

Getting rid of their ties: the long-term evolution of elite networks and profiles in the three largest Swiss cities, 1890-2020*

Michael A. Strebel Baptiste Antoniazza André Mach
University of Lausanne University of Lausanne University of Lausanne

Paper prepared for presentation at the conference “Elites and the Critique of Elites from the 19th to the 21st Centuries”, 29-30 October 2020

-- *Draft Version, Please Do Not Cite* --

Abstract

Recently, there has been a resurgence in prosopographical studies of (national) elites. In this paper, we complement this research with a long-term perspective on urban elites from different social spheres in three Swiss city-regions. City-regions are the main geographical hubs of power and the local level often serves as an entry point for accessing elite networks at larger scales. Assessing the evolution of local elite networks' inclusiveness is thus crucial for our understanding of past and current inequalities and power structures. Using a positional approach, we identify academic, cultural, economic and political elites in Basel, Geneva, and Zurich from 1890 to 2020. In our analysis, we first assess elites' multi-positionality in city-regional organizations. We observe a gradual disintegration of local elite networks over the course of the 20th century and their almost complete disappearance to the present day. In a second step, we present the profiles of the core elite, i.e. the 400 actors that hold positions in two social spheres at the same time. Old Swiss men form a rather cohesive and exclusive core elite throughout the period and descendants of patrician families dominate Basel and Geneva's (but not Zurich's) local networks until the beginning of the 20th century. These results have implications for our understanding of the functioning of local economies and for our conception of the local level as an entry point for newcomers to elite positions.

Signs: 65'151 (incl. tables and figures, excl. appendix)

* Research for this paper has been carried out as part of a research project on “Local Elites and Transnational Connections”, supported by the Swiss National Science Foundation. The authors would like to thank all the members of the research group for their invaluable contributions in the data collection process.

1 Introduction

In the last decade, there has been a resurgence of interest in elites, in part due to the “recent dramatic role played by elites in increasing inequality” (Khan 2012, 362). Cities and city-regions are hotspots in this development. They are the focal points of elite (re)production and they are the geographical settings within which inequalities manifest themselves most visibly. More generally, city-regions are the main centers of economic, political, scientific and cultural activity in post-industrial societies (Van Heur and Bassens 2019, 592). While nation-states have dominated the 20th century, their role as the prime holders of political authority and sovereignty is increasingly under pressure. Political authority moves upwards to international organizations, sideways to private institutions, and downwards to cities and regions (Kübler 2015).

Despite this resurgent importance of city-regions, the analysis of elite networks and profiles has mainly focused on the national level. The subnational dimension has received comparatively less attention – at least in recent period.¹ In addition, studies of elite networks and profiles have often focused on short time periods or on single time points (Hjellbrekke et al. 2007, Bühlmann et al. 2012, Lunding et al. 2020). Yet, long-term perspectives focusing on the local level are important for our understanding of inequality and access to privileged positions. Especially in decentralized countries, the local level serves as an important entry point for careers in different spheres and for the access to elite positions at higher spatial scales. Moreover, a long-term perspective allows to assess whether the promises of a more democratic access to elite positions have been realized.

In this paper, we contribute to these research gaps by studying local elite networks in the three largest Swiss cities from 1890 to 2020. We ask how local elite networks evolve in a long-term perspective from the end of the 19th century to the present day and we assess who are the main actors that operate in these networks.

Switzerland is a rather specific case for studying elites. It is a highly decentralized country where the different regions were connected in a rather loose way until the end of the ancien régime. Moreover, its democratization and the introduction of mass suffrage – at least for the male population – took place early on. It’s the only European country, where the 1848 revolutions led to the establishment of a democratic regime. In addition, monarchy played only a minor role in the evolution of the Swiss political system. While some formerly independent

¹ Notable exceptions on the study of urban elites come from the US context in the 1960s and have triggered the “community-power” debate (Hunter 1953, Dahl 1961). Yet, these studies are primarily interested in policy networks and in identifying those making or influencing political decisions and less in the background of urban elites from a sociological perspective.

states – like the canton of Bern – were having close relations with the French monarchy, there was no royal court society and no nobility like in other European states.

The national elite in the new federal state was composed of both old elites from patrician families that were already powerful at the local level and new elites that rose to positions of power only after the turn of the 18th century (König 2011).² Yet, a typicality of the Swiss elite is that they cumulated positions of power in different spheres, particularly in the economic and the political sphere, but also in the societal or cultural sphere. There was less differentiation and specialization across different spheres than in other countries, partly due to the principle of “militia” applied in the army and in politics, where such public tasks were assumed by elites besides their main professional occupation. In the 20th century, this led to the emergence of a small, highly homogeneous and cohesive, “power elite” – male lawyers belonging to the political right and having achieved officer ranks in the Swiss military – that held the most important positions in the Swiss system in the middle of the 20th century (Kriesi 1980, Mach et al. 2016). These dense and closed elite networks reached their strongest cohesion in the 1970s and 80s and then gradually started to decline as a result of internationalization and globalization processes in the business sector (see Carrol and Fennema 2002, Schnyder et al. 2005).

It is an open question whether we find a similarly homogeneous and cohesive core elite in the three cities under scrutiny here and whether the cohesiveness of the elite networks in Swiss cities follows similar trajectories as the one at the national level. One can expect that local elites were more cohesive and integrated at the beginning of the period under scrutiny. The federal state was still in a process of integration at the end of the 19th century, whereas power relations at the local level were long established. We expect that local networks become continuously less important in the course of the 20th century. In the beginning of the 20th century a decline of local networks might result from a shift of elites’ attention to the national level and at the end of the 20th century, local networks might be subject to the same internationalization and globalization processes like the national elite network.

Apart from the substantive relevance of analyzing regional and local elites in a decentralized setting like Switzerland, focusing on elite development in the three largest Swiss city-regions – Basel, Geneva, and Zurich – offers the benefit of comparing elite development across different contexts. Such a comparative study of elite development across Swiss city-regions is still missing to date (König 2011, 126). More generally, comparative accounts of elite development

² The ascendance of new elites to powerful positions in the federal state is in part also because some of the newly created cantons were subordinate territories of old cantons in the old confederacy. In these formerly subjugate territories, no old elite existed as it did in the old cantons. The representatives of the new cantons at the national level thus constituted a new elite that was competing and integrating with the old one.

across different contexts are rare. Often, studies of elite networks and profiles focus on one specific (national) context or on one specific sphere, e.g. the economic sphere. By focusing on elites from the academic, cultural, economic, and political sphere, in three different city-regions we contribute to a broader understanding of elite trajectories across different spheres and across space and time.

We proceed with our analysis in several steps. First, we describe our data, we argue in more detail why we focus on the city-regions of Basel, Geneva, and Zurich, and we briefly discuss the methods used for analyzing our data. Second, we describe the evolution of local elite networks over time, we attempt a short collective biography of the core of the local elite with a particular focus on their patrician family origins and we present some typical elite biographies from the different cities and benchmark years. We conclude by discussing some of the implications of our results for further research on local and national elites.

2 Analyzing Elites in Three Swiss Cities, 1890-2020

This study is based on the elites of Basel, Geneva and Zurich. Adopting such a local perspective is especially relevant as Switzerland is characterized by a weak federal state and remains by far the most decentralized political system in Western Europe in terms of taxation, regional infrastructures, or higher education. From a historical perspective, the construction and national integration of the country have been very widely interpreted as the success of forms of collaboration and cooperation between the elites, notably between economic and political elites. Furthermore, Swiss political life has long been characterised by a lack of professionalisation of the political elites, resulting in close links between the economic, military and political sphere. In addition, the small size of the country favours the existence of a cohesive elite, where “everyone knows each other”, thanks to the existence of numerous networks of sociability, favouring the integration of elites.

Swiss political and administrative structures – federalism coupled with subsidiarity – endow local and regional authorities with significant leverage. Furthermore, economic development has revolved around regional specializations such as textiles in Eastern Switzerland, financial sector and machine-making in Zurich, private banking – and more recently the luxury watch industry – in Geneva, or the chemical and pharmaceutical industry in Basel. This polycentric configuration underscores the existence of connected, but distinct, local elites and systems of governance that contributed to the consolidation of successful “economic locations”. Moreover, these three urban areas are the most populated and rank among the most prosperous regions of the country. All three cities are characterized by their high degree of internationalization in terms of foreign population, economic activities and cultural diversity. All three have undergone a successful long-term economic development since the 19th century.

Several authors have shown that until the end of the 19th century local patrician families played a crucial role in urban economic, political, cultural and scientific development (Tanner 1995; Sarasin 1997; Perroux 2006; Schwarzenbach 2007). The *Daig* in Basel, the private bankers’ families of Geneva as well as the industrial dynasties of Zurich were very influent. Indeed, even after the formal democratisation of access to communal and cantonal authorities during the 19th century, the old patrician families as well as the new rising bourgeoisie continued to monopolise local positions of power, particularly in the political and economic spheres.

The importance of local patrician families has evolved over time and can be traced back historically. The three cities under scrutiny here have in common that they were all so-called “Zunftstädte” in early modern times, where manufacturing guilds played an important political role. Yet, in the 17th and 18th century, even in these cities, wealthy merchants formed an

increasingly exclusive patriciate that managed to marginalize the guilds and seize political power (Schläppi 2010). With the end of the ancien régime at the turn of the 18th century and certainly after the restauration period in 1830, these patrician families lost their formal prerogatives in the political control of the cities and their surrounding areas (as did the guilds). An important question – in the light of more democratic access to elite positions – thus concerns the longevity of these patrician families in positions of power. Studies of the Dutch elite in the 20th century have shown that – despite having lost their formal privileges in the state in the 19th century – descendants from noble families continue to occupy important positions among the Dutch elite. This partially contradicts modernization theory which assumes that placement in elite positions based on social status and privilege has been replaced by elite recruitment based on merit (Dronkers 2003, Schijf et al. 2004). Can we still find a significant number of descendants of these patrician families in local positions of power in the three city-regions – even two centuries after they have lost their privileged status?

Importantly, it can also be pointed out that new elites emerged in the course of the 20th century. In particular in the political sphere, where in the first half of the 20th century the left occasionally managed to come to power and overthrow the majority at cantonal or communal level in Basel, Geneva and Zurich. The second half of the 20th century was marked by women's access to certain positions of power. In the political sphere, at the cantonal level, they obtained the right to vote and stand for election in 1960 in Geneva, in 1966 in Basel and in 1970 in Zurich. However, in the economic sphere they remain rather marginal to the present day (Ginalski 2016).

There are several differences between the three cities. We can say of Zurich that it is a “territorial state” where there is competition between city-elite and countryside elite. This led to the introduction of a new constitution in 1869 containing direct-democratic procedures which meant the abolition of the liberal-conservative dominance and bigger participation of the “Democrats” – the countryside opposition to the urban elites – in politics at the cantonal level. The cantonal territory also includes a second important economic centre with its own patriciate, the city of Winterthur, which is also the sixth largest city in the country. Basel and Geneva, by contrast, can be regarded as “city-states” where in the 19th century, patrician families did not have to compete with a countryside elite and were able to retain their power (Sarasin 1997, 11). In sum, the three Swiss city-regions represent the most important economic hubs of the decentralized Swiss system – each with its specific economic sectors and with its particular organization of territory and politics.

2.1 Data

In order to document the long term evolution of city-regional networks among elites of different social spheres, we have constructed a systematic database of local elites for all three regions from 1890 until 2020. On the basis of a positional criteria, the database includes all the individuals holding leading positions in the major economic, political, academic and cultural institutions of the three city-regions. For all these important local institutions, we gathered information on the leading individuals for seven benchmark dates: 1890, 1910, 1937, 1957, 1980, 2000 and 2020. To elaborate this database on local elites, we could partly rely on previous data collection and database on Swiss *national* elites in the context of the Swiss Elite Observatory³.

For the economic sphere, we took into account the regional chambers of commerce, organizing local business elites, as well as the most important companies of the leading economic sectors of the three regions. This involved all the major banks (large universal banks, private banks and public owned banks) and insurance for the financial sector; for Basel, all the major textile (until 1937) and chemical-pharmaceutical companies; for Geneva, the major watch-making companies, as well as a few other industrial companies; and for Zurich, all the major companies from the machine industry. The total number of companies varies from 49 in 1890 to 35 in 2020. The smaller sample for the recent period is due to the strong concentration process in all economic sectors, because of mergers and acquisitions or bankruptcies. For all these companies, we included the CEO/General director and all the members of the boards of directors (BoDs) in the database.

For the political sphere, we included all the members of the cantonal (regional) and local (communal) parliaments and governments for Geneva and Zurich. In Basel, where the city's territory fully coincides with the canton, only the members of the cantonal parliament and government were taken into account.⁴ For the academic sphere, all full and extraordinary (associate) professors have been included in the database up to the benchmark year of 1957 and a selection of professors (based on institutional and scientific criteria) for the benchmark years 1980, 2000 and 2020. Finally, we also included all the members of the committee of the art societies of the three cities (see table 1 for the sample size, for more details in the composition of the sample, see table A.1 in the Appendix).

³ OBELIS, see <https://www.unil.ch/obelis/fr/home.html>

⁴ In Basel, the cantonal parliament and the cantonal government also serve as the city's government and parliament.

Table 1. Sample size by city-region and benchmark year

	1890	1910	1937	1957	1980	2000	2020	Total
Basel	293 (363)	371 (425)	385 (453)	397 (472)	345 (436)	338 (397)	313 (322)	2447 (2738)
Geneva	270 (356)	299 (375)	326 (393)	413 (482)	393 (465)	439 (483)	458 (473)	2618 (2877)
Zurich	539 (649)	575 (702)	575 (698)	602 (744)	596 (729)	581 (656)	593 (606)	4073 (4626)
Total	1094 (1349)	1227 (1469)	1277 (1507)	1397 (1644)	1301 (1521)	1347 (1493)	1362 (1399)	9014 (9950)

Note. N individuals and N mandates (in parentheses). The column total for the individuals can be smaller than the addition of the different lines since some individuals can occupy positions in different city-regions in the same benchmark year.

2.2 Method: Network Analysis & Prosopography

We proceed in two steps to answer our research questions of how local elite networks evolved since the end of the 19th century and who are the main actors in these networks. First, we conduct network analyses for each benchmark year and each city-region separately. The organizations in which individuals can hold positions act as nodes and individuals holding positions in two organizations at the same time represent the ties between organizations. We focus on the organizational network, since we are interested in identifying those individuals that act as “linkers” between different organizations and not so much with which other persons one person was connected through joint organizational membership (see Keller 2018, 141).

On the one hand, we examine the general properties of the organizational network, its evolution over time, and similarities and differences across city-regions. This will allow us to answer our question about the evolution of local elite networks and to compare their development to our knowledge about national level evolution. On the other hand, we take a closer look at the organizations that occupy central positions in the networks – assuming that a more central positions indicates more influence – and on the links between specific types of organizations (Keller 2018, 144). This focus will allow us to better understand changes in the network structure over time and across city-regions.

In a second step, we focus on those individuals that establish the links between the different organizations. In a recent article on the Danish national elite, Lunding et al. (2020, 6) analyze the “effective agents in the field of power” which they define as “the agents that, via their multi-positionality, bind together various fields and act as brokers in the ongoing negotiation of the relative strength of different forms of power.”

We follow this approach and make a prosopography of those individuals that a.) hold positions in two of the four spheres (academic, cultural, economic, political) in the same benchmark year or b.) hold three or more positions in the economic sphere in the same year. The first criterion

reflects Lunding et al.'s (2020) statement that the most influential individuals are those that establish links across fields. The second criterion captures the corporate elite who sits on the BoD of different firms. This corporate elite is important for our network given that a significant number of organizations in our sample belongs to the economic sphere. For the individuals that fulfill these criteria we take a closer look at their socio-demographic profile – age, gender, education, and nationality – as well as at their family origin.

3 The Dissolution of Local Elite Networks and the Exclusiveness of the Local Core Elite

The presentation of the results on the local elite networks proceeds in three steps. First, we look at the network level and examine certain network characteristics. In a second step, we highlight some core commonalities and differences at the organizational level across the three city-regions. Finally, we present some exemplary biographies of figures that belong to the core elite and that reflect typical combinations of core elite characteristics for a certain city-region and year.

3.1 From cohesive networks to disconnected elites

Figure 1 below presents the evolution of three different indicators for a network's connectivity.⁵ The first one (figure 1a) is an unweighted measure of network density. It shows the percentage of all possible links that are realized between the different organizations in the network and is the standard measure to indicate the connectivity of a network. For all three city-regions, we can see a rather sharp density decline from 1980 onwards. While 20% of all possible links between organizations were realized in the city-regions of Basel and Zurich in 1980, the density drops below 10% in 2020 in all three city-regions. For the years before 1980, the patterns are more diverse with a rather stable density of the network in Zurich, fluctuating density in Basel and a sharp decline at the beginning of the period in Geneva. However, these developments in Basel and Geneva might be due to the nature of the density measure and not so much to effective changes in the local network.⁶

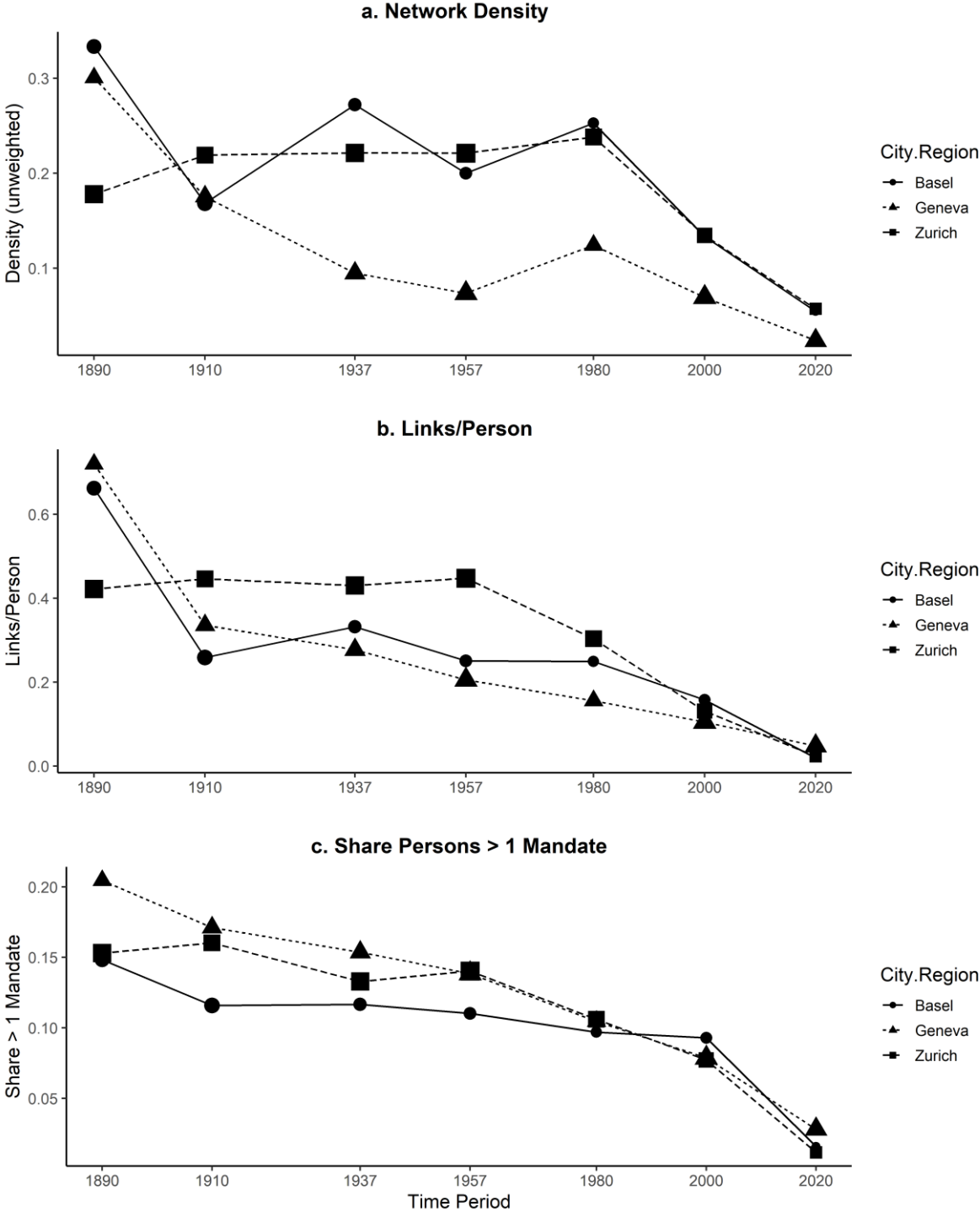
For these reasons, we calculated an alternative density measure, dividing the number of links between organizations by the number of persons in the network, which yields the average number of links per person in the network (figure 1b). First, the trend for this measure is generally similar to the one of the density measure. Yet, we can also see that the evolution of the networks in Basel and Geneva are much more stable and show a steady decline in the average number of links per person over time. What is especially remarkable here is the sharp

⁵ Graphical representations of all the networks for each benchmark year-city-region combination can be found in figure A.1 in the appendix.

⁶ The fluctuations we observe for Basel and Geneva have to be interpreted carefully, since the density measure is very sensitive to the number of organizations that are in the network (explaining the fluctuations in Basel) and because it doesn't take into account the number of persons that belong to these organizations. This latter limitation explains the sharp density drop at the beginning of the period in Geneva. While Genevan firms in 1890 had a similar number of board members as firms in the other two city-regions, the size of Genevan board of directors decreased in 1910 and 1937. This is especially due to the growing importance of the watchmaking companies which have very small boards of directors, often only consisting of two persons. A further problem of the density measure is that it doesn't account for the strength of the relationship between two organizations (i.e. the number of members they share).

decline in both city-regions from 1890 to 1910. While in 1890, the average person in the network created 0.7 links, this value drops to 0.3 in 1910.⁷

Figure 1: Evolution of Network Properties



⁷ This mirrors the development of individual elite profiles (see below). In 1890 almost 70% of the core elite in Basel and Geneva belonged to patrician families, whereas this value drops to 50% in 1910. It is thus conceivable that the high connectivity of the networks in 1890 is due to intense ties and cooptation among the members of old patrician families.

By contrast, the number of links per persons remained constant in the city-region of Zurich until 1957 and only then joined Basel and Geneva's pattern of steady decline.

The general picture of a steady decline of the connectivity between local organizations is further substantiated by figure 1c, which shows the share of persons that held more than one position in the same year. While 15-20% of the elites in the network held at least two positions in 1890 in all three city-regions, this only applies to 2-4% of elites in 2020.

A possible explanation for this steady decline are the changes in the structure of the national and the international economy, since the majority of organizations in our networks are companies with their BoDs. The Swiss economy was still rather fragmented and regionalized at the end of the 19th century. A nationally integrated business elite only began to emerge at the beginning of the 20th century, when the Swiss economy began to integrate at the national level (for more details see Schnyder et al. 2005). Strong ties between the financial and the industrial sector developed, and a small and closed business elite dominated the economic sector between 1937 and 1980. In the wake of (renewed) globalization and internationalization of business since the 1980s, this "model of elite coordination" disappeared and a more international and less nationally connected business elite emerged, particularly in the financial sector (Davoine et al. 2015). For the local elite networks in our three cities this means that their decline in the beginning of the 20th century might be attributed to a shift in the scope of companies' activities from the local to the national level – a development which Stettler (1993, 141) documents for the chemical industry in Basel. It is important to note some differences, however. that in the city-region of Zurich the density is lower at the beginning, but the decline of the firm network only begins in 1957 and intensifies only from the 1980s onwards. This comparatively long period of high network integration (1910-1980) is probably due to the fact that Zurich is Switzerland's biggest economic center and an important financial center. A great deal of its firm network is thus not (only) local or regional, but national.

By contrast, the continued and intensified dissolution of local elite networks at the end of the 20th century might be explained by internationalization and globalization dynamics affecting the large regional companies in all three city-regions. Carroll and Fennema (2002) argue that these dynamics can be attributed to a growing disinterest of firms in having a voice in the local or the national political sphere because their scope of activity has become much more international and their powers to exit local and national markets and relocate grew

substantively. This also explains the growing presence of foreigners on companies' BoDs who are not connected to local organizations.⁸

At the organization level, we also find similar patterns across the three city-regions over time. When we look at the ten most central organizations in each city-region/benchmark year network, i.e. those organizations with the highest number of links per member, we find that organizations from the economic sphere clearly dominate the network in all city-regions and across the whole period (see tables A.1-A.3). This is not surprising insofar as most of the organizations included in our sample belong to the economic sphere. Universities, political institutions, and organizations from the cultural sector only make up for three or four organizations in each cohort, depending on the city-region. Yet, it is still remarkable how marginal certain organizations are, especially given that the number of persons holding a position in the political and the academic sector is rather high and comparable to the amount of mandates in the economic sector. In particular, universities are rather marginal in the overall network and never appear among the ten most central institutions in any city-region at any time, despite their significant number of members and hence possibilities to establish links. Moreover, political institutions predominantly create links among themselves (through the practice of dual mandate holding, see Geneva and Zurich) and less so with other sectors. A notable exception are the relatively strong ties between cantonal parliaments and publicly owned banks (Kantonalbanken, an equivalent to the German Landesbanken) in all three city-regions from the beginning of the period until the year 2000.⁹ In 2020, these particular links between the parliaments and the publicly owned banks cease to exist which might reflect a professionalization of the BoDs of these banks and increasing pressures for their privatization or at least detachment from political influence. Cultural institutions are also rather marginal in the network, but these organizations also contribute by far the lowest amount of positions to the network and hence they have a lower probability to establish links to other organizations.¹⁰ Yet, there are still some well-connected cultural institutions. A notable example is the Fondation Wilsdorf (founded in 1945) in the city-region of Geneva, which is well-connected with the chemical and mostly the watch-making industry. This can probably be explained by the fact that its founder, Hans Wilsdorf, was also the founder of the luxury watch brand Rolex.

⁸ Yet, it is important to note that while the boards of directors of large companies like Novartis and UBS are not connected to local institutions, the top managers of UBS Switzerland or Novartis Switzerland often are present in local chambers of commerce, for example. These persons are not included in our sample (since they are not in the directors' boards of the mother company).

⁹ BKB in Basel, CEG and Banque de Genève (1890-1910, went bankrupt in 1931) and since 2000 BCGE in Geneva, ZKB in Zurich.

¹⁰ Moreover, for the cultural institutions, the data collection is not entirely complete. For Basel and Zurich, the data for the year 2020 is still missing.

Turning back to the economic sector, the strong presence of private banks in 1890 in the city-regions of Basel and Geneva is noteworthy. In Zurich, private banks are less present.¹¹ Yet, the private banks quickly lose importance in the beginning of the 20th century as important actors in the city-regional organizations network at the expense of public and large universal banks (and in Zurich at the expense of insurance companies) which establish strong ties with industrial companies and act as the latter's creditors (see textbox 1).

Finally, the role of the local chambers of commerce in the organizations' network deserves some attention. In all three city-regions, these business associations figure among the ten most central actors in the network at all time points (except Zurich in 1957). Moreover, they are important "brokers" in the network. This is indicated by their high betweenness centrality (see tables A.2-A.4). The higher this value, the more a node in the network connects otherwise detached parts of the network. The chambers of commerce thus seem to act as a forum where members of different parts of the network, i.e. economic and political organizations, get together and exchange. Chambers of commerce keep this role as brokers between the political and the economic sphere until the year 2000.

In sum, the network analysis shows a presence of very dense *regional* networks at the beginning of the period, a first decline between 1890 and 1910, followed by a period of relative stability until 1980. In the most recent period, we find a very clear disintegration of the network. This trend is mostly to be attributed to a disintegration of the local or regional business network. In all three city-regions, the network is dominated by economic organizations, followed by political institutions. Universities – as important talent forges and as suppliers of high-skilled workers for the regional economy – occupy a rather marginal position in the network.

¹¹ Private banks in Basel: Bank Sarasin, Banque von Speyr, Ehinger; in Geneva: Hentsch & Cie., Pictet & Cie., Lombard-Odier; in Zurich: Bank Leu.

Textbox 1: Three banking systems and their impact on the local networks

The structure of the local financial centers, and particularly the positions of private banks, exhibit some important spatial and temporal differences. The first two benchmark years (1890 and to a lesser extent 1910) are characterized by the central position of private banks in the network for Basel and Geneva (see figure A.1 on networks and tables A.2-A.4 on centrality of organizations). These old institutions, most of them already founded before 1800, were controlled and directed by old wealthy patrician families. This situation was very similar in Basel (Bank Ehinger, Von Speyr and Sarasin) and Geneva (Hentsch, Lombard-Odier and Pictet) until the beginning of the 20th century. Other banks (SBS, Bank in Basel, C&W Bank, Depositenbank for Basel and Union financière de Genève, UFG, Banque du commerce, Banque de prêts et dépôts for Geneva) were largely the emanation of these private banks. The situation profoundly changed during the first half of the 20th century. While in 1890 the banking structure was characterized by its fragmentation and specialization in different specific bank activities, explaining the large number of banks, a process of concentration took place with smaller banks being absorbed by bigger ones or disappearing due to bankruptcies. One important difference distinguishes Basel and Geneva: whereas the private banks of Basel created two larger institutions (SBS in 1872 and Basler Handelsbank, BHB in 1862, dealing with bigger operations like credits to industrial companies) that progressively took over some of the private units, in Geneva, the most important private banks (the quatuor: Hentsch, Pictet, Lombard-Odier and Mirabaud) never delegated too much power to larger financial institutions (for a rich and detailed analysis, see Mazbouri 2005 and 2020). The SBS which absorbed different smaller banks (such as Bank in Basel in 1907, Bank von Speyr in 1912, Depositenbank BS in 1897 as well as the Zürcher Bankverein in 1895), has become a large universal bank dealing with all banking activities and a central actor between 1937 and the 1980s in the city-regional network and at the national level, before it merged with UBS in 1998. Such an evolution never took place in Geneva, since no large universal banks emerged in this region, and Genevan private banks concentrated their activities exclusively on private wealth management. According to Mazbouri (2020: 293), this diverging evolution can be explained by two factors: 1) the lack of local industrial demand in Geneva, contrasting with the rise of the chemical-pharmaceutical industry in Basel, and 2) the importance of revenues generated by private wealth management in Geneva, mainly due to their French clients. After the concentration process in the banking sector during the beginning of the 20th century, Basel started to look much more like the situation in Zurich. The situation was very different in Zurich in the “absence” of strong private banks at the end of the 19th century. Credit Suisse, already founded in 1856, as a large universal bank, and Bank in Winterthur (founded in 1862 and which will become UBS in 1912), both founded mainly by industrialists, and not private bankers, have already become dominant financial actors during the end of the 19th century. Such differences largely explain the lack of formal connections between the financial and the industrial sector in Geneva. Here, ties between banks and industrial companies are largely absent, with a few exceptions, whereas the large universal banks in Basel and Zurich developed important connections during the most part of the 20th century with industrial companies in both regions.

3.2 A homogeneous and exclusive core elite

In this section, we focus on those individuals that establish a link between two organizations from different spheres or that occupy very prominent positions in the economic sphere, i.e. have three or more positions in boards of firms at the same time. For the whole time period, 399 individuals fulfill these conditions. Table 2 gives an overview of the connections across spheres that the linkers in our network establish.

Not surprisingly, the most frequent combination is the one between the economic and the political sphere – accounting for 40 to 65% of the linkers depending on the benchmark year. The second most frequent category are linkers that occupy three or more positions in the economic sphere in the same year, varying from 11 to 35%. Interestingly, this combination is strongest (and the combination of politics and economics the weakest) in the middle of the 20th century (1937-1980), at a time when the city-regional networks are already in a slow process of disintegration.

Table 2. Linkers: combination of spheres

Year	3 spheres	Acad, Cult	Acad, Econ	Acad, Poli	Cult, Econ	Cult, Poli	Econ, Poli	Econ	Total
1890	2 (2.1)	3 (3.1)	1 (1.0)	15 (15.6)	1 (1.0)	3 (3.1)	53 (55.2)	18 (18.8)	96 (100.0)
1910	1 (1.3)	1 (1.3)	0 (0.0)	5 (6.6)	3 (3.9)	3 (3.9)	50 (65.8)	13 (17.1)	76 (100.0)
1937	1 (1.7)	0 (0.0)	1 (1.7)	1 (1.7)	3 (5.1)	4 (6.8)	31 (52.5)	18 (30.5)	59 (100.0)
1957	0 (0.0)	0 (0.0)	6 (8.5)	6 (8.5)	5 (7.0)	5 (7.0)	28 (39.4)	21 (29.6)	71 (100.0)
1980	0 (0.0)	0 (0.0)	5 (8.6)	2 (3.4)	5 (8.6)	4 (6.9)	22 (37.9)	20 (34.5)	58 (100.0)
2000	0 (0.0)	0 (0.0)	1 (2.9)	0 (0.0)	4 (11.8)	3 (8.8)	22 (64.7)	4 (11.8)	34 (100.0)
2020	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (40.0)	0 (0.0)	3 (60.0)	0 (0.0)	5 (100.0)
Total	4 (1.0)	4 (1.0)	14 (3.5)	29 (7.3)	23 (5.8)	22 (5.5)	209 (52.4)	94 (23.6)	399 (100.0)

Note. Percentages in parentheses; Acad=Academic, Cult=Culture, Econ=Economic, Poli=Politics.

Another noteworthy finding is the very weak presence of university professors among the core elite. In 1890, 15% of the linkers holding a political mandate are professors but this share diminishes sharply at the beginning of the 20th century. This initial strength of academic-political links can be attributed to the city-regions of Basel and Geneva, where a number of professors were also elected MPs at the cantonal or the local level (see also Stettler 1993, 139). Yet, the underrepresentation of the academic sphere among the core elite of the network is evident for the later benchmark years. In the overall sample (see table A.1), academic positions

make up for 21% of all positions, but professors only account for 12% of the linkers sample (adding up the three columns that include the academic sphere in table 2). The opposite is the case for the cultural sphere. In the overall sample, positions in the cultural sphere account for a mere 3% of the sample, whereas 12% of the linkers hold a mandate in the cultural sphere. In contrast to academic elites, cultural elites are thus overrepresented among the linkers.¹²

What are the socio-demographic profiles of these – predominantly economic and political – elites? Table 3 gives an overview of the evolution of classic socio-demographic indicators over time.¹³

Table 3. Socio-demographics of linkers

Year	Age			Gender			University Education			
	Mean	SD	N	F	M	Total	NA	No	Yes	Total
1890	51.6	10.3	96	0	96	96	35	20	41	96
				(0.0)	(100.0)	(100.0)	(36.5)	(20.8)	(42.7)	(100.0)
1910	55.9	9.9	76	0	76	76	20	16	40	76
				(0.0)	(100.0)	(100.0)	(26.3)	(21.1)	(52.6)	(100.0)
1937	54.9	9	59	0	59	59	9	11	39	59
				(0.0)	(100.0)	(100.0)	(15.3)	(18.6)	(66.1)	(100.0)
1957	57.4	10.5	71	0	71	71	11	12	48	71
				(0.0)	(100.0)	(100.0)	(15.5)	(16.9)	(67.6)	(100.0)
1980	58.1	8.5	58	4	54	58	12	9	37	58
				(6.9)	(93.1)	(100.0)	(20.7)	(15.5)	(63.8)	(100.0)
2000	52	9	34	5	29	34	6	3	25	34
				(14.7)	(85.3)	(100.0)	(17.6)	(8.8)	(73.5)	(100.0)
2020	54.8	11.6	5	0	5	5	1	0	4	5
				(0.0)	(100.0)	(100.0)	(20.0)	(0.0)	(80.0)	(100.0)
Total	55	10	399	9	390	399	94	71	234	399
				(2.3)	(97.7)	(100.0)	(23.6)	(17.8)	(58.6)	(100.0)

Note. Percentages in parentheses, NA=missing information.

Not surprisingly, the typical linker in our sample is male and well into the second half of his professional career. Previous studies have shown that women are still a very marginal group in the boards of Swiss firms and that Switzerland is a strong laggard when it comes to women's ascendance to top positions (Ginalski 2016). Yet, it is still impressive that only 9 (!) out of 399 linkers are women– especially given that the local elite can serve as an entry point for higher-level elite networks in a multilevel system such as Switzerland. Until 1980, not a single woman has been part of the group of linkers – which is likely related to the very late introduction of women's suffrage in federal politics in 1971 and to legal restrictions regarding women's work

¹² As a caveat for this (and all further analysis), we emphasize that the data for 2020 cannot be analyzed with prosopographical methods, since only 5 persons satisfy our selection criteria. This reflects the virtual inexistence of ties between organizations in the three city-regions today.

¹³ A separate analysis by city-region has not yielded any meaningful deviations from the overall sample. For the sake of simplicity, we thus report aggregated numbers for all three city-regions.

– still in 1976, women in Switzerland needed the written permission of their husband when they wanted to take up paid labor.

With respect to education, we can see that the percentage of university educated linkers increases over time – but stays rather stable from 1937-1980.¹⁴ The expansion of tertiary education is not a phenomenon that is limited to the elite, however. It is a development that can be observed among the populations of industrialized countries more generally in the 20th century. What is noteworthy, however, is that the “democratization” of tertiary education started in the 1960s. However, we witness more widespread tertiary education in our group of linkers already in 1937. This is an indication that the average member of our elite grew up in a rather well-off family with sufficient financial resources to pay for their offspring’s higher education.¹⁵ At the same time, the offspring of wealthy industrial families often didn’t go to university at the beginning of the period. Rather, they made a commercial apprenticeship in the company of their father’s friends, then worked abroad for some years to gain experience that they could then use when they ascend to the directorate of their family’s company.

To complete the exclusive picture of the socio-demographic background of the linkers in the three city-regions, table 4 shows that almost all of them are Swiss nationals. Only 6 out of 399 linkers do not have a Swiss passport. To a certain extent, this is due to the restriction that in order to be elected to a public office, candidates need to be Swiss citizens in all three city-regions¹⁶. This means that foreigners are excluded from holding positions in the political sphere which reduces their chances of establishing ties between organizations from different spheres. When we compare this to the share of foreigners in the overall sample for the academic and the economic sphere across time, a very different picture emerges. Here, the share of foreigners reaches a first peak in 1910 with an average of 30% percent non-Swiss professors and 12% non-Swiss board members. These numbers vary considerably across city-regions, with Geneva having very few foreigners in the economic sector, whereas Basel is the frontrunner both in the academic (40% in 1910) and the economic sector (16% in 1910). From 1937 to 1980, the share of foreigners drops substantively in the economic sector across all three city-regions. This is a development that is linked to the practice of limiting the acquisitions of stocks by foreign shareholders and the active exclusion of foreigners from Swiss firms’ BoD – which is why

¹⁴ A caveat when interpreting these numbers is the substantive amount of missing information for some years – especially for 1890. In addition to the “Yes” column, we should thus always look at the “No” column in parallel.

¹⁵ Unfortunately, we so far have only rather incomplete data on the incomes and fortunes of the elites in our database.

¹⁶ The canton of Geneva has introduced the active voting rights for non-Swiss at the local level in 2005. However, foreigners can still not present themselves for public office which prevents them from access to political elite positions.

Switzerland received the nickname “fortress of the alps” in the international business community (David et al. 2015). Among university professors, a reduction of foreigners is also evident in this period, albeit not as pronounced as in the economic sector. From 1980 onwards, the share of foreigners has increased substantially again, both in the economic and in the academic sphere.

Table 4. Nationality: Linkers and Full Sample

Year	Linkers			Full Sample: Academic				Full Sample: Economic			
	Other	Swiss	Total	NA	Other	Swiss	Total	NA	Other	Swiss	Total
1890	1 (1.0)	95 (99.0)	96 (100)	5 (2.9)	41 (23.8)	126 (73.3)	172 (100)	125 (34.5)	27 (7.5)	210 (58.0)	362 (100)
1910	1 (1.3)	75 (98.7)	76 (100)	3 (1.3)	71 (29.8)	164 (68.9)	238 (100)	50 (12.9)	46 (11.9)	292 (75.3)	388 (100)
1937	1 (1.7)	58 (98.3)	59 (100)	8 (2.6)	74 (24.3)	223 (73.1)	305 (100)	60 (16.1)	18 (4.8)	295 (79.1)	373 (100)
1957	2 (2.8)	69 (97.2)	71 (100)	9 (2.3)	82 (21.0)	300 (76.7)	391 (100)	73 (19.7)	9 (2.4)	288 (77.8)	370 (100)
1980	0 (0.0)	58 (100)	58 (100)	25 (10.0)	39 (15.6)	186 (74.4)	250 (100)	88 (22.9)	10 (2.6)	287 (74.5)	385 (100)
2000	1 (2.9)	33 (97.1)	34 (100)	30 (11.8)	65 (25.5)	160 (62.7)	255 (100)	86 (20.7)	75 (18.0)	255 (61.3)	416 (100)
2020	0 (0.0)	5 (100)	5 (100)	153 (45.1)	105 (31.0)	81 (23.9)	339 (100)	94 (23.2)	171 (42.2)	140 (34.6)	405 (100)
Total	6 (1.5)	393 (98.5)	399 (100)	233 (11.9)	477 (24.5)	1240 (63.6)	1950 (100)	576 (21.3)	356 (13.2)	1767 (65.5)	2699 (100)

Note. Percentages in parentheses. NA=Missing information.

This development in the academic and the economic sphere from relative openness before the first world war over rather strict closure in the middle of the 20th century to rapid internationalization at its end is not paralleled by a similar movement among the core elite. The latter stays remarkably constant in its socio-demographic composition – apart from the increasing number of university-educated linkers. Foreigners and women find it difficult to get access to this group of linkers.

In sum, individuals need to conform to a rather specific profile to be part of the core elite. Newcomers from other countries have difficulties to access this group. Can this exclusion of “outsiders” be traced further? More precisely, is the exclusion happening based on national citizenship or is there also a more local component to it?

To assess this question, we examine a person’s family origin. We group the linkers into two groups. Those who patrilineally belong to a family that held citizenship rights in one of the three cities¹⁷ before the year 1800 and those whose families obtained a city’s citizenship rights

¹⁷ Or in the city of Winterthur, the second big city in the city-region of Zurich.

after 1800 or not at all. The year 1800 serves as the cutoff point because it marks the turning point in Switzerland from ancien régime to the Helvetic republic, installed by Napoleon. Before 1800, the territory of Switzerland was (co-)governed by 13 independent states, two of which were Basel and Zurich. The republic of Geneva was an associate of this old confederacy. During the ancien régime, there was a clear divide between those with full citizenship rights in the three cities and those with reduced or no citizenship rights. Only those with full citizenship rights could participate politically in a city. Since the 17th century, the group of those who had access to these political rights and hence could hold office in political institutions became more restrictive. A local patriciate started to emerge, constituting an equivalent to the otherwise largely absent nobility in Swiss cities (Schläppi 2010). In his book on the high bourgeoisie of Basel at the turn of the century, Sarasin (1997, 103) uses the same criterion as we do, i.e. citizenship rights in the city before 1800, to distinguish old, well-established, families from “newcomers”. Sarasin (1997) finds that these old patrician families still dominated Basel’s upper class at the end of the 19th century. We can thus expect that we find a significant number of members of these old patrician families among our linkers in Basel as well – at least for the beginning of the period.

Table 5 presents the number and the percentage of descendants from patrician families across the three city-regions and over time.

To identify who belongs to a patrician family and who doesn’t, we relied on a combination of information. We used information on an individual’s place of citizenship, i.e. the place where s/he has historically granted social and political rights. We combine this information with data from the register of Swiss surnames, which gives information on whether a certain family name has been registered as having the right of citizenship in a certain municipality and if so, since when this has been the case.¹⁸ It has to be noted, that for certain city-region/benchmark year combinations, a substantive number of information is missing. However, it is likely that persons with missing information belong to the group of those who do not have citizenship rights before 1800, since the families that do are not abundant and their names are rather well-known. The percentage of those who do have patrician family origins should thus be correct.

From table 5, we can see that in 1890 both in the city-region of Basel and Geneva, roughly 70% of the linkers are descendants from patrician families and in 1910 they still account for 50% of the linkers. Their presence shrinks between 1910 and 1937, but then declines only slightly and still reaches significant proportions. This continued presence of patrician families among the

¹⁸ The register of Swiss surnames can be found here: <https://hls-dhs-dss.ch/famn/?lg=e>

core elite in Basel and Geneva can be explained by their long lasting presence in two important economic sectors: private banks in Geneva and the chemical-pharmaceutical industry in Basel, where patrician families remained important actors in the BoDs throughout the 20th century.

Table 5. Patrician families (citizenship rights in city < 1800)

Year	Basel				Geneva			
	NA	No / >1800	Yes / <1800	Total	NA	No / >1800	Yes / <1800	Total
1890	5 (16.1)	5 (16.1)	21 (67.7)	31 (100.0)	3 (8.8)	8 (23.5)	23 (67.6)	34 (100.0)
1910	4 (23.5)	4 (23.5)	9 (52.9)	17 (100.0)	1 (4.0)	10 (40.0)	14 (56.0)	25 (100.0)
1937	15 (68.2)	0 (0.0)	7 (31.8)	22 (100.0)	1 (11.1)	6 (66.7)	2 (22.2)	9 (100.0)
1957	13 (61.9)	3 (14.3)	5 (23.8)	21 (100.0)	1 (11.1)	4 (44.4)	4 (44.4)	9 (100.0)
1980	7 (33.3)	7 (33.3)	7 (33.3)	21 (100.0)	3 (25.0)	7 (58.3)	2 (16.7)	12 (100.0)
2000	8 (57.1)	2 (14.3)	4 (28.6)	14 (100.0)	4 (36.4)	7 (63.6)	0 (0.0)	11 (100.0)
2020				0 (100.0)	1 (25.0)	2 (50.0)	1 (25.0)	4 (100.0)
Total	52 (41.3)	21 (16.7)	53 (42.1)	126 (100.0)	14 (13.5)	44 (42.3)	46 (44.2)	104 (100.0)

Year	Zurich				Total			
	NA	No / >1800	Yes / <1800	Total	NA	No / >1800	Yes / <1800	Total
1890	6 (19.4)	17 (54.8)	8 (25.8)	31 (100.0)	14 (14.6)	30 (31.2)	52 (54.2)	96 (100.0)
1910	10 (29.4)	18 (52.9)	6 (17.6)	34 (100.0)	15 (19.7)	32 (42.1)	29 (38.2)	76 (100.0)
1937	4 (14.3)	20 (71.4)	4 (14.3)	28 (100.0)	20 (33.9)	26 (44.1)	13 (22.0)	59 (100.0)
1957	11 (26.8)	27 (65.9)	3 (7.3)	41 (100.0)	25 (35.2)	34 (47.9)	12 (16.9)	71 (100.0)
1980	14 (56.0)	9 (36.0)	2 (8.0)	25 (100.0)	24 (41.4)	23 (39.7)	11 (19.0)	58 (100.0)
2000	7 (77.8)	2 (22.2)	0 (0.0)	9 (100.0)	19 (55.9)	11 (32.4)	4 (11.8)	34 (100.0)
2020	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)	1 (20.0)	3 (60.0)	1 (20.0)	5 (100.0)
Total	52 (30.8)	94 (55.6)	23 (13.6)	169 (100.0)	118 (29.6)	159 (39.8)	122 (30.6)	399 (100.0)

Note. Percentages in parentheses. For the city-region of Zurich, we considered both patrician families from Zurich and Winterthur. NA=missing information.

What is clear is that the descendants of patrician families continue to be part of the core elite of these two city-regions – even two centuries after they formally lost their prerogatives in the city-state. This is in line with findings of Dronkers (2003) and Schijf et al. (2004) who show that descendants from noble families continue to play an important role among the Dutch elite throughout the 20th century. They argue that this group thrives to a significant degree on its

“symbolic capital”, i.e. the reputation that is attached to their family name and origin, and are less dependent on personal merits and achievements (see also Pinçon and Pinçon-Charlot 2003). For the city-region of Zurich, we encounter a different picture. Here, patrician families “only” make up 25% of the core elite in 1890 and this number gradually declines until patrician families are not involved in the core elite anymore in 2000 (although there is a substantive percentage of missing information here). Zurich’s core elite thus seems to have been more open to newcomers than the one of Basel and Geneva. Or rather, the old patrician families of Zurich faced higher pressures for sharing their power with persons without patrician background. This is also Sarasin’s (1997, 11) interpretation. He argues that the patrician families in Basel could keep their grip on the city over the 19th century, because they didn’t face competition from a new elite from the countryside in cantonal politics. This was the case in Zurich, where a conflict between the old and an emergent new elite dominated the second half of the 19th century. Given that the canton of Basel was divided in two in 1830 – a city-part and a country-part – the patrician families could keep their dominance in the city part. This explanation can be extended to Geneva, which is also a city-state and where the old elite thus neither faced the same pressure to open the city gates – metaphorically speaking – as in Zurich.

The presence or absence of patrician families from the core elite also seems to coincide with the density of the local networks discussed above. In the city-regions of Basel and Geneva, the network density and the number of links per person is higher than in Zurich in 1890 (see figure 2). Yet, from 1910 onwards, these two measures are lower than in Zurich, where they stay remarkably stable until 1957 and only starts to decrease from then on. One possible explanation for this might be that in Zurich, access to the core elite was less exclusive than in the city-regions of Basel and Geneva and hence the core elite remained integrated and could be renewed with outsiders. In Basel and Geneva, by contrast, the retreat of the old patrician families from economic and political positions in the 20th century might have left a certain vacuum that was not filled by newcomers, since they were not prepared to step in.

In sum, the core elite of the city-regions of Basel, Geneva and Zurich remained remarkably stable throughout the last 130 years when it comes to age, gender, and nationality. In all three city-regions, the typical linker is more than 50 years old, male, university-educated and a Swiss national. Moreover, in the city-regions of Basel and Geneva, he is also likely to belong to a patrician family that already was in power during the ancient régime. However, the very central position and overrepresentation of old patrician families has progressively declined during the 20th century.

3.3 Typical Elite Profiles

To embody the sociological profiles of linkers sketched in the previous part more concretely, we single out some typical figures illustrative of the dominant profiles among the linkers of the three city-regions for different benchmark years. We introduce four important types.

First, as indicated in the prosopographical analysis, descendants of old patrician families were largely overrepresented among the linkers in 1890 and 1910, particularly in Basel and Geneva. This was particularly the case for the private bankers, among whom we can mention the figures of **Ernest Pictet-Fuzier-Cayla** (1829-1909), partner of the private bank Pictet since 1855 until his death. He was involved in many other companies, was co-founder of the Geneva Chamber of commerce in 1863, as well as the national federation of trade and industry in 1870. He was also active in politics, at the local level, first in Geneva, and then as mayor of his municipality. He was also cantonal as well as national MP in the liberal-conservative party. A typical example for Basel is **Alphonse Ehinger-Geigy** (1849-1903), partner of the Bank Ehinger, sitting on the boards of several other financial institutions, and member of the cantonal parliament of Basel in the liberal-conservative party.

Second, between 1937 and 1980, several corporate elites of the largest companies of the three city-regions held other board positions in companies that have their seat in the other two city-regions. They are illustrative of the nationalization of the Swiss company network since the beginning of the 20th century. Here again, we find several bank directors, not from private banks this time, but from the large main universal banks (Credit Suisse, UBS or SBS). An example is **Adolf Jöhr** (1878-1953): son of a veterinarian from the canton of Bern, he obtained a PhD in economics at the University of Bern. After having been director of the Swiss National bank, he became general director of Credit Suisse in Zurich from 1918 until 1939, then president of its BoD until his death. He occupied many positions on various directors' boards of large companies, outside the region of Zurich, like Brown Boveri or Nestlé. At the same time, he was also long-term member of the Zurich chamber of commerce and the Zurich art society. **Fritz Gerber** (1929-2020), is one of the very few linkers present on the BoD of companies from all three city-regions. Stemming from modest conditions, he studied law at the university of Bern and was colonel in the Swiss arm. Fritz Gerber was for a long time CEO of the Zurich insurance, as well as president of the BoD of Roche, the pharmaceutical company in Basel. He was also very involved in local Zurich institutions, such as the chamber of commerce and the art society. Third, as an illustration of the growing role of the social-democratic party in the three city-regions during the 20th century, several social-democratic cantonal MPs appear among the linkers from the year 1937 onwards. Besides their local political mandate, the only opportunity

for them to access influential positions in the business sector was to sit on the BoD of the public owned cantonal banks, where a sizeable proportion of the members of the BoD is appointed by the cantonal government. This is the case of **Bernhard Kaufmann** (1873-1940): after an apprenticeship in print production, he was typographer for a few years, then journalist and secretary of trade union organizations. In parallel, he made a political career at the communal level in Winterthur, and then in the cantonal parliament of Zurich (1905-1940). He was member of the BoD of the Zurich cantonal bank during 20 years. **Edmund Wyss** (1916-2002) in Basel has a similar profile. From a modest background, he nevertheless graduated with a PhD in economics from the University of Basel. He then became trade union secretary and made a political career at the cantonal and federal level, and, as a cantonal MPs, he was part of the BoD of the Basel cantonal Bank. He was member of the cantonal government for more than 20 years. Finally, a frequent combination of leading positions, until today, are committee members of the regional chambers of commerce that hold a mandate in the cantonal parliaments. We find such combinations in all three city-regions with cantonal MPs of right-wing parties, who are often local entrepreneurs in a small- and medium-sized companies (SME) or managers of larger firms. Among this group, we also find several examples of paid officials of local chambers of commerce, who are active in politics. This is the case of **Andreas Burckhardt** (*1951), Dr. in law, director of the Basel chamber of commerce and cantonal MP of the liberal-democratic party, **Lukas Briner** (*1947), Dr. in law, director of the Zurich chamber of commerce and also cantonal MP of the liberal-democratic party, and **Vincent Subilia** (*1975), MA in law, director of the Geneva chamber of commerce, and also cantonal MP for the liberal-democratic party since 2019. These figures are today's only remnants of a once flourishing local elite network.

4 Conclusion

Based on our main results, we can draw some first conclusions. First, for the period from 1890 to 1910 our analysis clearly shows the existence of a dense regional network, connecting the major local organizations of the economic, political, academic as well as cultural spheres in the three city-regions. This period is marked by the central and hegemonic position of descendants from old patrician families, who largely monopolize and cumulate power in various social spheres. This is particularly true for Basel and Geneva, with the central role of private banks, and less so for Zurich. These results for the turn of the century largely confirm previous studies by Swiss historians, such as Tanner (1995), Sarasin (1997) for Basel, and Perroux (2006) for Geneva.

Second, after a first decline in the density of the networks for Basel and Geneva between 1890 and 1910, the networks remain relatively stable until 1980, particularly in Zurich. During this period, the core elite, the linkers in the network, represent a very homogenous social group in terms of age, gender, and nationality. At the same time, we witness a progressive decline of descendants from old patrician families, even though they still represent a sizable proportion of the linkers in Basel and Geneva. For questions of inequality and elite renewal, these findings have mixed implications. On the one hand, the disappearance of old patrician families and the ascendance of some social democrats to the core elite shows that there is a certain elite renewal. On the other hand, other groups such as women and foreigners continue to be excluded from the core elite. From a meritocratic perspective, this is problematic, since such a systematic exclusion of certain groups at the local level, an important entry point to elite networks at higher levels, means that these groups will probably find it even more difficult to access elite positions at higher scales. When it comes to the organizations that dominate the local networks in the middle of the 20th century, it is important to note that large universal banks, the public cantonal banks and the local chambers of commerce, and a few important industrial companies, have replaced the private banks as the dominant actors.¹⁹ Both the public cantonal banks and the chambers of commerce represent important locations for connecting political and economic elites during this period.

Third, and finally, since the 1980, we can clearly observe a decline in the connectivity of the network, representing a clear disintegration of the local networks. This is similar to the development of the national company network since the 1990s (Davoine et al. 2015; David et

¹⁹ The absence of a large universal bank in Geneva (as well as the small size of the boards of directors of some watchmaking companies) partly explain the lower density of the network, since the Genevan private banks do not entertain formal connections with industrial companies.

al. 2015). Large local companies have progressively grown during the 20th century, and their scale of operations has moved far beyond the regional level – in a first step to the national and then to the international level. While these multinational companies remained largely controlled by Swiss corporate elites until the 1980s, this has changed since the 1990s, when their top managers and BoDs have become increasingly international with few connections to their local environment. Starting with a clear localization of their activities in the three city-regions during the 19th century, it seems that these large multinational companies do not need, or do not give priority, to entertain formal ties with other local organizations nowadays. A further explanation for the top-managers' retreat from local elite networks might be that there is an increased division of labor within multinational companies. While the top-managers of the general company entertain international and global ties, the directors and managers of the local branches, e.g. UBS Swiss or Roche Swiss, continue to participate in the local networks – acting as representatives of their companies, especially in the regional chamber of commerce. These individuals are not represented in our network, since we included only the general directors and the members of the boards of directors of the general company. In any case, the retreat of these actors from local networks, and potential delegation of local interest representation to the local branch representatives, is still revealing when it comes to the changing importance multinational companies attribute to locations where they have their seat, but needs further investigation.

In conclusion, we can clearly observe a growing gap and disconnection between the central activities of elites of different social spheres, especially between the business world on one side and the regional political life on the other. This sectionalization and detachment might have important consequences for the regional political economy. On the one hand, it might be easier for newcomers to enter the stage and make their voice heard in local politics. On the other hand, this detachment might make it more difficult to engage in collective action and solve regional crises together.

References

- Bühlmann, F., David, T., & Mach, A. (2012). The Swiss Business Elite (1980-2020): How the Changing Composition of the Elite Explains the Decline of the Swiss Company Network. *Economy and Society*, 41(2): 199-226.
- Carroll, W.K., & Fennema, M. (2002). Is There a Transnational Business Community?. *International Sociology*, 17 (3), 393-419.
- Dahl, R.A. (1961). *Who Governs? Democracy and Power in an American City*. New Haven: Yale University Press.
- David, T., & Mach, A. (2012). Corporate Governance. In P. Halbeisen, M. Müller, & B. Veyrassat (Eds.), *Wirtschaftsgeschichte der Schweiz im 20. Jahrhundert* (pp. 831-872), Basel: Schwabe Verlag.
- David, T., Mach A., Lüpold M. & Schnyder, G. (2015). *De la "Forteresse des Alpes" à la valeur actionnariale. Histoire de la gouvernance d'entreprise en Suisse (1880-2010)*. Zurich: Seismo Verlag
- Davoine, E., Ginalski, S., Mach, A. & Ravasi, C. (2015). Impact of Globalization Processes on the Swiss National Business Elite Community: A Diachronic Analysis of Swiss Large Corporations (1980-2010), *Research in the Sociology of Organizations*, 43: 131-163.
- Dronkers, J. (2003). Has the Dutch Nobility Retained its Social Status Relevance during the 20th Century?. *European Sociological Review*, 19 (1), 81-96.
- Ginalski, S. (2016). Les femmes à la tête des grandes entreprises suisses: une analyse historique des inégalités de genre. *Social Change in Switzerland*, 7, doi: 10.22019/SC-2016-00007
- Hjellbrekke, J., Le Roux, B., Rouanet, H., Korsnes, O., Lebaron, F., & Rosenlund, L. (2007). The Norwegian Field of Power Anno 2000. *European Societies*, 9 (2), 245-273.
- Hunter, F. (1953). *Community Power Structure: A Study of Decision Makers*. Chapel Hill: The University of North Carolina Press.
- Khan, S.R. (2012). The Sociology of Elites. *Annual Review of Sociology*, 38, 361-377.
- Keller, F.B. (2018). Analyses of Elite Networks. In H. Best, & J. Higley (Eds.), *The Palgrave Handbook of Political Elites* (pp. 135-152), London: Palgrave.
- Kübler, D. (2015). De-Nationalization and Multi-Level Governance. In D. Braun, & M. Maggetti (Eds.), *Comparative Politics. Theoretical and Methodological Challenges* (pp. 55-89), Cheltenham, UK: Edward Elgar Publishing.

- Lunding, J.A., Ellersgaard, C.H., & Larsen, A.G. (2020). The Established and the Delegated: The Division of Labour of Domination among Effective Agents on Field of Power in Denmark. *Sociology*, doi: 10.1177/0038038520928220.
- Mach, A., David, T., Ginalski, S. & Bühlmann, F. (2016). *Les élites économiques suisses au XXe siècle*. Neuchâtel: Editions Alphil-Presses universitaires suisses.
- Mazbouri, M. (2005). *L'émergence de la place financière suisse, 1890-1913*. Lausanne : Antipodes.
- Mazbouri, M. (2020). La banque privée comme métaphore: „vieux banque“ et „nouvelle banque“ en Suisse 1800-1930, in *Revue suisse d'histoire*, 70(1): 93-115 + 70(2): 286-306.
- Perroux, O. (2006). *Tradition, vocation et progrès. Les élites bourgeoises de Genève (1814-1914)*. Geneva: Slatkine.
- Pinçon, M., & Pinçon-Charlot, M. (2003). *Sociologie de la bourgeoisie*. Paris: La Découverte.
- Sarasin, P. (1997). *Stadt der Bürger. Bürgerliche Macht und städtische Gesellschaft Basel 1846-1914*. Göttingen: Vandenhoeck & Ruprecht.
- Schijf, H., Dronkers, J., & Van den Broeke-George, J. (2004). Recruitment of Members of Dutch Noble and High-Bourgeois Families to Elite Positions in the 20th Century. *Social Science Information*, 43 (3), 435-475.
- Schläppi, D. (2010). Patriziat. *Historisches Lexikon der Schweiz*, Online: <https://hls-dhs-dss.ch/de/articles/016374/2010-09-27/>, accessed: 10.10.2020.
- Schnyder, G., David, T., Mach, A., & Lüpold, M. (2005). The Rise and Decline of the Swiss Company Network During the 20th Century. *Travaux de Science Politique*, 22.
- Schwarzenbach, A. (2007). *Maman, tu dois lire mon livre. Annemarie Schwarzenbach, sa mère et sa grand-mère*. Geneva: Metropolis.
- Stettler, N. (1993). Chemische Industrie und politische Elite in Basel, 1900-1923. *Swiss Journal of Sociology*, 19 (1), 135-151.
- Tanner, A. (1995). *Arbeitsame Patrioten – wohlstandige Damen. Bürgertum und Bürgerlichkeit in der Schweiz 1830-1914*. Zurich: Orell Füssli.
- Tanner, A. (2006). Eliten. *Historisches Lexikon der Schweiz*, Online: <https://hls-dhs-dss.ch/de/articles/015985/2006-10-23/> accessed: 15.10.2020.
- Van Heur, B., & Bassens, D. (2019). An Urban Studies Approach to Elites: Nurturing Conceptual Rigor and Methodological Pluralism. *Urban Geography*, 40 (5), 591-603.

Appendix

Table A.1. All mandates by sphere

Year	Basel						Geneva						Zurich						Total					
	Aca	Cul	Eco	Pol	Total		Aca	Cul	Eco	Pol	Total		Aca	Cul	Eco	Pol	Total		Aca	Cul	Eco	Pol	Total	
1890	61	15	143	135	354		59	8	118	155	340		57	9	207	360	633		177	46	468	650	1341	
	(17.2)	(4.2)	(40.4)	(38.1)	(100.0)		(17.4)	(2.4)	(34.7)	(45.6)	(100.0)		(9.0)	(1.4)	(32.7)	(56.9)	(100.0)		(13.2)	(3.4)	(34.9)	(48.5)	(100.0)	
1910	92	13	173	142	420		84	8	108	159	359		88	16	193	390	687		264	37	474	691	1466	
	(21.9)	(3.1)	(41.2)	(33.8)	(100.0)		(23.4)	(2.2)	(30.1)	(44.3)	(100.0)		(12.8)	(2.3)	(28.1)	(56.8)	(100.0)		(18.0)	(2.5)	(32.3)	(47.1)	(100.0)	
1937	130	13	153	148	444		109	6	105	170	390		101	19	228	324	672		340	38	486	642	1506	
	(29.3)	(2.9)	(34.5)	(33.3)	(100.0)		(27.9)	(1.5)	(26.9)	(43.6)	(100.0)		(15.0)	(2.8)	(33.9)	(48.2)	(100.0)		(22.6)	(2.5)	(32.3)	(42.6)	(100.0)	
1957	154	15	138	143	450		139	11	130	198	478		131	21	228	329	709		424	47	496	670	1637	
	(34.2)	(3.3)	(30.7)	(31.8)	(100.0)		(29.1)	(2.3)	(27.2)	(41.4)	(100.0)		(18.5)	(3.0)	(32.2)	(46.4)	(100.0)		(25.9)	(2.9)	(30.3)	(40.9)	(100.0)	
1980	98	16	152	139	405		129	7	128	198	462		111	23	226	335	695		338	51	520	672	1581	
	(24.2)	(4.0)	(37.5)	(34.3)	(100.0)		(27.9)	(1.5)	(27.7)	(42.9)	(100.0)		(16.0)	(3.3)	(32.5)	(48.2)	(100.0)		(21.4)	(3.2)	(32.9)	(42.5)	(100.0)	
2000	93	12	143	143	391		128	7	168	194	497		116	19	170	342	647		337	44	481	679	1541	
	(23.8)	(3.1)	(36.6)	(36.6)	(100.0)		(25.8)	(1.4)	(33.8)	(39.0)	(100.0)		(17.9)	(2.9)	(26.3)	(52.9)	(100.0)		(21.9)	(2.9)	(31.2)	(44.1)	(100.0)	
2020	98	0	116	107	321		112	18	152	194	476		131	0	160	321	612		341	26	428	622	1417	
	(30.5)	(0.0)	(36.1)	(33.3)	(100.0)		(23.5)	(3.8)	(31.9)	(40.8)	(100.0)		(21.4)	(0.0)	(26.1)	(52.5)	(100.0)		(24.1)	(1.8)	(30.2)	(43.9)	(100.0)	
Total	726	84	1018	957	2785		760	65	909	1268	3002		735	107	1412	2401	4655		2221	289	3353	4626	10489	
	(26.1)	(3.0)	(36.6)	(34.4)	(100.0)		(25.3)	(2.2)	(30.3)	(42.2)	(100.0)		(15.8)	(2.3)	(30.3)	(51.6)	(100.0)		(21.2)	(2.8)	(32.0)	(44.1)	(100.0)	

Note. Aca=Academic, Cul=Culture, Eco=Economic, Pol=Politics.

Figure A.1: Organizations Networks (1890-2020)

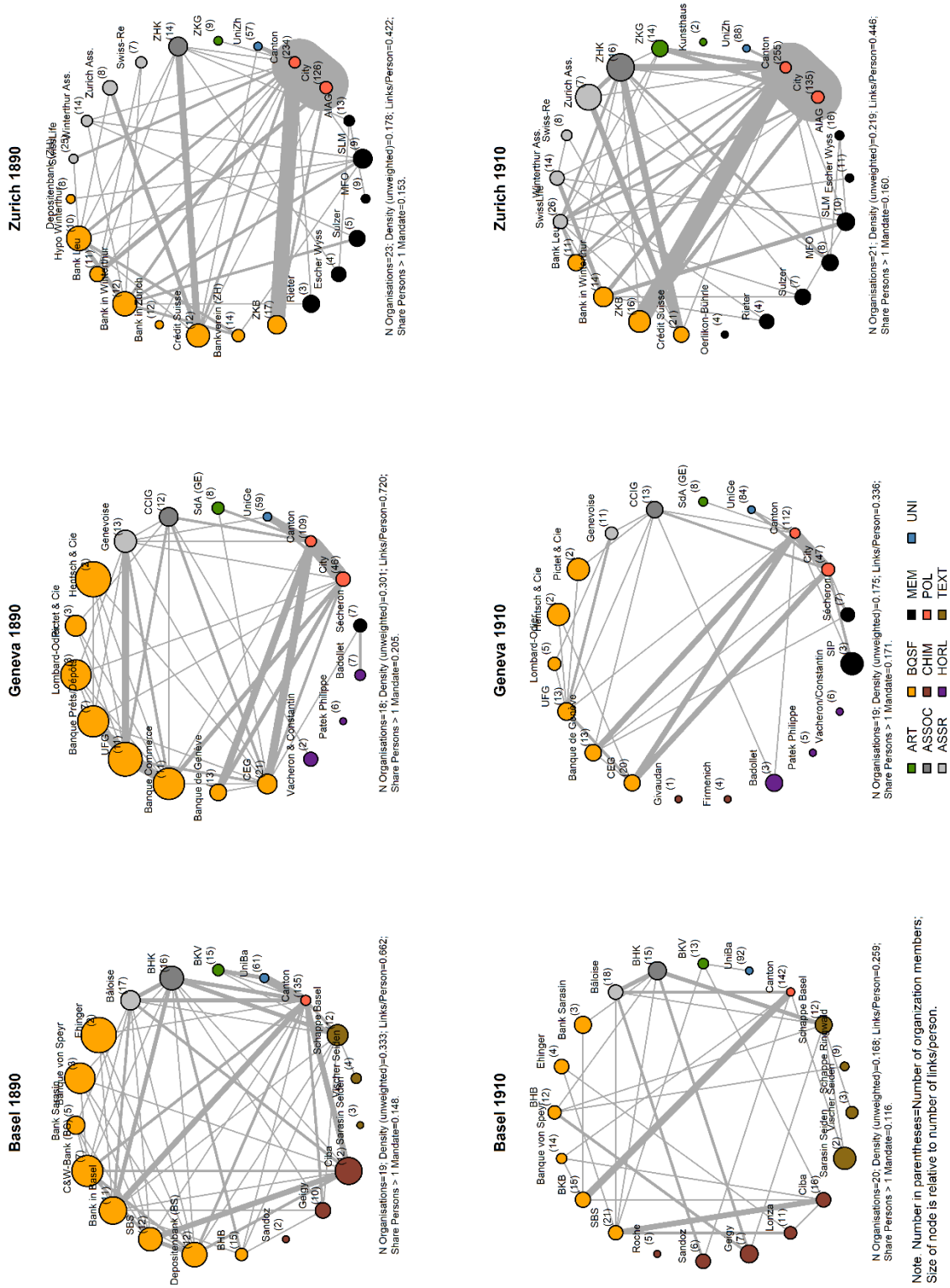
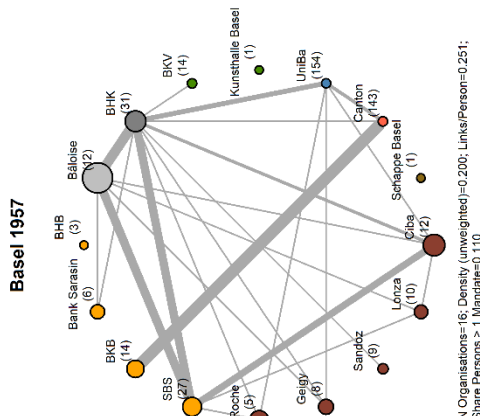
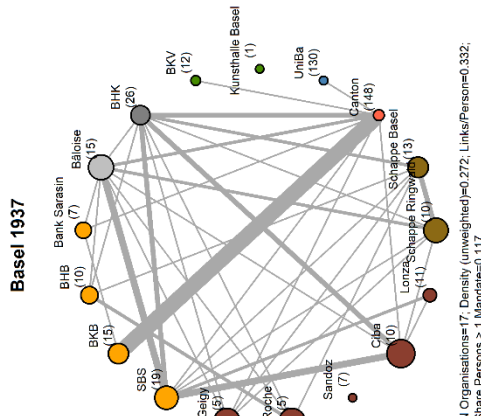
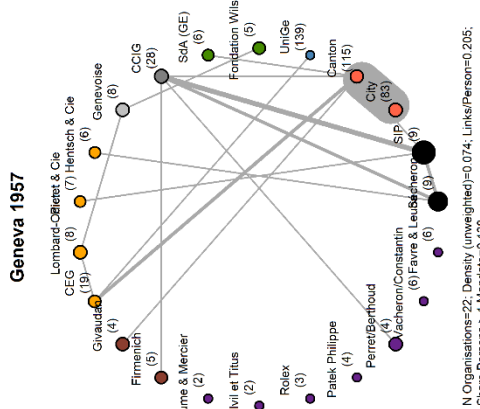
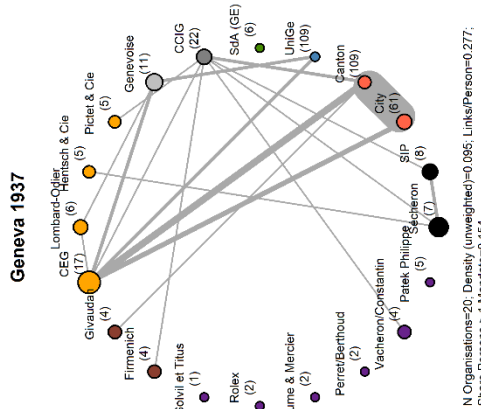
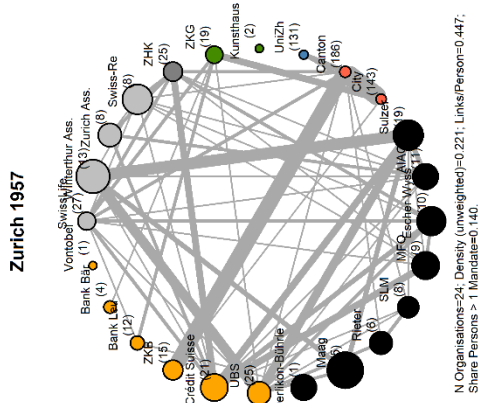
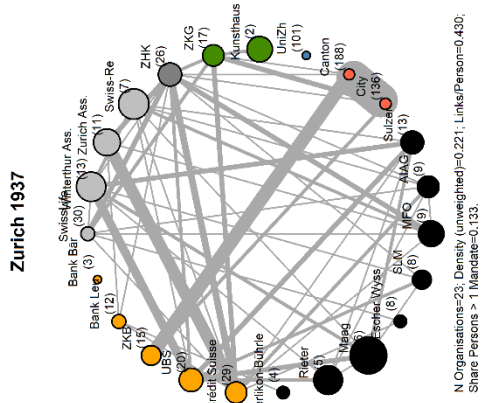


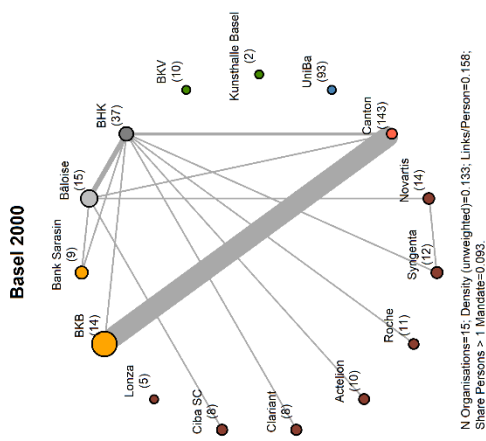
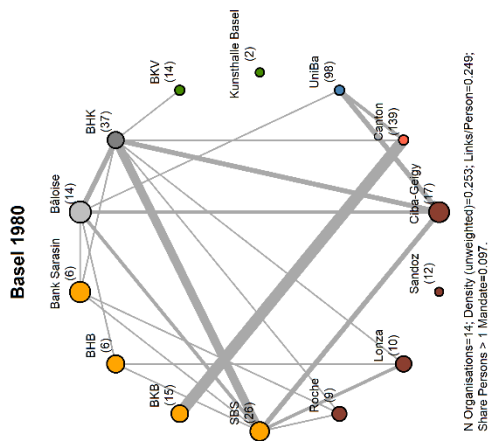
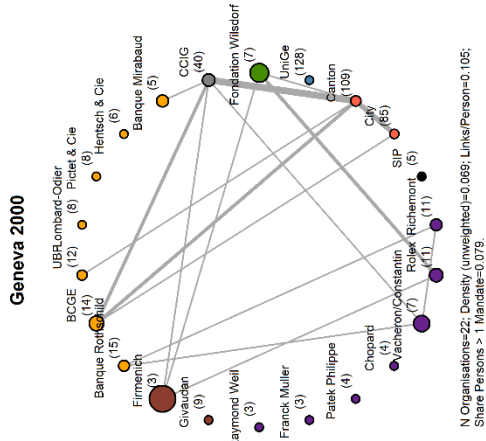
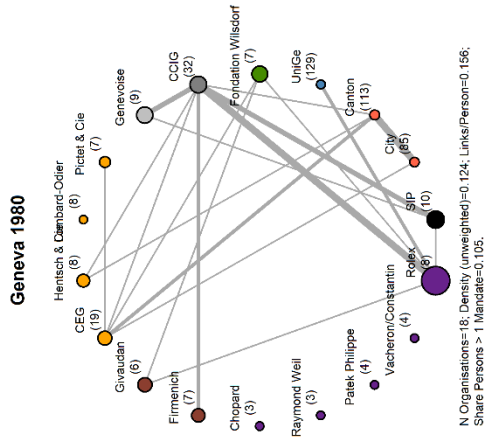
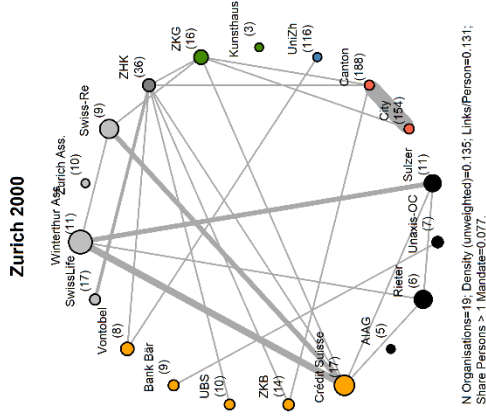
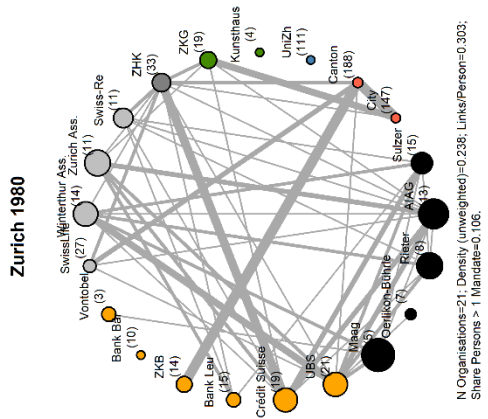
Figure A.1: Continued



- ART
- ASSOC
- ASSR
- BQSF
- CHIM
- HORL
- MEM
- POL
- TEXT
- UNI

Note. Number in parentheses=Number of organization members;
Size of node is relative to number of links/person.

Figure A.1: Continued



- ART
- BQSF
- ASSOC
- ASSR
- CHIM
- HORN
- MEF
- POL
- TEXT
- UNI

Note: Number in parentheses=Number of organization members;
Size of node is relative to number of links/person.

Figure A.1: Continued

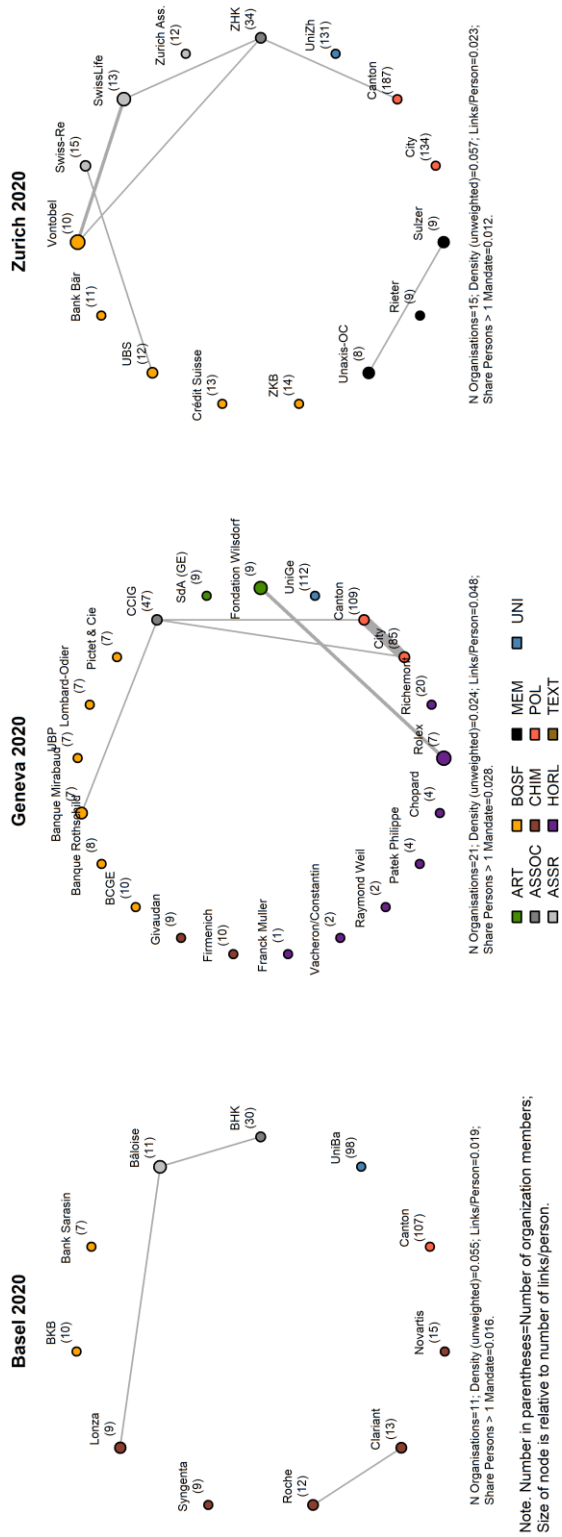


Table A.2. Centrality of Organizations (Basel 1890-2020)

1890						1910					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Ehinger	BQSF	2	4	2	0.02	Sarasin Seiden	TEXT	2	2	1	0.08
C&W-Bank (BS)	BQSF	7	12	1.7	0.02	BHK	ASSOC	15	11	0.7	0.18
Banque von Speyr	BQSF	3	5	1.7	0.03	Geigy	CHIM	7	5	0.7	0
Bank in Basel	BQSF	11	16	1.5	0.11	Schappe Basel	TEXT	12	8	0.7	0.24
Ciba	CHIM	12	17	1.4	0.01	Bank Sarasin	BQSF	3	2	0.7	0.06
Depositenbank (BS)	BQSF	12	15	1.3	0.07	BKB	BQSF	15	8	0.5	0.06
BHK	ASSOC	16	19	1.2	0.03	Sandoz	CHIM	6	3	0.5	0
SBS	BQSF	12	14	1.2	0.05	Bâloise	ASSR	18	9	0.5	0.15
Schappe Basel	TEXT	12	12	1	0.23	Ciba	CHIM	16	8	0.5	0.12
Bâloise	ASSR	17	15	0.9	0.06	Ehinger	BQSF	4	2	0.5	0.02

1937						1957					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Ciba	CHIM	10	11	1.1	0.12	Bâloise	ASSR	12	15	1.25	0.07
Geigy	CHIM	5	5	1	0.10	Ciba	CHIM	12	9	0.75	0.03
Roche	CHIM	5	5	1	0.01	BHK	ASSOC	31	22	0.7	0.36
Bâloise	ASSR	15	14	0.9	0.18	Roche	CHIM	5	3	0.6	0.10
Schappe Ringwald	TEXT	10	9	0.9	0.03	SBS	BQSF	27	16	0.6	0.02
SBS	BQSF	19	16	0.8	0.05	BKB	BQSF	14	7	0.5	0
Schappe Basel	TEXT	13	9	0.7	0.04	Geigy	CHIM	8	3	0.4	0.06
BKB	BQSF	15	10	0.7	0	Bank Sarasin	BQSF	6	2	0.3	0.04
BHK	ASSOC	26	16	0.6	0.04	Lonza	CHIM	10	3	0.3	0.03
BHB	BQSF	10	5	0.5	0.01	Sandoz	CHIM	9	1	0.1	0

1980						2000					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Bâloise	ASSR	14	10	0.7	0.13	BKB	BQSF	14	13	0.9	0
Bank Sarasin	BQSF	6	4	0.7	0.12	Bâloise	ASSR	15	7	0.5	0.14
Ciba-Geigy	CHIM	17	11	0.6	0	BHK	ASSOC	37	11	0.3	0.34
SBS	BQSF	26	15	0.6	0.02	Bank Sarasin	BQSF	9	2	0.2	0.11
BHB	BQSF	6	3	0.5	0.05	Syngenta	CHIM	12	2	0.2	0.05
BKB	BQSF	15	7	0.5	0	Novartis	CHIM	14	2	0.14	0.03
BHK	ASSOC	37	16	0.4	0.33	Ciba SC	CHIM	8	1	0.13	0
Lonza	CHIM	10	4	0.4	0.05	Clariant	CHIM	8	1	0.13	0
Roche	CHIM	9	3	0.3	0.03	Canton	POL	143	15	0.1	0
Canton	POL	139	10	0.1	0.14	Actelion	CHIM	10	1	0.1	0

2020					
Name	Type	M	D	D/M	B
Bâloise	ASSR	11	2	0.2	0.02

Table A.2. Centrality of Organizations (Basel 1890-2020)

Lonza	CHIM	9	1	0.1	0
Roche	CHIM	12	1	0.1	0
Clariant	CHIM	13	1	0.1	0
BHK	ASSOC	30	1	0.03	0
Syngenta	CHIM	9	0	0	0
Novartis	CHIM	15	0	0	0
UniBa	UNI	98	0	0	0
BKB	BQSF	10	0	0	0
Bank Sarasin	BQSF	7	0	0	0

Note. M=Members D=Degree; D/M=Degree/Members; B=Betweenness. 10 most central organizations based on D/M. For 2020, the last five ranks are not to be interpreted, since none of these organizations has established any links.

Table A.3. Centrality of Organizations (Geneva 1890-2020)

1890						1910					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Hentsch & Cie	BQSF	2	4	2.00	0.03	Pictet & Cie	BQSF	2	2	1.00	0.00
UFG	BQSF	11	21	1.91	0.01	SIP	MEM	3	3	1.00	0.00
Banque Commerce	BQSF	11	19	1.73	0.16	Hentsch & Cie	BQSF	2	2	1.00	0.01
Banque Prêts/Dépôts	BQSF	7	12	1.71	0.04	UFG	BQSF	13	9	0.69	0.15
Lombard-Odier	BQSF	3	5	1.67	0.05	Badollet	HORL	3	2	0.67	0.00
Genevoise	ASSR	13	14	1.08	0.24	Banque de Genève	BQSF	13	8	0.62	0.08
Pictet & Cie	BQSF	3	3	1.00	0.01	CCIG	ASSOC	13	8	0.62	0.18
CEG	BQSF	21	19	0.90	0.39	CEG	BQSF	20	12	0.60	0.02
CCIG	ASSOC	12	10	0.83	0.13	Sécheron	MEM	7	3	0.43	0.04
Banque de Genève	BQSF	13	9	0.69	0.00	City	POL	47	19	0.40	0.01

1937						1957					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
CEG	BQSF	17	13	0.76	0.23	SIP	MEM	9	7	0.78	0.11
Sécheron	MEM	7	4	0.57	0.07	Sécheron	MEM	9	5	0.56	0.07
Genevoise	ASSR	11	5	0.45	0.00	CCIG	ASSOC	28	8	0.29	0.17
SIP	MEM	8	3	0.38	0.00	City	POL	83	22	0.27	0.00
CCIG	ASSOC	22	8	0.36	0.38	Genevoise	ASSR	8	2	0.25	0.07
City	POL	61	22	0.36	0.00	Givaudan	CHIM	4	1	0.25	0.00
Lombard-Odier	BQSF	6	2	0.33	0.03	Lombard-Odier	BQSF	8	2	0.25	0.12
Givaudan	CHIM	4	1	0.25	0.00	Perret/Berthoud	HORL	4	1	0.25	0.00
Firmenich	CHIM	4	1	0.25	0.00	Canton	POL	115	28	0.24	0.38
Vacheron/Constantin	HORL	4	1	0.25	0.00	CEG	BQSF	19	4	0.21	0.22

1980						2000					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Rolex	HORL	8	9	1.13	0.14	Firmenich	CHIM	3	3	1.00	0.11
SIP	MEM	10	5	0.50	0.04	Fondation Wilsdorf	ART	7	4	0.57	0.07
CCIG	ASSOC	32	15	0.47	0.20	Vacheron/Constantin	HORL	7	3	0.43	0.09
Genevoise	ASSR	9	4	0.44	0.00	BCGE	BQSF	14	5	0.36	0.04
Fondation Wilsdorf	ART	7	3	0.43	0.19	Rolex	HORL	11	3	0.27	0.00
Givaudan	CHIM	6	2	0.33	0.00	CCIG	ASSOC	40	9	0.23	0.17
CEG	BQSF	19	6	0.32	0.27	Banque Mirabaud	BQSF	5	1	0.20	0.00
Firmenich	CHIM	7	2	0.29	0.00	Richemont	HORL	11	2	0.18	0.00
Hentsch & Cie	BQSF	8	2	0.25	0.00	Banque Rothschild	BQSF	15	2	0.13	0.00
Pictet & Cie	BQSF	7	1	0.14	0.00	Canton	POL	109	11	0.10	0.06

Table A.3. Centrality of Organizations (Geneva 1890-2020)

2020					
Name	Type	M	D	D/M	B
Rolex	HORL	7	2	0.29	0.00
Fondation Wilsdorf	ART	9	2	0.22	0.00
Banque Mirabaud	BQSF	7	1	0.14	0.00
City	POL	85	7	0.08	0.00
Canton	POL	109	7	0.06	0.00
CCIG	ASSOC	47	3	0.06	0.02
Givaudan	CHIM	9	0	0.00	0.00
Pictet & Cie	BQSF	7	0	0.00	0.00
Lombard-Odier	BQSF	7	0	0.00	0.00
Firmenich	CHIM	10	0	0.00	0.00

Note. M=Members D=Degree; D/M=Degree/Members; B=Betweenness. 10 most central organizations based on D/M. For 2020, the last four ranks are not to be interpreted, since none of these organizations has established any links.

Table A.4. Centrality of Organizations (Zurich 1890-2020)

1890						1910					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Hypo Winterthur Bank in Winterthur	BQSF	10	12	1.20	0.24	ZHK	ASSOC	16	22	1.38	0.16
Crédit Suisse ZHK	BQSF	12	13	1.08	0.06	Zurich Ass.	ASSR	7	9	1.29	0.00
ZHK	ASSOC	14	11	0.79	0.41	ZKB	BQSF	16	16	1.00	0.00
SLM	MEM	9	7	0.78	0.20	Bank in Winterthur	BQSF	14	12	0.86	0.05
ZKB	BQSF	17	13	0.76	0.00	SLM	MEM	10	7	0.70	0.12
Rieter	MEM	3	2	0.67	0.01	ZKG	ART	14	9	0.64	0.02
Sulzer	MEM	5	3	0.60	0.00	Bank Leu	BQSF	11	7	0.64	0.03
Bank Leu	BQSF	11	6	0.55	0.07	MFO	MEM	8	5	0.63	0.04
Escher Wyss	MEM	4	2	0.50	0.00	Sulzer	MEM	7	4	0.57	0.14
						Crédit Suisse	BQSF	21	12	0.57	0.08

1937						1957					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Maag	MEM	6	10	1.67	0.01	Maag	MEM	5	8	1.60	0.00
Swiss-Re	ASSR	7	9	1.29	0.07	Winterthur Ass.	ASSR	13	19	1.46	0.00
Winterthur Ass.	ASSR	13	16	1.23	0.05	Sulzer	MEM	19	24	1.26	0.01
Rieter	MEM	5	6	1.20	0.03	Swiss-Re	ASSR	8	10	1.25	0.18
Zurich Ass.	ASSR	11	12	1.09	0.00	Escher Wyss	MEM	10	12	1.20	0.00
MFO	MEM	9	9	1.00	0.04	MFO	MEM	9	10	1.11	0.04
Kunsthhaus	ART	2	2	1.00	0.00	Crédit Suisse	BQSF	21	23	1.10	0.02
UBS	BQSF	20	18	0.90	0.00	Oerlikon-Bührle	MEM	1	1	1.00	0.00
ZHK	ASSOC	26	23	0.88	0.34	AIAG	MEM	11	11	1.00	0.08
Sulzer	MEM	13	11	0.85	0.01	UBS	BQSF	25	22	0.88	0.24

1980						2000					
Name	Type	M	D	D/M	B	Name	Type	M	D	D/M	B
Maag	MEM	5	7	1.40	0.09	Winterthur Ass.	ASSR	11	9	0.82	0.01
AIAG	MEM	13	16	1.23	0.17	Crédit Suisse	BQSF	17	11	0.65	0.14
Rieter	MEM	8	8	1.00	0.03	Swiss-Re	ASSR	9	5	0.56	0.04
Zurich Ass.	ASSR	11	11	1.00	0.01	Rieter	MEM	6	3	0.50	0.03
Winterthur Ass.	ASSR	14	13	0.93	0.03	Sulzer	MEM	11	5	0.45	0.00
UBS	BQSF	21	19	0.90	0.20	ZKG	ART	16	5	0.31	0.17
Crédit Suisse	BQSF	19	17	0.89	0.02	Vontobel	BQSF	8	2	0.25	0.08
Sulzer	MEM	15	11	0.73	0.03	ZHK	ASSOC	36	8	0.22	0.31
Swiss-Re	ASSR	11	7	0.64	0.03	Unaxis-OC	MEM	7	1	0.14	0.00
ZHK	ASSOC	33	19	0.58	0.23	ZKB	BQSF	14	2	0.14	0.00

Table A.4. Centrality of Organizations (Zurich 1890-2020)

2020					
Name	Type	M	D	D/M	B
Vontobel	BQSF	10	3	0.30	0.00
SwissLife	ASSR	13	3	0.23	0.00
Unaxis-OC	MEM	8	1	0.13	0.00
Sulzer	MEM	9	1	0.11	0.00
ZHK	ASSOC	34	3	0.09	0.03
UBS	BQSF	12	1	0.08	0.00
Swiss-Re	ASSR	15	1	0.07	0.00
Canton	POL	187	1	0.01	0.00
Rieter	MEM	9	0	0.00	0.00
UniZh	UNI	131	0	0.00	0.00

Note. M=Members D=Degree; D/M=Degree/Members; B=Betweenness. 10 most central organizations based on D/M. For 2020, the last two ranks are not to be interpreted, since none of these organizations has established any links.