrangements of institutions (e.g. regulatory harmonisation, opening of subsidiary offices in FABS, and increasing employment in SSC/BPOs). The relative absence of recession in Poland during the GFC and informal sharing of spaces through commuting between Vienna and Bratislava further justify the V4 as the choice of the case study.

Oxford Economics defines FABS as 'financial and insurance activities,

³ In this paper, news articles are treated as data sources and are cited in the footnotes. Gocłowski, M. and Zurawski, W. (2015) Swiss banks trade Zurich's costly charm for Polish provinces. *Reuters*, 15 February. Available at: <https://www.reuters.com/article/us-swiss-snb-banks-offshoring/swiss-banks-trade-zurichs-costly-charm-for-polish-provinces-idUSKBN0LJ0BD20150215>.

⁴ Here, 'the varieties of capitalism' in Central and Eastern Europe is understood as a series of special variants which emphasise the state-led privatisation of market infrastructures and the central governments' ability to set the liberalisation agenda in relation to EU accession. See e.g. Cernat (2006), Csaba (2019), Knell and Srholec (2007), and Mykhnenko (2007).

⁵ This is confirmed by the low level of FABS export outside of the V4 (less than 10%) according to the *Dealogic* database. See Hashimoto et al. (2021).

real estate activities, professional, scientific & technical activities and administrative & support service sectors⁶ - sections K, L, M and N of NACE Rev. 2 classification by Eurostat. However, 'FABS' per se do not have a stable definition, and 'different types of [F]ABS have attracted different levels of attention from geographers' (Wójcik, 2013, p. 331). Whether for Sassen (1991) or Taylor (2004), these intermediary or producer services are at the core of the Global City and World City concepts. While these firms may be agglomerated in international financial centres to enjoy various economies of scale, the geography of outsourcing is more complex, with some secondary cities (e.g. Wrocław, Poznań, and Kraków) increasing its share in FABS outsourcing (Hashimoto & Wójcik, 2021). This trend is not only characterised by traditional cost-cutting, but also by value creation and diversification.⁷ Therefore, this study applies a broader definition of FABS to highlight the spatio-temporal dynamics in not only the capital cities, but also the secondary cities where the SSC/BPO sector is rising.

As a background, Fig. 1 shows the impact of the two external shocks in terms of the changes in GDP and total employment, indexed at the level of 2004 in each country. Prior to the accession, Poland has experienced a declining trend in total employment partly due to emigration and partly due to labour market adjustments (e.g. changes in employment structures, restructuring of certain industries, and large-scale privatisation programmes), but the increases in GDP were relatively similar across the V4 during this period. After the accession, Poland continued to increase its GDP in a steady pace while the other three experienced a sharp decline in 2008/09, and a similar observation can be made for total employment. While Hungary struggled to recover from the GFC, Poland did not suffer much, with Czechia's experience in between. As a reference, in Poland, Hungary, Czechia, and Slovakia, in 2015, GDP was USD 476.6, 122.7, 186.9, and 87.5 billion (in constant 2015 prices) and total employment was 16.0, 4.3, 5.2, and 2.3 million persons, respectively.

As far as the position of capital cities is concerned, Poland exhibits the lowest concentration among the V4 with 15.5% of GDP and 10.3% of total employment on average attributed to the capital city. The other end of the spectrum is Budapest with 44.9% and 39.7% respectively, with Prague (29.7% and 22.6%) and Bratislava (29.3% and 21.0%) in between. Interestingly, Budapest increased its concentration of GDP and employment between 2004 and 2009, corresponding to the premiership of Ferenc Gyurcsány, whose tenure was characterised by political manoeuvrers to tone down the economic and social crisis Hungary was facing.⁸ Otherwise, the rate of concentration was increasing only by a fraction every year, with Prague and Bratislava even experiencing a declining concentration. As a reference, in Warsaw, Budapest, Prague, and Bratislava, in 2015, GDP was USD 77.8, 55.9, 57.9, and 26.5 million (in constant 2015 prices) with total employment at 1.73, 1.78, 1.19, and 0.48 million persons, respectively.

Domestically, this study covers the following six major metropolitan areas in Poland beyond Warsaw: Katowice, Kraków, Wrocław, Gdańsk, Łódź, and Poznań. On average, 8.1% of GDP and 7.4% of total employment is attributed to the second largest city Katowice, with other cities having a 1%–4% share each. Unlike Warsaw, which increased its share by 2.2 percentage points (GDP) and 1.3 percentage points (total employment) between 2004 and 2016, Katowice was in a gradual

decline. Wrocław and Poznań are located in the west of Poland and are known for the preponderance of German investment and labour markets rich with German (in addition to English) speaking university graduates.

In order to examine the spatial distribution of FABS employment disproportional to the concentration of total employment, this study utilises location quotients (LQs) in addition to standard descriptive statistics such as the share of FABS in total employment and the national share of FABS in each city. They are defined as:

$$LQ_i = \frac{x_i}{s_i}$$

where for metropolitan area i , x is the share of the metropolitan area in the national FABS employment, and s is the share of the metropolitan area in the national total employment. An increasing LQ signals a shift towards FABS in employment. Thus, the absolute number (e.g. million persons), the rate of concentration, and the LQs illustrate the changes in spatial distribution of FABS employment.

Additionally, the data from Dealogic depict the spatial distribution of capital market services production in the V4. Capital market services are defined as bond and equity securities underwriting, loan syndication, and mergers and acquisitions (M&A) advisory, which are generally more complex with higher value added than services produced in the SSC/BPO sector. The Dealogic database is considered as an industry standard for market evaluations, covering 1658 transactions advised by 65 firms in V4 between 2000 and 2015. Unlike the broadly defined FABS, capital cities are expected to dominate capital market services production, which are also likely to be heavily influenced by the GFC. The number of M&As may have increased in the aftermath of the GFC as a part of market restructuring. However, since M&A advisory services are generally imported to the V4 from international financial centres afar such as London and New York, the overall decline in capital market services production in the V4 is expected. The question is whether this decline led firms to reconfigure the services production network and concentrate production in a certain city (i.e. regional financial centre) or not.

4. Spatial dynamics of FABS and changing institutional arrangements in the V4

In visualising the empirical findings, the following conceptual remarks shall guide our analysis.

- The 2004 EU accession signifies a milestone in the regulatory harmonisation in the region while the GFC symbolises a major negative shock for FABS. Accompanied by the centrifugal trends of FABS (e.g. cost-cutting SSC/BPO), as well as the centripetal trends of FABS towards capital cities (as articulators of national economy), the clear division between the three capital cities (i.e. Warsaw, Budapest, and Prague) and the rest is expected (Fig. 2).
- The differences in national institutional arrangements can be seen thorough trends analysed for capital cities (Fig. 3).
- Focusing on the concentration of FABS in terms of employment (Fig. 4), gross value added (Fig. 5), and location quotient (Fig. 6), the interplay between centripetal and centrifugal forces makes the post-shock rearrangement of institutions ambiguous, and the sectoral and regional resilience may preserve the interurban hierarchy.
- Despite such resilience, firms constantly adjust their employment distribution, and the rate of change fluctuates (Fig. 7).
- When FABS is limited to larger and more complex capital market services, once again, national differences appear (Fig. 8), highlighting the overlapping nature of institutions.

To begin with, the size of FABS employment is shown above (Fig. 2). Given that Warsaw hosts a securities exchange lager (in terms of total market capitalisation) than Vienna, Prague, and Budapest combined, the

⁶ Oxford Economics (2017) *Global Cities: Variable Definitions*.

⁷ For example, ABSL (2018) lists the labour market demography (e.g. talented graduates), geographical proximity to Germany, and lower (business and research) infrastructure costs among the attributes of these cities to attract business services centres. While these attributes are important to understand the trends of growth/decline, they are often unaffected by the external shocks per se (Hashimoto & Wójcik, 2021).

⁸ Rachman, G. (2009) Hungarian lessons for a world crisis. *FT*, 11 May. Available at: <https://www.ft.com/content/7e22b31a-3e55-11de-9a6c-00144feabd0>.

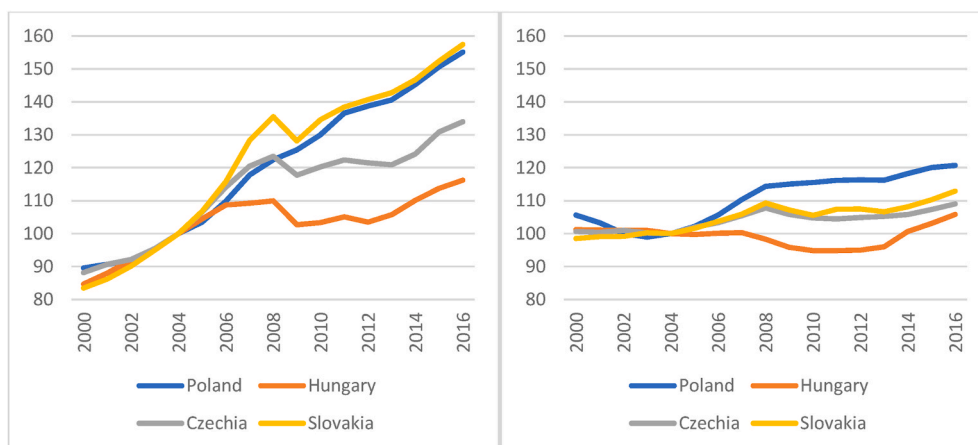


Fig. 1. GDP (left) and total employment (right) in the V4 (2004 = 100).
Source: Oxford Economics.

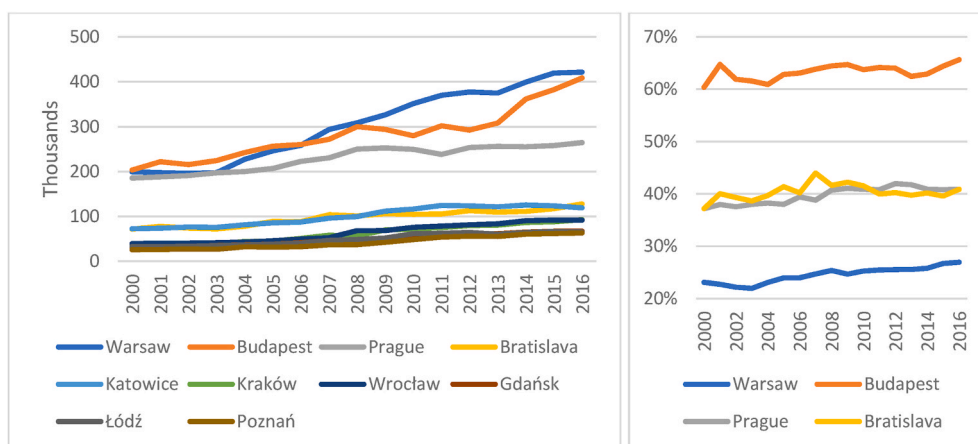


Fig. 2. FABS employment in V4 (left: persons, right: % national).
Source: Oxford Economics.

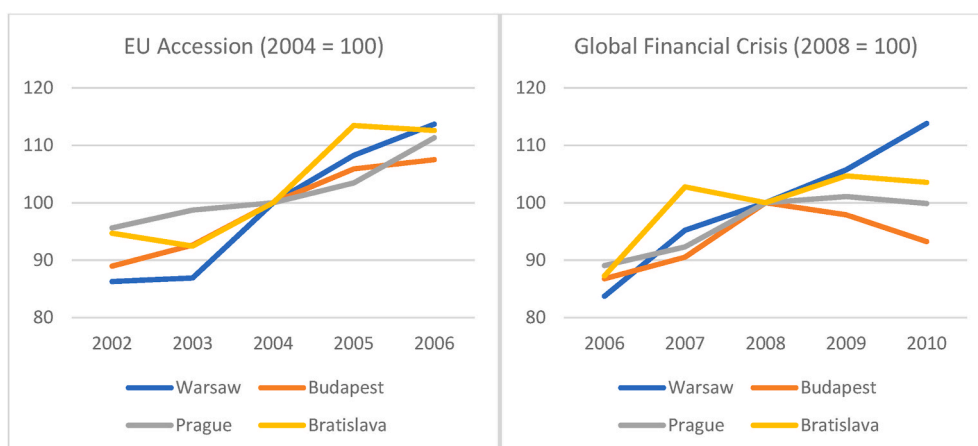


Fig. 3. FABS employment in relation to EU accession and the Global Financial Crisis.
Source: Oxford Economics.

prominence of Prague and Budapest is likely due to an increase in labour-intensive FABS production (e.g. SSC/BPOs, retail banking) as discussed later in this section. While Budapest hosted approximately 63% of the total national FABS employment, Prague and Bratislava hosted 40% and Warsaw only 25% with an increasing trend, illustrating

different degrees of concentration. Warsaw has grown steadily since EU accession, except for 2012–13. Budapest had a period of stagnation in terms of FABS employment growth between 2008 and 2013, while Prague has not grown much since 2008, largely corresponding to the trends depicted in the national GDP and total employment (cf. Fig. 1).

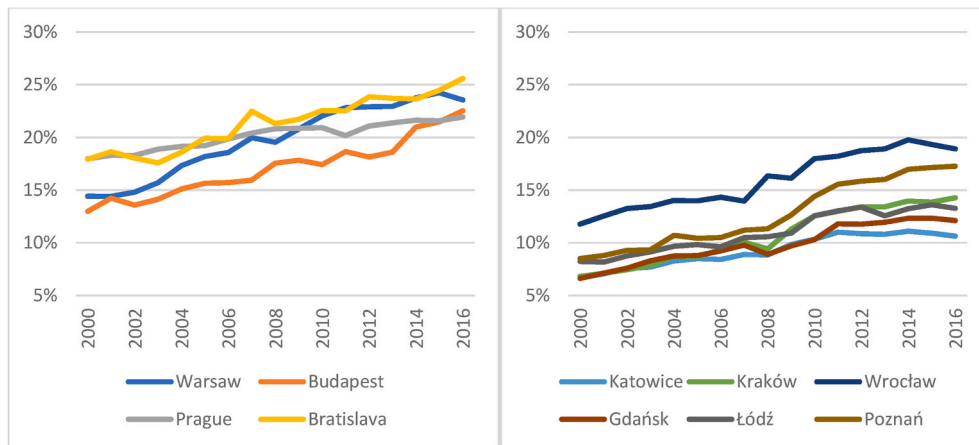


Fig. 4. FABS employment (% total employment).
Source: Oxford Economics.

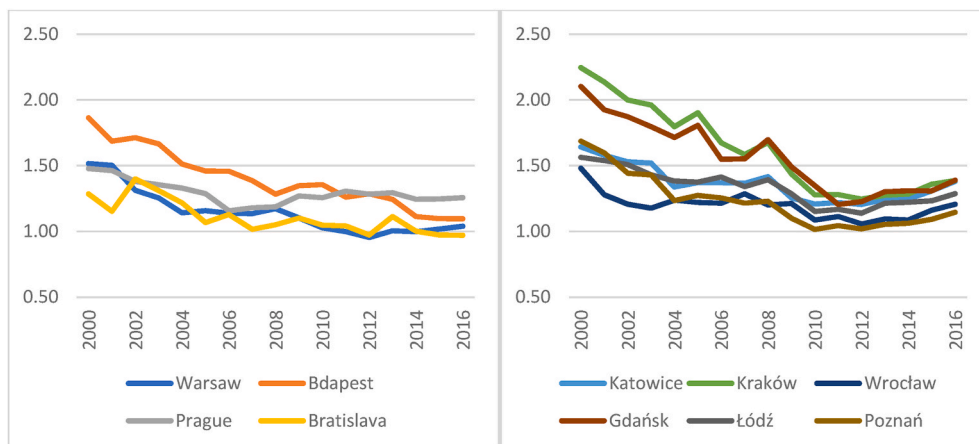


Fig. 5. The ratio between the shares of FABS in GVA and in employment.
Source: author's calculation based on Oxford Economics.

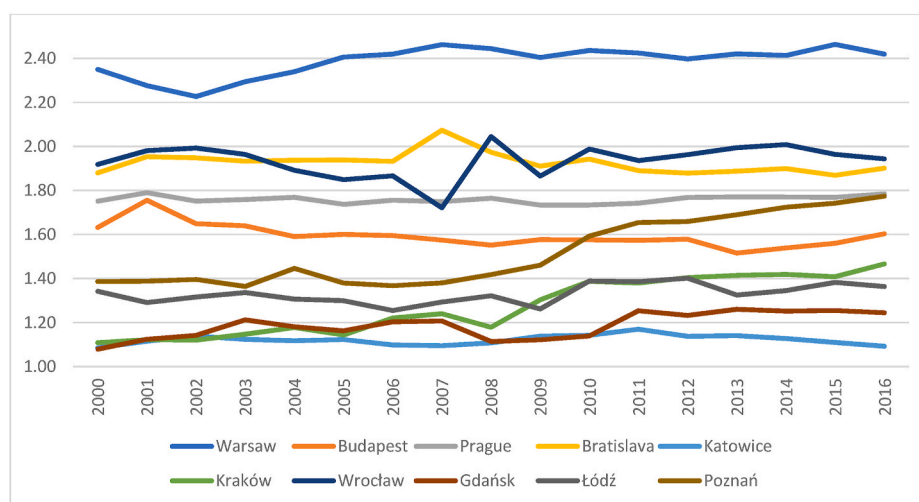


Fig. 6. LQ for FABS employment.
Source: author's calculation based on Oxford Economics.

Among other cities, Kraków and Wrocław began to emerge since 2007 by accelerating the growth of FABS employment, but the rise was not strong enough to radically change the relative positioning among the

cities.

Focusing on EU accession and the Global Financial Crisis (GFC), the capital cities exhibit different patterns of growth in terms of FABS

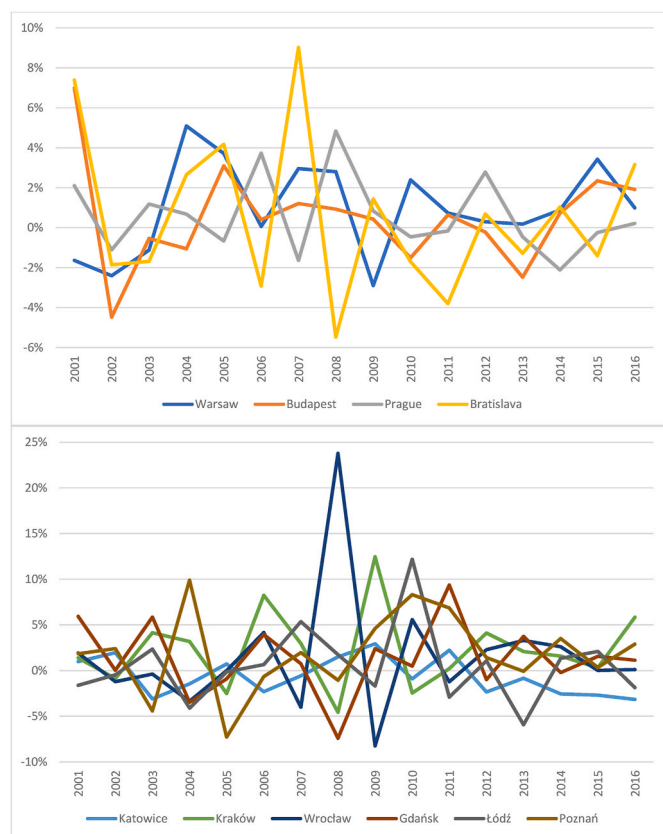


Fig. 7. Abnormal logarithmic rate of change for FABS employment. Source: author's calculation based on Oxford Economics.

employment (Fig. 3). In relation to EU accession, Warsaw grew the most in the 5-year period (2002–06), while Prague showed a relatively moderate level of growth. The rate of growth fluctuated in Bratislava both before and after the formal accession. The rise of Warsaw was achieved not at an expense of other cities in Poland, as, except for Poznań, the Polish cities in general experienced similar or higher rate of growth in FABS employment than Prague or Budapest. Among the capital cities, Warsaw was the only city with a growing FABS employment throughout the GFC, once again, corresponding to the general economic trends observed in Fig. 1. While some cities in Poland experienced a degree of decline in FABS employment between 2007–08, all cities were back on the upward trajectory by 2010, in contrast to Prague

which remained at the same level of FABS employment or Budapest where FABS employment began to increase only in 2013.

While the concentration of FABS employment in the capital cities has been relatively stable (Fig. 2), the share of FABS in total employment continued to increase in all cities (Fig. 4). Warsaw witnessed a spectacular growth from 14.4% in 2000 to 23.54% in 2015, followed by Budapest from 13.0% in 2000 to 22.5% in 2015. While the growth rate slowed down in Warsaw, in Budapest growth accelerated, particularly after 2013. In fact, Warsaw momentarily decreased the share of FABS in total employment in 2008, while Budapest continued to increase. Recalling the general trends in FABS employment, these observations show that FABS suffered less in terms of employment compared to the rest of the economy in the aftermath of GFC (i.e. 2009 onward). While EU accession undoubtedly contributed to the growth of FABS, the growth in FABS was not a temporary, but a longer-term phenomenon. Within the Polish national urban system, Wrocław and Poznań, cities known as centres of SSC/BPO (Hashimoto & Wójcik, 2021), increased the share of FABS throughout the GFC, in analogy with Budapest (Gál, 2021).

Fig. 5 depicts the ratio between the share of FABS gross value added (GVA) in total metropolitan GDP and the share of FABS in total metropolitan employment for each city. While the exact ratio (e.g. 1.6 or 2.1) has little meaning, it is useful in identifying trends and comparing developments across the cities. In general, the ratio has a declining trend showing that the share of FABS in employment outgrew the share of FABS in GDP, suggesting a growth in more labour-oriented FABS such as BPO/SSC. This trend is particularly strong in Budapest. On the contrary, Prague sustained the ratio since the GFC, and Warsaw since 2012, which correspond with the rise of locally headquartered capital market services providers such as Wood & Co. (Prague/Warsaw) and PKO Bank Polski (Warsaw) (Hashimoto, 2021; Hashimoto et al., 2021). The change of trends in 2012 was experienced by all Polish cities, mostly due to the deceleration of FABS growth as a share in total employment (cf. Fig. 4).

Fig. 6 shows the location quotients (LQs) for FABS employment to identify if the concentration of FABS employment in relation to the concentration of total employment has changed over time or in the aftermath of external shocks. In all cities, LQs for FABS employment exceeded 1.0, illustrating the centripetal characteristics of these metropolitan areas as financial centres. Warsaw is on the top of the list with an average of 2.39 in LQ, followed by Wrocław (1.93), Bratislava (1.93), and Prague (1.76). The rise of Kraków (from 1.11 in 2000 to 1.47 in 2016) and Poznań (from 1.39 to 1.77) indicate their increasing shift towards FABS in terms of employment. As far as the external shocks are concerned, Poznań seems to be the only city experiencing a sudden change in the LQ in 2004, while Wrocław experienced 2008 with a sudden increase in LQ. The geographical proximity of these cities to

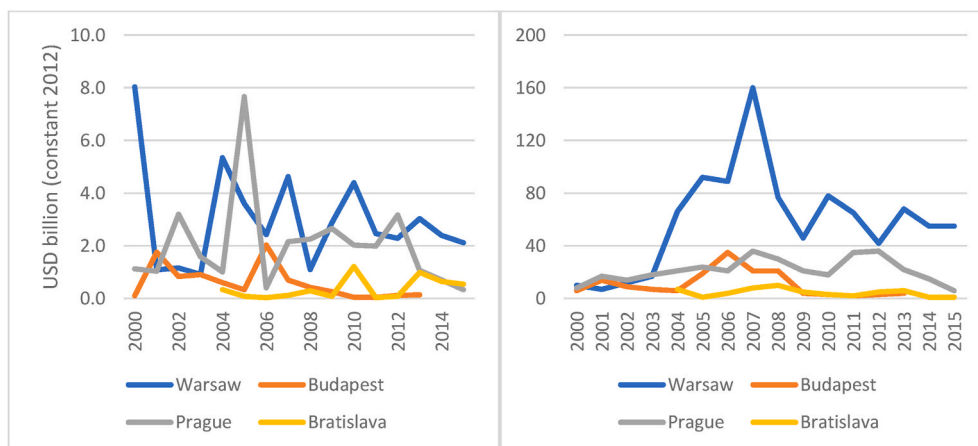


Fig. 8. Capital market services (left: sum of tranche value, right: number of tranches). Source: Dealogic.

Germany (and the availability of German speaking labour markets) may partially explain this observation, but nothing specific can be concluded from the LQs alone. Despite Poznań overtaking Budapest, when we consider the capital cities and the cities within the Polish national urban system separately, the hierarchy of cities in each category did not change much.

To further our investigation, the difference between the logarithmic rate of change in FABS employment for each city and the rate on the national level (defined as the abnormal logarithmic rate of change) is shown in Fig. 7, where we see a high degree of fluctuation for all cities, supporting a hypothesis that FABS firms flexibly adjust and rearrange their services production. As far as EU accession is concerned, Warsaw, Budapest, Bratislava, and Katowice are the only cities which increased FABS employment above the level of national increase in 2005 (3.72%, 3.09%, 4.17%, and 0.72% respectively), but this observation does not hold in 2006 or 2007. Given that the formal institutions have been gradually harmonised prior to 2004 based on the accession negotiations, FABS firms seem to have already reacted to the changes to come. As far as the GFC is concerned, from 2008 to 2010, total employment decreased in Hungary, Czechia, and Slovakia, but only Hungary experienced a decline in FABS employment throughout. While Warsaw increased FABS employment during this period (5.57% in 2009 and 7.35% in 2010), the other capitals experienced a decline in 2009. In this period, Kraków had 12.47% higher increase in FABS employment than the national average in 2009, while in Wrocław it was 8.24% lower. In 2010, Wrocław had a growth rate 5.57% higher than the national average. In other words, Polish cities in general experienced further shifts towards FABS in the aftermath of the GFC, but the same did not happen in other V4 countries.

Focusing on larger and more complex services, Fig. 8 shows the sum of capital market services value produced in each city between 2000 and 2015. The value fluctuates as the demand for capital market services varied from one year to another. Generally, Warsaw and Prague showed strong performance especially in the aftermath of EU accession. The impact of the GFC was limited to Warsaw in 2008, but the number of transactions reached its peak in 2007. The 2000 and 2004 spikes in Warsaw and the 2005 spike in Prague in terms of value were driven by M&A target advisory services for telecommunication and steelworks firms, related to post-socialist privatisation. Once Warsaw was on a rise, the demand was driven by equity securities underwriting and loan syndication. The clients' industry varied from Naspers in media to PGNiG in energy. The advisors were also diverse in terms of ownership structure and geographical location of the parent companies, from the state-owned PKO Bank Polski to the Milan-headquartered UniCredit subsidiary. Such a diversity was not the case in Prague where a handful of foreign-owned firms (e.g. Erste's Česká spořitelna and KBC's ČSOB) dominate the market. Within Poland, Wrocław, Kraków, Poznań, and Gdańsk were on the list, but their markets were served solely by Bank Zachodni WBK (Santander subsidiary) and Bank BPH (former subsidiary of GE Money), leaving Warsaw as the national financial centre of Poland.

While the empirical analysis focuses on FABS employment, the difference among the capital cities is largely driven by the differences in national financial regulations. For example, Poland reduced the personal income tax just before the GFC, arguably boosting the aggregate demand, and the market's exposure to risky financial products abroad was limited.⁹ Relatively healthy banking sector led by state-owned PKO Bank Polski, accompanied by high-standard regulations introduced by the National Bank of Poland (NBP) and the National Financial Supervisory Authority (KNF), has steadily been privatised to the financial

firms from Western Europe¹⁰. The so-called Vienna Initiative led by the NBP guaranteed their commitments to CEE in the aftermath of the GFC, largely stabilising the market (Hashimoto, 2021). The re-nationalisation of stock exchange and repeated 'levies' to foreign banks in Hungary gives a contrasting viewpoint to Poland, which mirror our findings on FABS employment. The 'inertia' of interurban hierarchy (*a la* Cassis and Wójcik, 2018) in the V4 comes from a variety of institutional sources, from financial regulations to FABS labour market. In analysing the determinants of financial centre development, Wójcik et al. (2018), for example, stress the size and quality of labour, diverse and large client base, and institutions, with political stability and the rule of law in the lead, as positive factors. The GFC did not seem to change any of these dynamics. Thus, it is not so surprising to see that the external shocks (EU accession and the GFC) neither accelerate nor decelerate the FABS development (sectoral and regional resilience), as these institutional qualities are improved over time (perhaps, with a cautious note on Hungary, which had the quickest shock therapy in CEE while opted for re-nationalisation in the last decade). The position of CEE in the international division of labour of FABS and Global Financial Network (*a la* Sassen, 2001) seems to be characterised by both the value adding diversification of offices as well as cost-cutting outsourcing (Hashimoto & Wójcik, 2021).

5. Conclusion

This study examined the spatiotemporal distribution of FABS in the V4 (i.e. Poland, Hungary, Czechia, and Slovakia) between 2000 and 2016 (2015 for capital market services), based on the data retrieved from *Oxford Economics* and *Dealogic*. The time-period covers two major external shocks, namely EU accession (formally 2004) and the Global Financial Crisis (GFC, 2007/2008). While the regulatory harmonisation seems to have provided a level playing field for FABS firms in Europe, national differences (with regard to e.g. currencies, securities exchanges, and labour markets) remained, offering different types of incentives to various economic actors for different cities. In other words, the interplay between the centripetal and centrifugal forces continues to characterise the development of regional and national financial centres, and the territoriality of overlapping institutional arrangements (e.g. national regulations, different agglomeration in cities, FABS labour market, production network for capital market services) may be modified in reaction to external shocks. While the capital cities functioned as the gateways to the investments to the rest of the country, the increasing capacity to handle larger and more complex services in the secondary cities may reconfigure the landscape of national financial centres, particularly in the wake of abrupt changes such as the GFC. Here, while this study drew insights from the Global City theory to explain the centrality of financial centres at play, the ambivalence of the impact of external shocks led us to the following potential scenarios: (1) the interurban network of FABS is hierarchically stable, (2) some cities have changed their FABS profile from the services with less added value to those with higher added value, and (3) FABS production has become highly decentralised.

The empirical findings suggest the first scenario. While FABS employment grew in all capital cities in the V4, the differences between them remain in place throughout the external shocks. With the Polish economy suffering less from the GFC, FABS employment in Warsaw grew continuously during the period. Both the concentration of FABS employment as well as the share of FABS in total employment continued to increase in Warsaw, though the speed of increase decelerated since 2014. Warsaw has the highest LQ for FABS employment, suggesting that the city engages in FABS out of proportion to its share in total employment. Warsaw hosts an active capital market with a wide range of advisers and clients compared to the other cities. The other end of

⁹ Pitakowski, M. (2015) Four ways Poland's state bank helped it avoid recession. *Brookings*, 12 June. Available at: <https://www.brookings.edu/blog/future-development/2015/06/12/four-ways-polands-state-bank-helped-it-a-void-recession/>.

¹⁰ Although, the recent nationalisation of Pekao Bank may be a turning point.

spectrum is Budapest. With a rapid increase in FABS employment comparable to Warsaw, FABS employment in Hungary is highly concentrated in Budapest. However, it suffered heavily from the GFC, and while the share of FABS in total employment continued to increase, it is not as high in relation to the share of employment (i.e. a lower LQ) as it is in Warsaw. The ratio between the shares of FABS in GVA and in employment for Budapest continued to decline throughout the studied period. Combined with a relatively weak performance in capital market services production, it seems that Budapest focuses on more labour-intensives FABS such as BPO/SSCs. Prague and Bratislava seem to fall between these two extremes (i.e. Warsaw and Budapest). Bratislava, despite being the national financial centre in Slovakia, is comparable to Katowice in terms of the size of FABS employment and shows a similar LQ as Wrocław. Although only a handful of firms are serving the market, Prague has been active in capital market services production, sustaining the ratio between the share of FABS in GVA and the share of FABS in employment. Thus, the landscape of FABS among the V4 capital cities did not change dramatically (i.e. 'inertia' of interurban hierarchy), and the impact of external shocks was temporary and limited. A similar observation can be made for the cities within the Polish national urban system which depicted a stable concentration and hierarchy.

There are limitations to how much we can conclude from our empirical results. This study illustrates the aggregate reactions by FABS firms to the external events. The stability of interplay between centrifugal and centripetal forces may come from the relative absence of major effects of external shocks or external shocks having opposing effects cancelling each other. For example, when the Goldman Sachs opened its Warsaw office in 2010, it was presumably envisioned to supervise regional investment projects. Today, it functions as a 'global operations centre' (i.e. an SSC), expanding its size. Regionally active investment firms such as Wood & Co. and Santander Polska relocated from Prague and Wrocław respectively to Warsaw, while Raiffeisen is rumoured to leave Warsaw. These individual and nuanced relocation decisions are unclear when the data is aggregated, but the difficulty to investigate such information internal to the firm gives a preference to this method. Furthermore, while the study highlighted a stability of financial centre landscape in the V4 and linked the findings to the Global City theory, the interaction between different types of institutions is still missing from the analysis. While institutions in this study are defined broadly and the focus is on the changing territorialities exhibited through the shifting configuration of FABS market, it is still unclear if the firms reacted, for example, to the changes in a regulation or the actions taken by the competitors in reaction to the changes in a regulation.

That said, considering the scale of institutional changes EU accession and the GFC have triggered, the overlapping nature of institutions in FABS, and centralities depicted in the Global City theory, the absorption of shocks through successive rearrangement of (particularly informal and private) institutions is a strong explanation in line with sectoral and regional resilience depicted in the global financial network (Fromhold-Eisebith, 2015; Wójcik & Cojoianu, 2018). The link between horizontal reconfigurations of institutions and the (now relatively stable) hierarchy of financial centres shall be an intriguing analytical focal point, applicable to any financial centres beyond the V4 and Europe. While the emergence of new international financial centre in the region is unlikely (given the stability depicted above), the trajectories of growth for each city as a regional/local financial centre may come from the interactions between various institutions and their resilience to external shocks – which opens a new door for empirical inquiries.

Given the above findings and limitations, this paper proposes three directions for future research. First, the office-level analysis of FABS market focusing on the detailed information with regard to the types of services provided in each office shall deepen our understanding of the firms' locational strategies. It is in line with Taylor and Derudder (2016), who call for a more relational, as opposed to attributional, approach in investigating the global financial centre network. Here, the so-called 'command and control' function is a key in identifying each firm's

strategic thinking. Second, this study can be expanded geographically to include the Balkans and Ukraine where a number of financial actors from the V4 (e.g. Wood & Co., OTP Bank, and Raiffeisen) have been active in recent years. While the cities in V4 have the parent-subsidiary linkages with major international financial centres such as London, Paris, Milan, and Vienna, the activities of these local and regional firms make the financial centres in the V4 unique, placing them as articulators of regions beyond their national systems. In other words, institutional arrangements are not only overlapping but also spilling over to existing geographical/national boundaries. Third, a study on economic migration shall be combined with research on financial centres (e.g. Beaverstock & Boardwell, 2000; Beaverstock & Hall, 2012).¹¹ Recently, thousands of young professionals from Ukraine and Belarus educated in Poland obtained FABS jobs in Warsaw and elsewhere. In line with Storper (2013), the development of cities should be investigated not only by the movement of firms, but also by the migration, as the behaviour of these two groups of actors may differ significantly. While much additional analytical work can be done on the topic of financial centre development, this study can hopefully serve as a steppingstone to deepen our understanding of medium-sized financial centres and their reactions to the abrupt changes.

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¹¹ Although, standardisation of theoretical and methodological framework is necessary. See Beaverstock et al. (2000).

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