Appendices

Appendix A: ISO Codes for Country Names

Code	Country	Code	Country	Code	Country
ABW	Aruba	AFG	Afghanistan	AGO	Angola
ALB	Albania	AND	Andorra	ARE	United Arab Emirates
ARG	Argentina	ARM	Armenia	AUS	Australia
AUT	Austria	AZE	Azerbaijan	BDI	Burundi
BEL	Belgium	BEN	Benin	BFA	Burkina Faso
BGD	Bangladesh	BGR	Bulgaria	BHR	Bahrain
BHS	Bahamas	BIH	Bosnia and Herzegovina	BLR	Belarus
BLZ	Belize	BMU	Bermuda	BOL	Bolivia
BRA	Brazil	BRB	Barbados	BRN	Brunei
BTN	Bhutan	BWA	Botswana	CAF	Central African Republic
CAN	Canada	CHE	Switzerland	CHL	Chile
CHN	China	CIV	Côte d'Ivoire	CMR	Cameroon
COD	Congo, Dem. Rep.	COG	Congo, Rep.	COL	Colombia
CPV	Cape Verde	CRI	Costa Rica	CUB	Cuba
CYP	Cyprus	CZE	Czech Republic	DEU	Germany
DJI	Djibouti	DNK	Denmark	DOM	Dominican Republic
DZA	Algeria	ECU	Ecuador	EGY	Egypt
ERI	Eritrea	ESH	Western Sahara	ESP	Spain
EST	Estonia	ETH	Ethiopia	FIN	Finland
FJI	Fiji	FRA	France	GAB	Gabon
GBR	United Kingdom	GEO	Georgia	GHA	Ghana
GIN	Guinea	GMB	Gambia, the	GNB	Guinea-Bissau
GNQ	Equatorial Guinea	GRC	Greece	GRL	Greenland
GTM	Guatemala	GUY	Guyana	HKG	Hong Kong
HND	Honduras	HRV	Croatia	HTI	Haiti

Code	Country	Code	Country	Code	Country
HUN	Hungary	IDN	Indonesia	IND	India
IRL	Ireland	IRN	Iran	IRQ	Iraq
ISL	Iceland	ISR	Israel	ITA	Italy
JAM	Jamaica	JOR	Jordan	JPN	Japan
KAZ	Kazakhstan	KEN	Kenya	KGZ	Kyrgyzstan
KHM	Cambodia	KOR	Korea, Rep.	KWT	Kuwait
LAO	Laos	LBN	Lebanon	LBR	Liberia
LBY	Libya	LIE	Liechtenstein	LKA	Sri Lanka
LSO	Lesotho	LTU	Lithuania	LUX	Luxembourg
LVA	Latvia	MAR	Morocco	MDA	Moldova
MDG	Madagascar	MEX	Mexico	MKD	Macedonia
MLI	Mali	MLT	Malta	MMR	Myanmar
MNE	Montenegro	MNG	Mongolia	MOZ	Mozambique
MRT	Mauritania	MUS	Mauritius	MWI	Malawi
MYS	Malaysia	NAM	Namibia	NER	Niger
NGA	Nigeria	NIC	Nicaragua	NLD	Netherlands
NOR	Norway	NPL	Nepal	NZL	New Zealand
OMN	Oman	PAK	Pakistan	PAN	Panama
PER	Peru	PHL	Philippines	PNG	Papua New Guinea
POL	Poland	PRI	Puerto Rico	PRK	Korea, Dem. Rep.
PRT	Portugal	PRY	Paraguay	PSE	Palestine
QAT	Qatar	REU	Reunion	ROU	Romania
RUS	Russia	RWA	Rwanda	SAU	Saudi Arabia
SDN	Sudan	SEN	Senegal	SGP	Singapore
SLE	Sierra Leone	SLV	Salvador	SOM	Somalia
SRB	Serbia	SSD	South Sudan	SUR	Suriname
SVK	Slovakia	SVN	Slovenia	SWE	Sweden
SWZ	Swaziland	SYR	Syria	TCD	Chad
TGO	Togo	THA	Thailand	TJK	Tajikistan
TKM	Turkmenistan	TTO	Trinidad and Tobago	TUN	Tunisia
TUR	Turkey	TWN	Taiwan	TZA	Tanzania
UGA	Uganda	UKR	Ukraine	URY	Uruguay
USA	USA	UZB	Uzbekistan	VEN	Venezuela
VNM	Viet Nam	YEM	Yemen	ZAF	South Africa
ZMB	Zambia	ZWE	Zimbabwe		

Appendix B: Visualization of Global Trade Network, 1896–1906

Using the data of the Department of Commerce and Labor, US Bureau of Statistics (1909) we visualize the structure of global trade from 1896 to 1906 with the help of methods described in (Csardi and Nepusz 2006; Bojanowski 2015; Butts 2008; Carter and Butts 2014) in R (R Core Team 2017). For each year we calculated N $\times$ N matrix of trade relations, where N is the number of countries. Raw i in the

matrix reflects the information on country i's trade volume with various countries of the world as reported in statistics. For each country (in each raw of the N × N matrix) we choose its main trading partner, i.e. a country with which the given country had the maximum trade volume (sum of export and import) in the given year. For example, for 1896 we possess data on 101 countries, i.e. N = 101.

After that we construct a directed graph where countries correspond to vertices, and edges point towards their main trading partners. We use a certain type of force-directed algorithm of graph drawing, where the connection between main trading partners "attracts" vertices to each other, while unconnected vertices are pushed away from each other (Fruchterman and Reingold 1991).

The network of main trading partners accounts for 20–25% of the whole world trade. Besides, we use grey lines to show 1000 largest trade flows in the world; together with the flows between main trading partners, they account for 83–90% of global trade.

The area of a vertex is proportional to the total volume of trade of the given country with all other countries during the given year. The thickness of the edge between two vertices is proportional to the trade volume between the two countries designated by these vertices in the given year. The color of the edge is the same as the color of the vertex for which this edge indicates the main trading partner.

We use same color for countries belonging to one region; different sub-regions within one macro-region are designated by different shades of one color. For example, we use green color for Europe; Northern European countries are designated by dark green, Southern Europe by light green etc. We use red color for Africa, blue for North and South America, yellow and brown for Asia, and violet for Australia and Oceania. The vertices are named using the 3-letter ISO code of country names (see Appendix A) (Figs. B.1, B.2, B.3, B.4, B.5, B.6, B.7, B.8, B.9, B.10, and B.11).
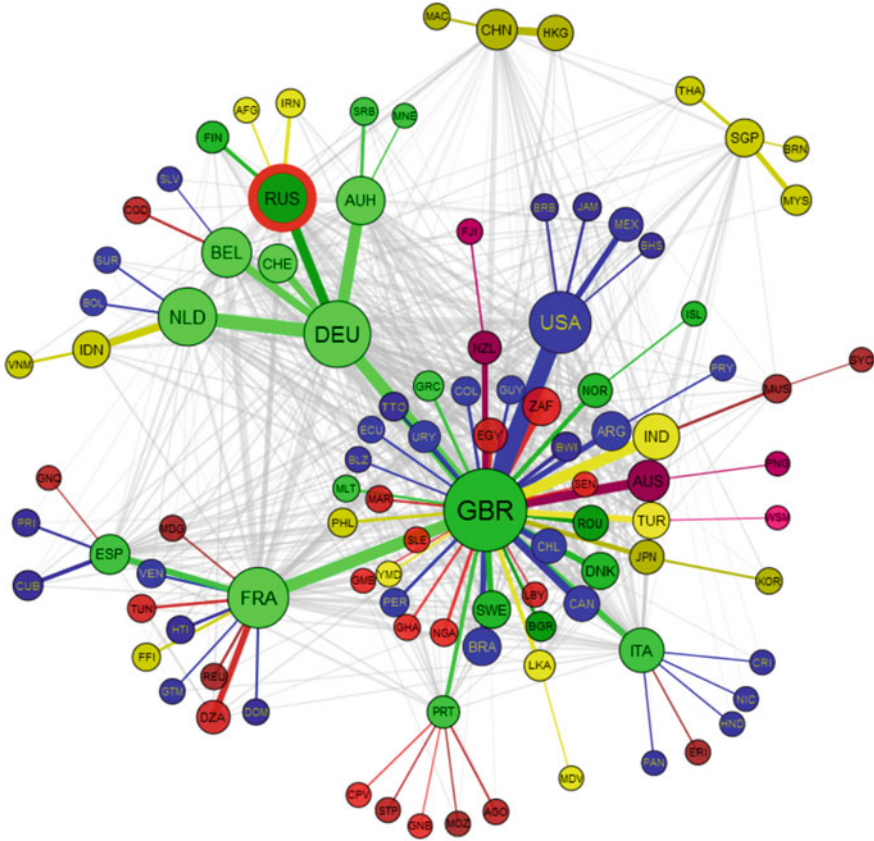
Fig. B.1 1896 Global Trade Network. Note: The network of main trading partners for 101 countries reflects 1115 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 32.96%
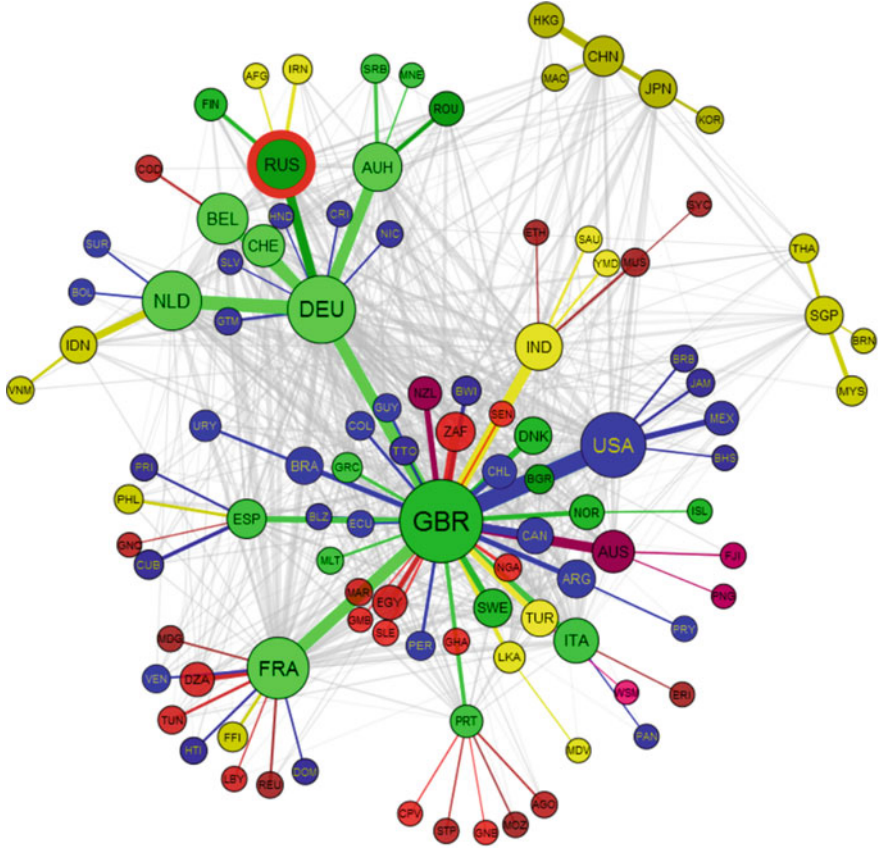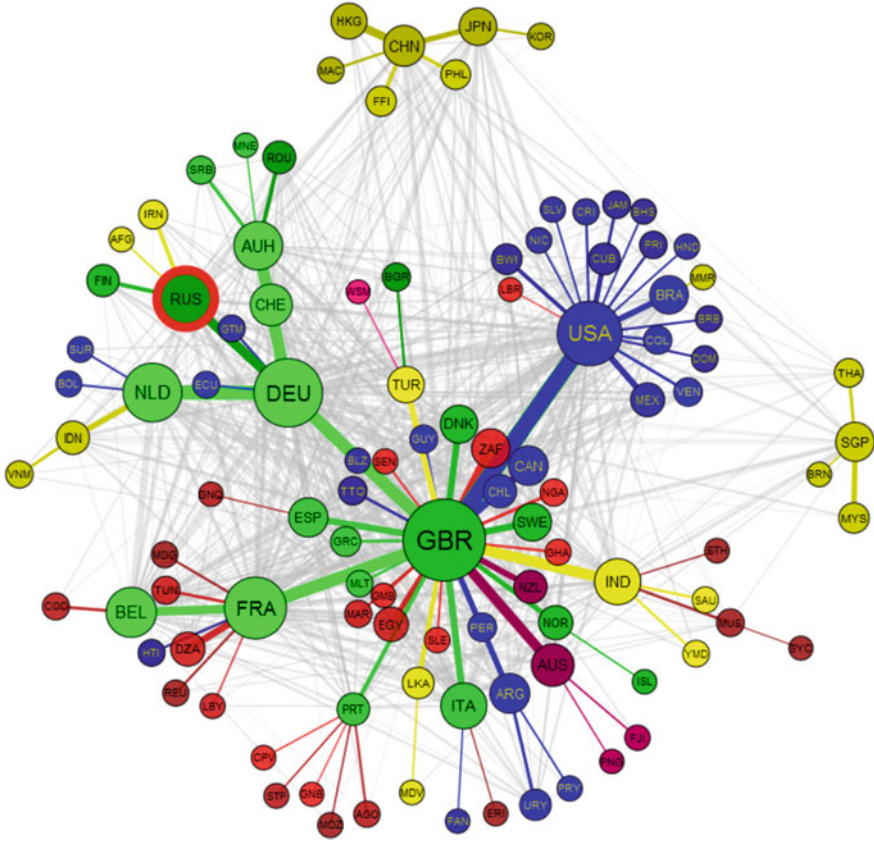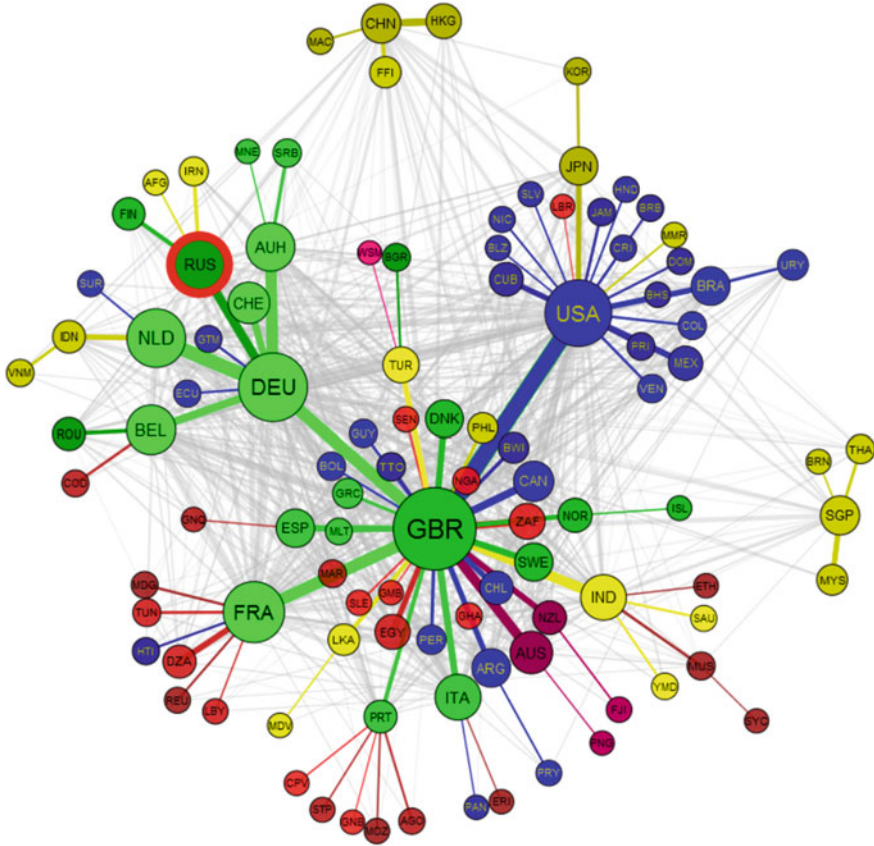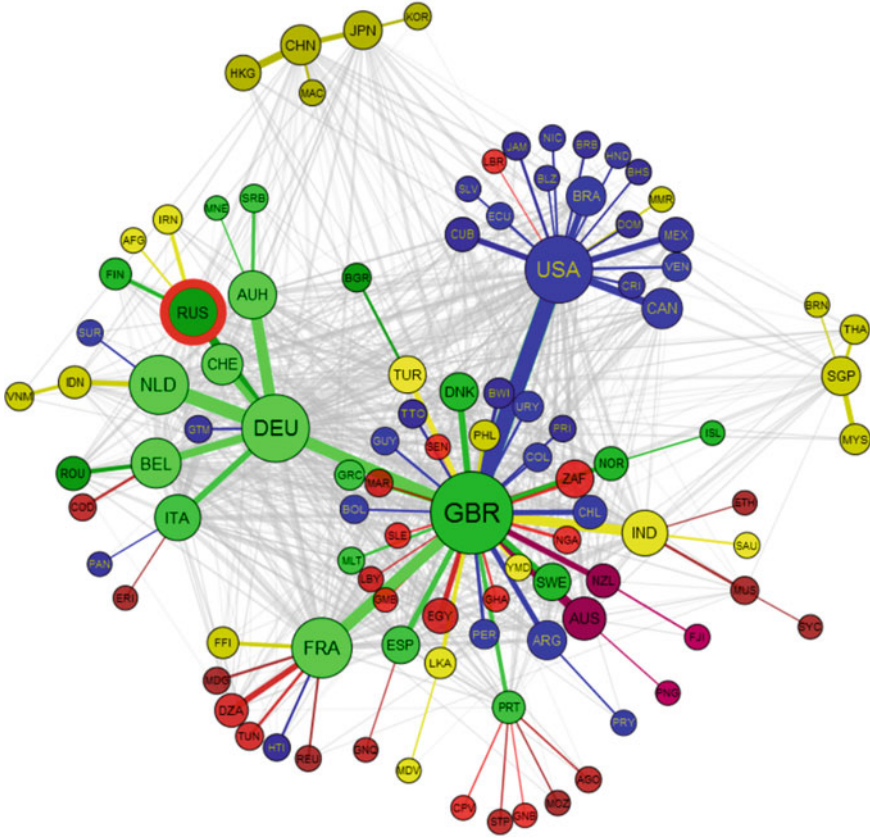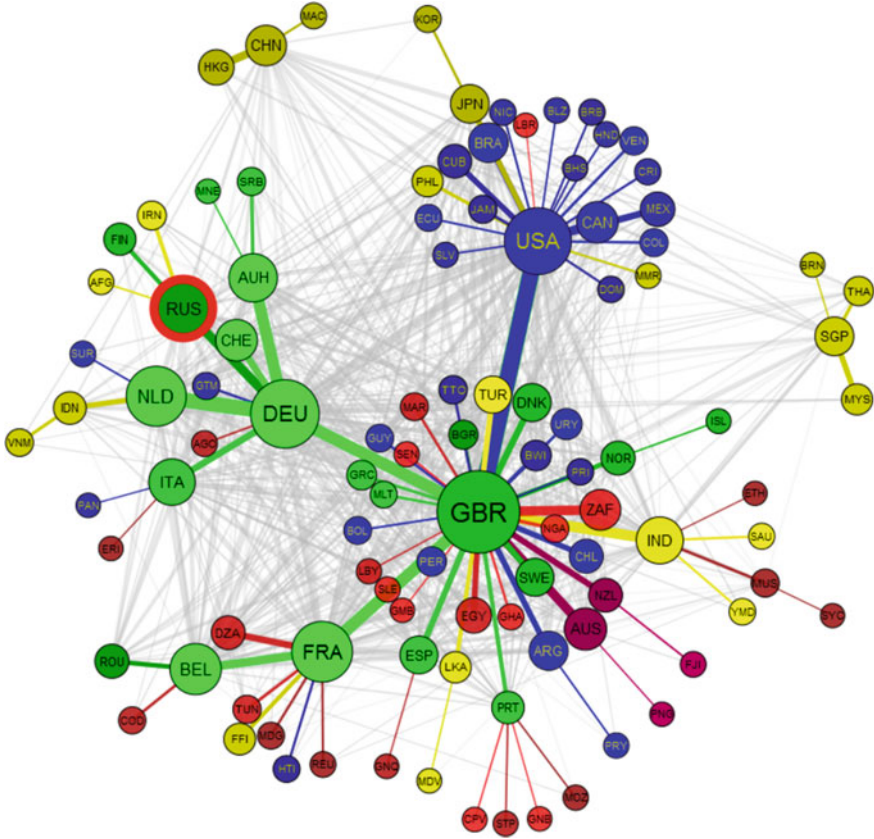
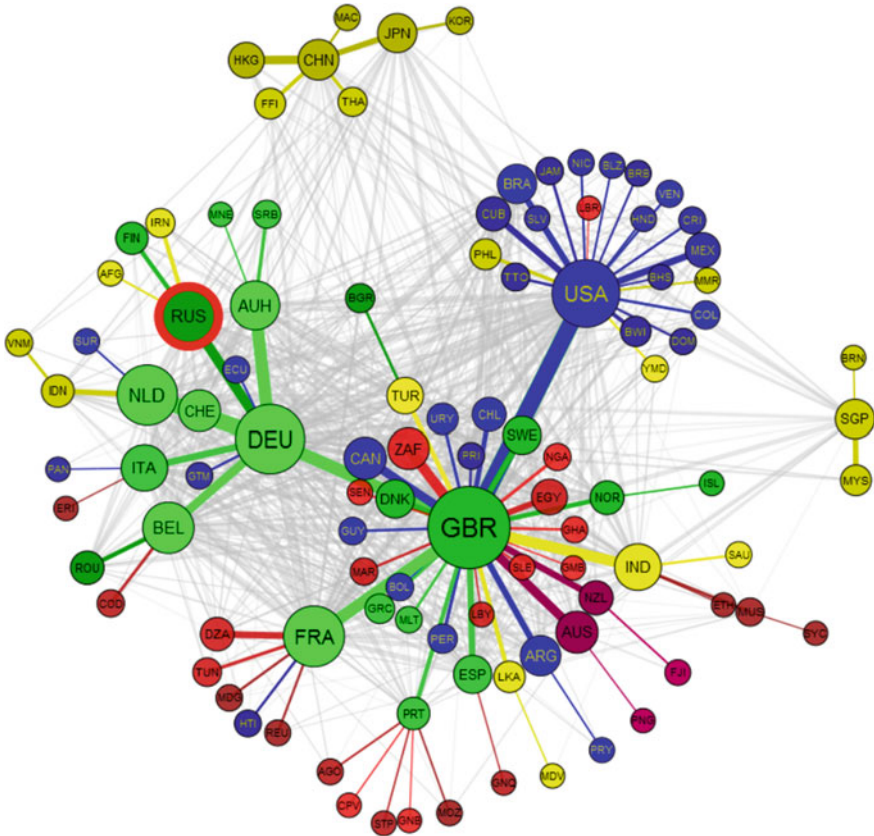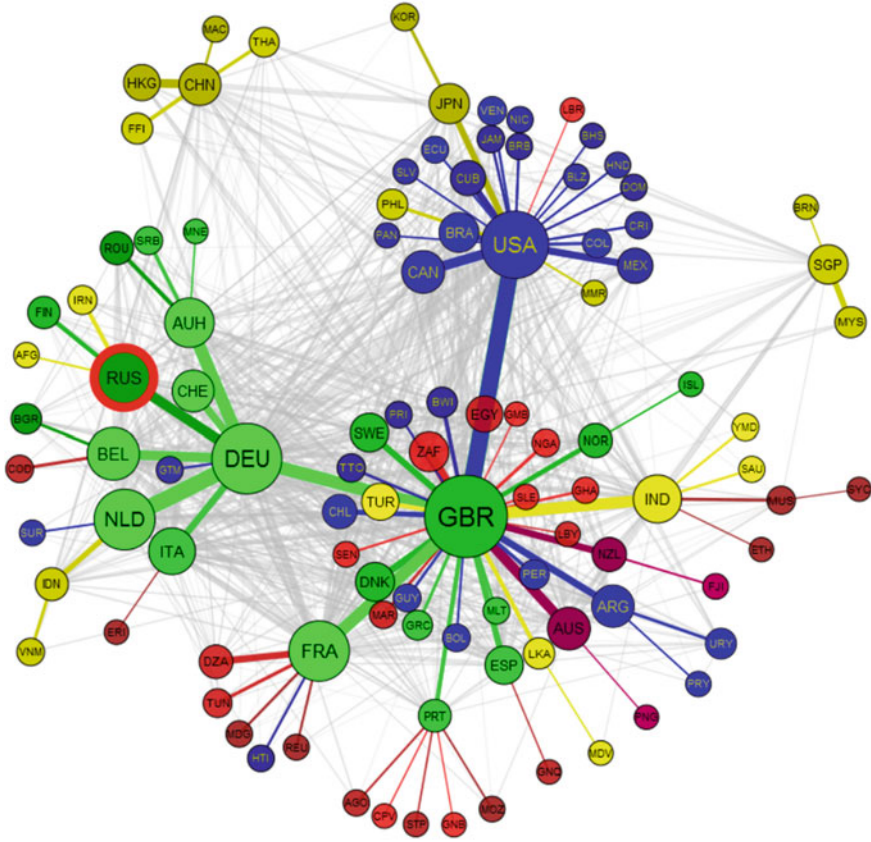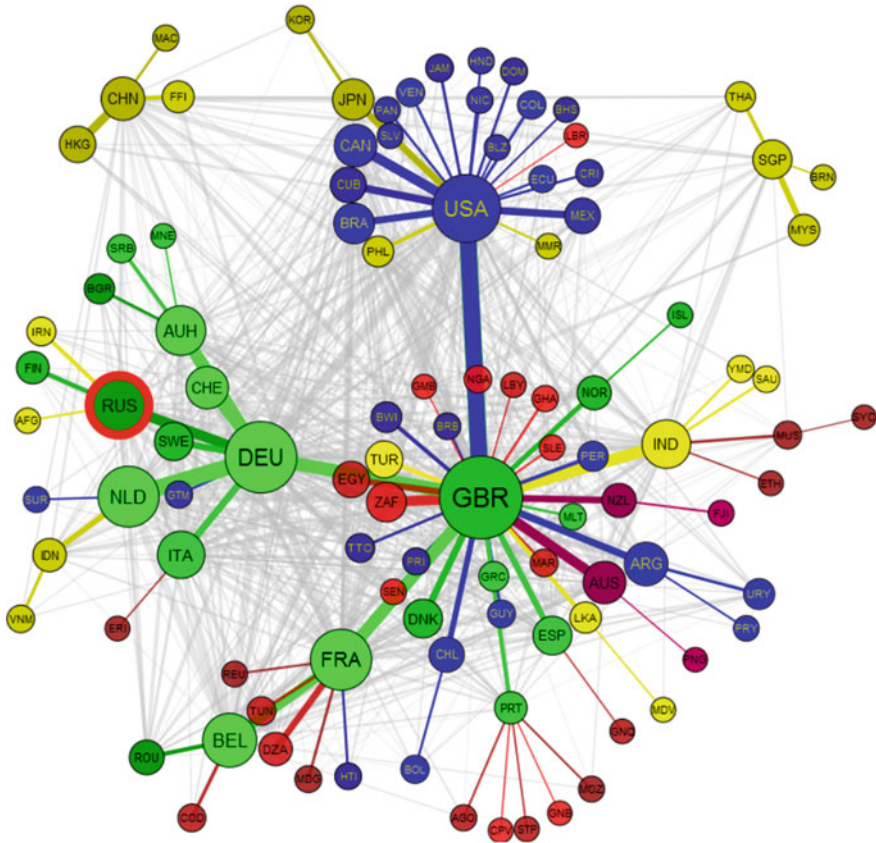**Fig. B.2** 1897 Global Trade Network. Note: The network of main trading partners for 103 countries reflects 1249 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 32.38%
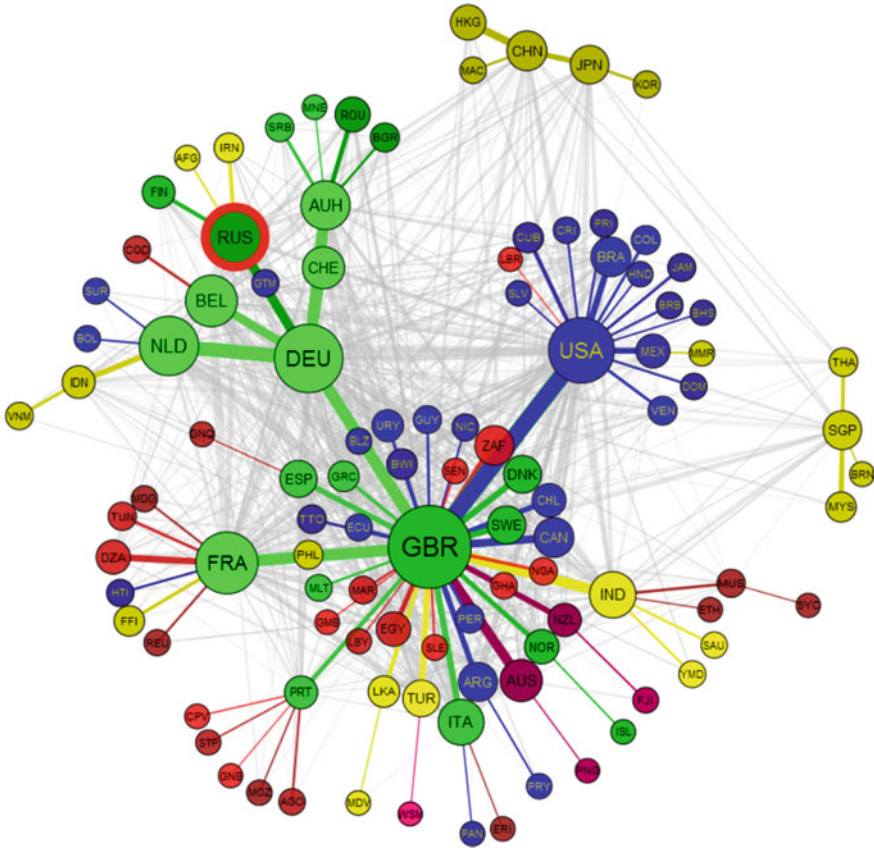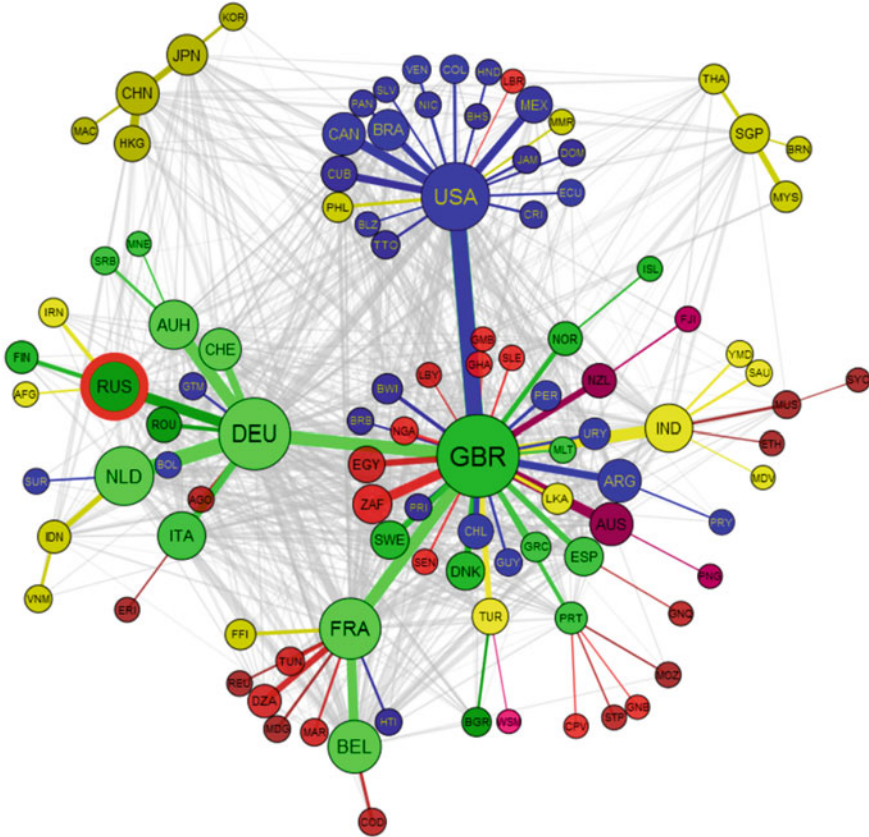
Fig. B.3 1898 Global Trade Network. Note: The network of main trading partners for 105 countries reflects 1325 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 30.75%

Fig. B.4 1899 Global Trade Network. Note: The network of main trading partners for 105 countries reflects 1337 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 30.65%

Fig. B.5 1900 Global Trade Network. Note: The network of main trading partners for 105 countries reflects 1380 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 30.38%

Fig. B.6 1901 Global Trade Network. Note: The network of main trading partners for 104 countries reflects 1379 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 30.86%

Fig. B.7 1902 Global Trade Network. Note: The network of main trading partners for 104 countries reflects 1373 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 30.22%

Fig. B.8 1903 Global Trade Network. Note: The network of main trading partners for 104 countries reflects 1377 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 29.37%

Fig. B.9 1904 Global Trade Network. Note: The network of main trading partners for 104 countries reflects 1378 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 29.34%

Fig. B.10 1905 Global Trade Network. Note: The network of main trading partners for 104 countries reflects 1373 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 28.93%

Fig. B.11 1906 Global Trade Network. Note: The network of main trading partners for 105 countries reflects 1382 trade flows (exceeding $1 mln each). The colored edges reflect the flows between the main trading partners; the proportion of such flows in the global trade is 29.06%

Appendix C: Visualization of Immigration Flows for the Largest Migration Recipients, Late Nineteenth–Early Twentieth Centuries

Using the data presented in Ferenczi and Willcox (1929) we estimate and visualize the late nineteenth-century and the early twentieth-century migration flows to some of the major migration recipients in the world. We use the methods described in Csardi and Nepusz (2006) in the R medium (R Core Team 2017). We present figures visualizing the data on migration to the USA, Canada, Brazil, Argentina, and Australia.

Each figure presents aggregated data on immigration to a given country during a certain time interval (e.g., immigration to the USA in 1870–1879).

The area of the vertex is proportional to the annual average migration flow to the given country in the given time period (e.g., the area of each vertex is proportional to
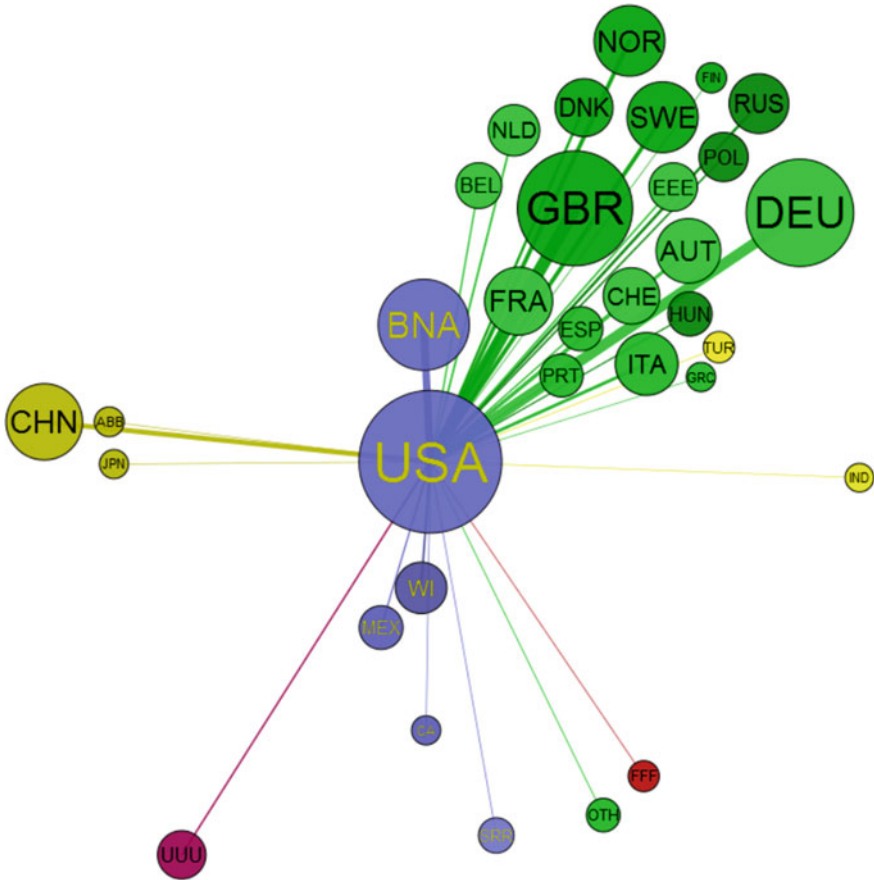
Fig. C.1 Migration to the USA, 1870–1879

the annual average number of migrants who came to the USA in 1870–1879). The position of vertices reflects the geographical position of countries (the vertices "push" each other if they cannot be positioned next to each other without overlapping).

The "thickness" of the edge between two vertices is also proportional to the migration inflow to the given country (as is the area of vertex). In each figure the area of the vertex designating the recipient (e.g., the USA) is proportional to the annual average migration flow to the given country during the time period under analysis. All figures have the same scale, so that one could compare various time periods and various migration destinations with each other (Figs. C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, C.9, C.10, C.11, C.12, C.13, C.14, C.15, C.16, C.17, C.18, C.19, C.20, C.21, C.22, C.23, C.24, C.25, C.26, C.27, C.28, C.29, C.30, C.31, C.32, C.33, C.34, C.35, and C.36).
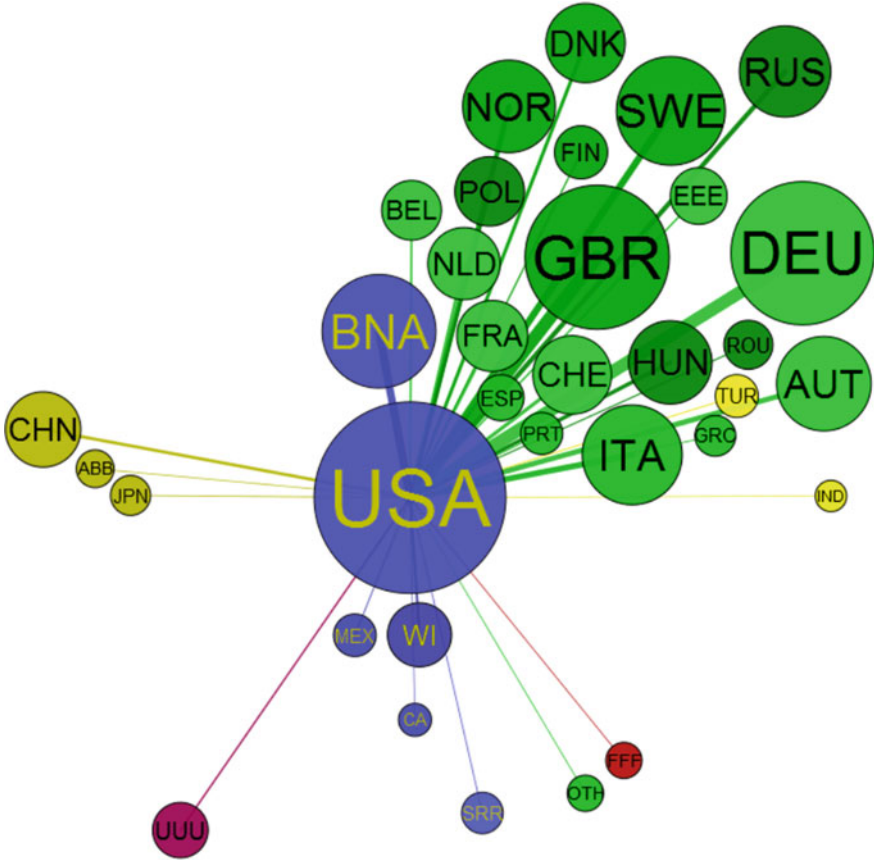
Fig. C.2 Migration to the USA, 1880–1889
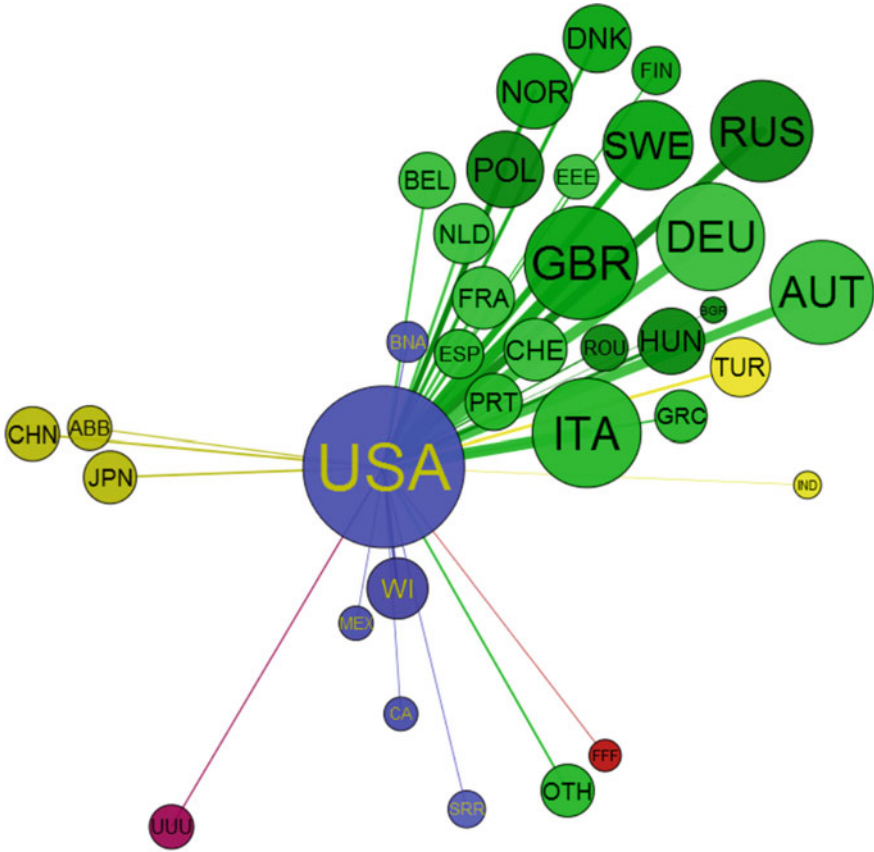
Fig. C.3 Migration to the USA, 1890–1899
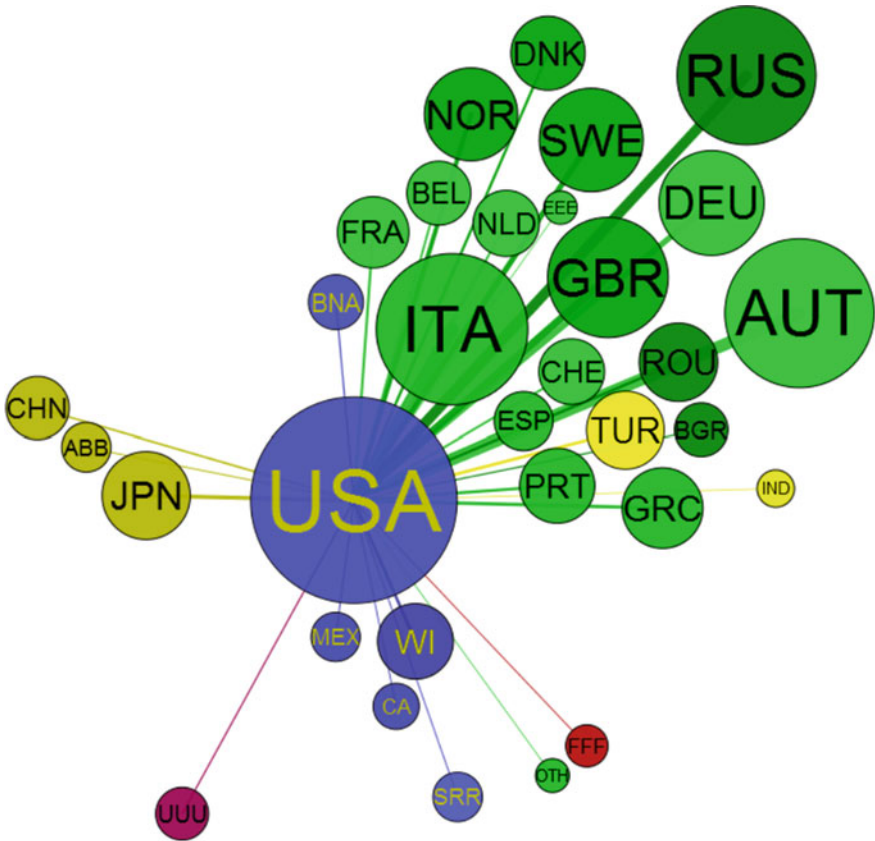
Fig. C.4 Migration to the USA, 1900–1904
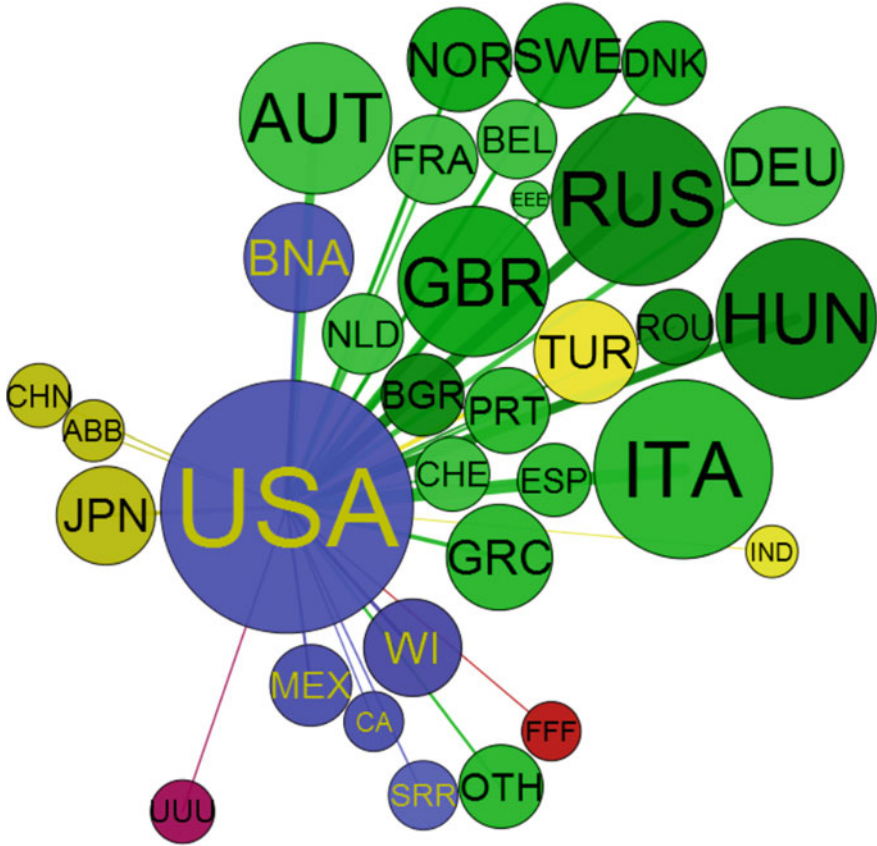
Fig. C.5 Migration to the USA, 1905–1909
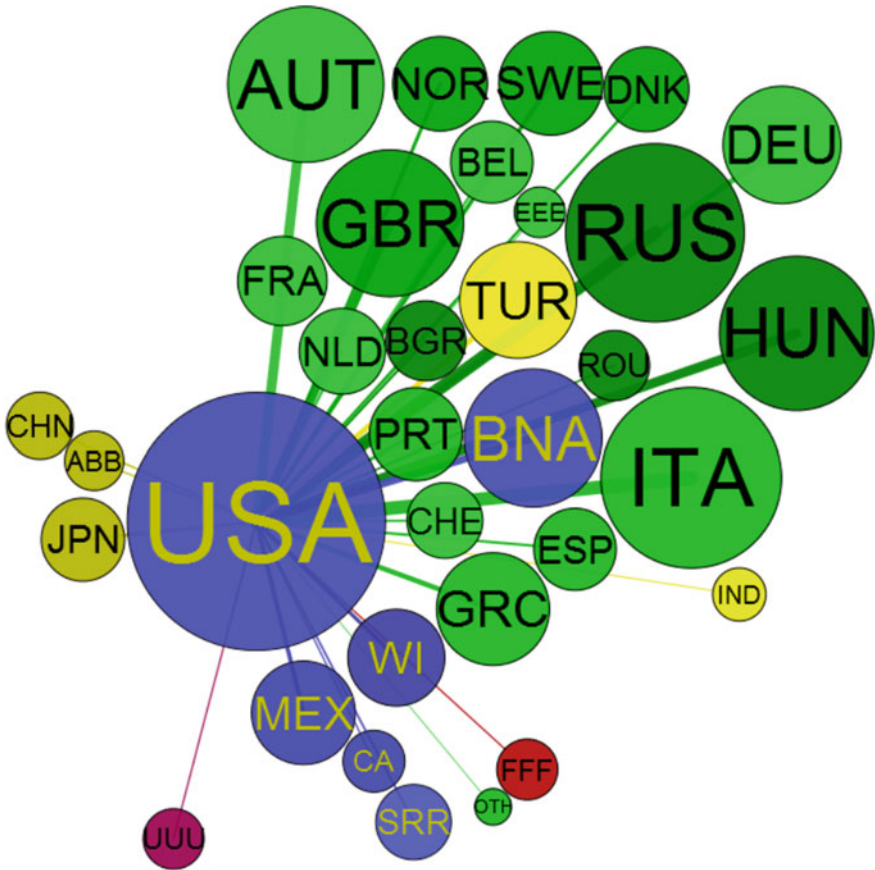
Fig. C.6 Migration to the USA, 1910–1914
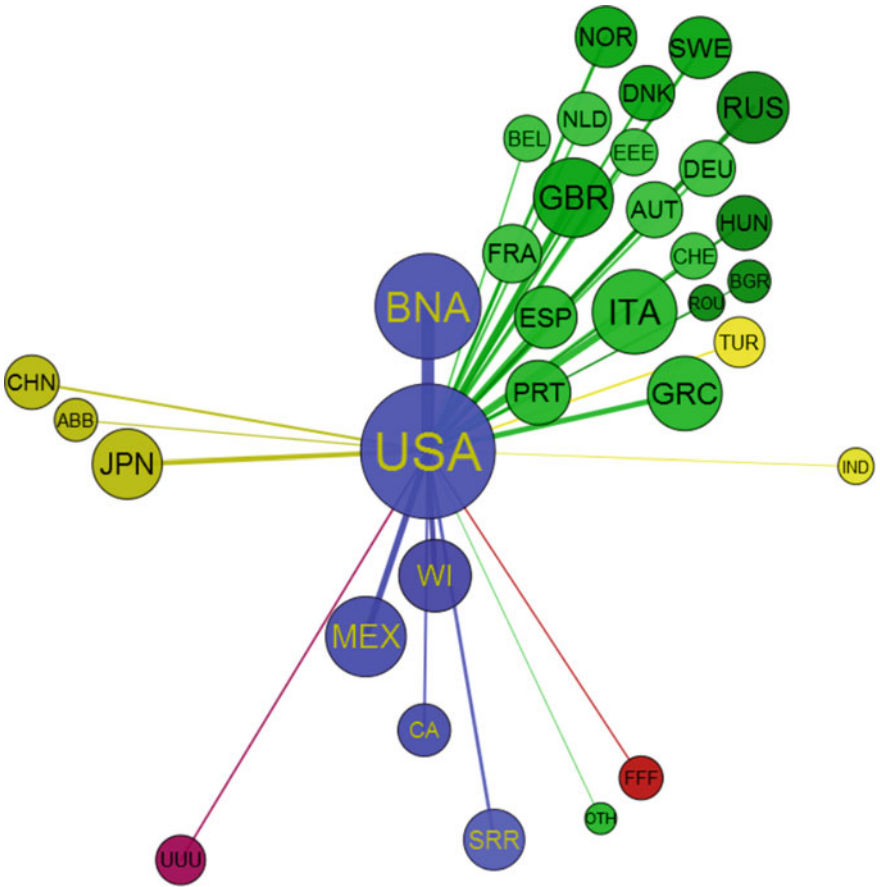
Fig. C.7 Migration to the USA, 1915–1919
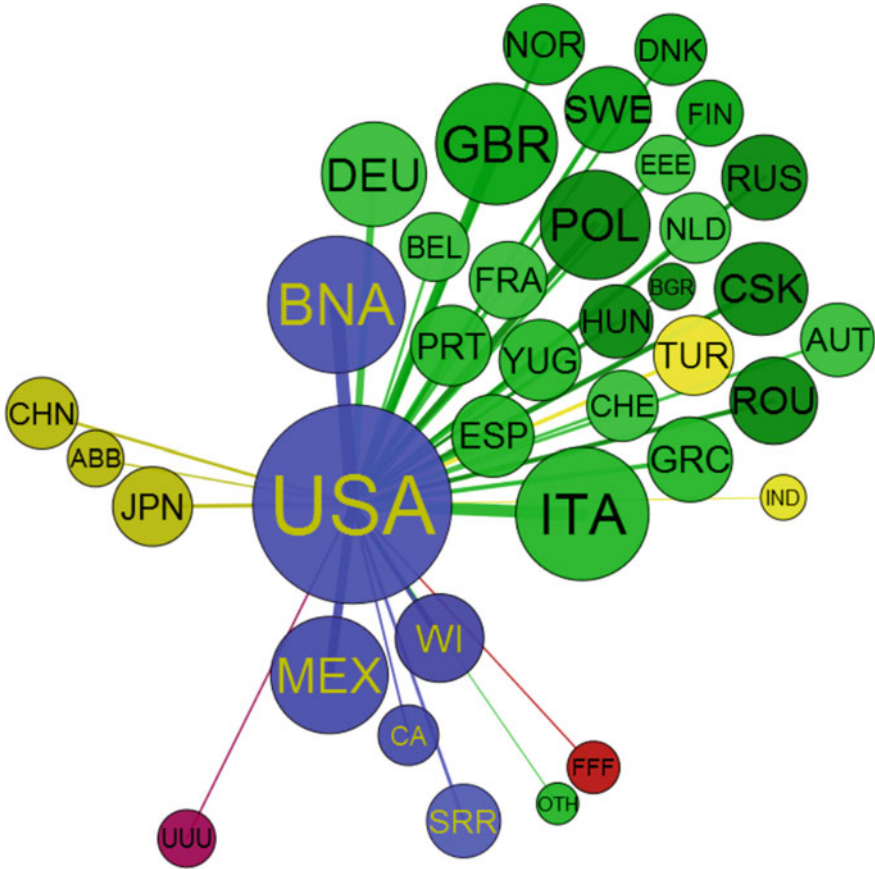
Fig. C.8 Migration to the USA, 1920–1924
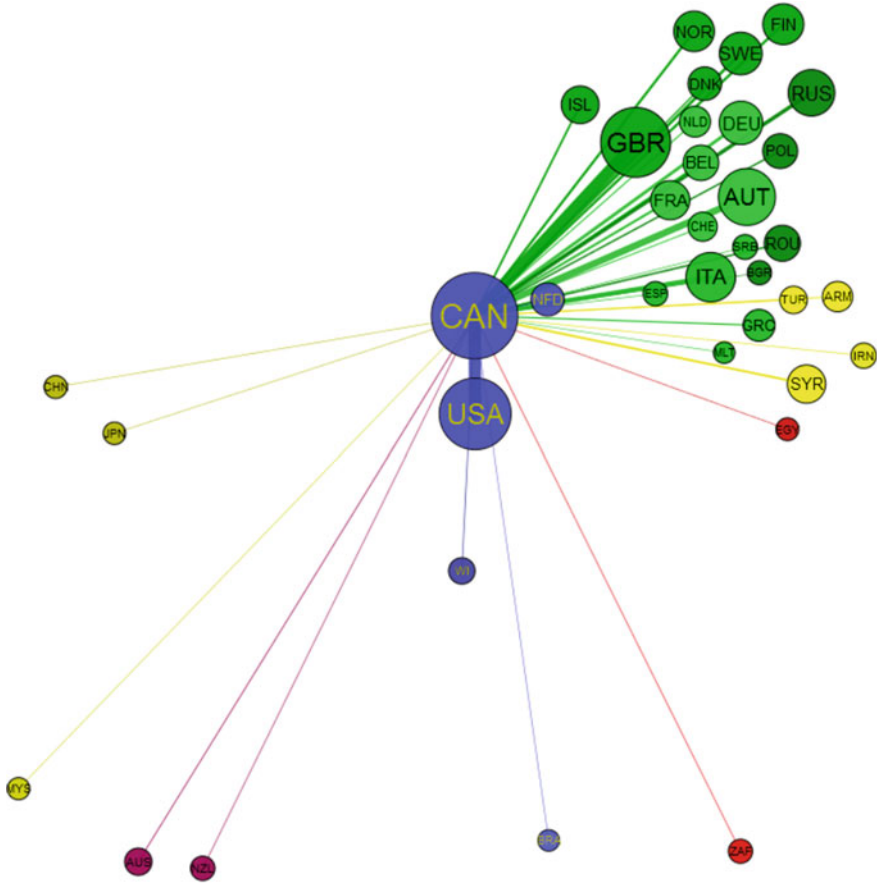
Fig. C.9 Migration to Canada, 1901–1904
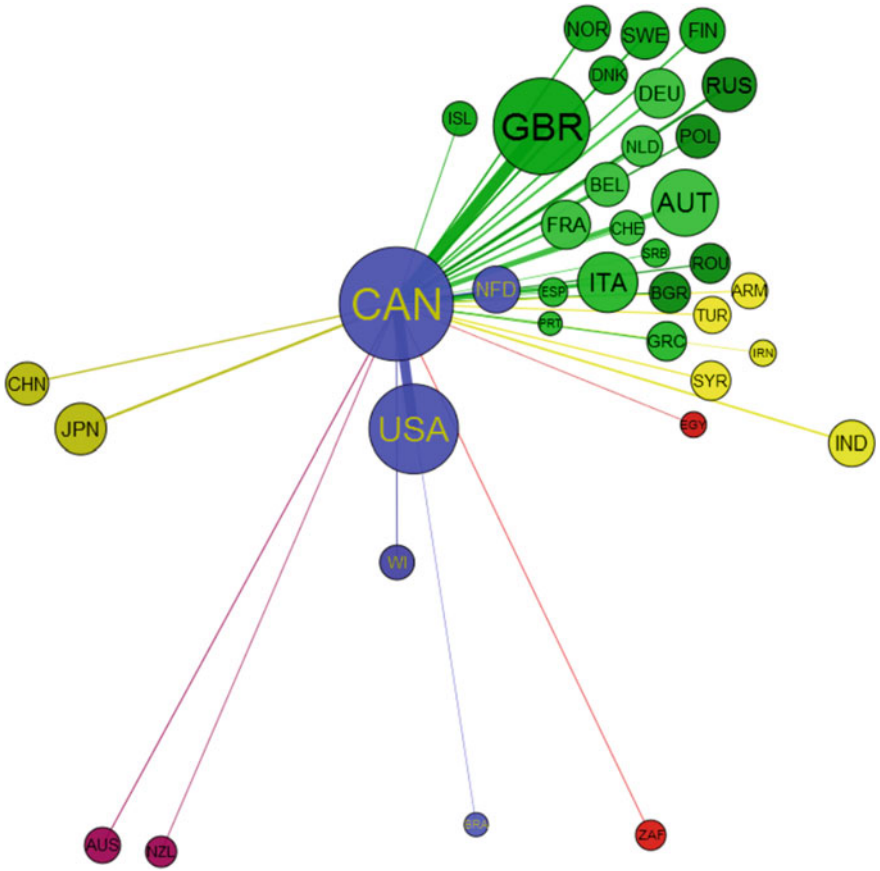
Fig. C.10 Migration to Canada, 1905–1909
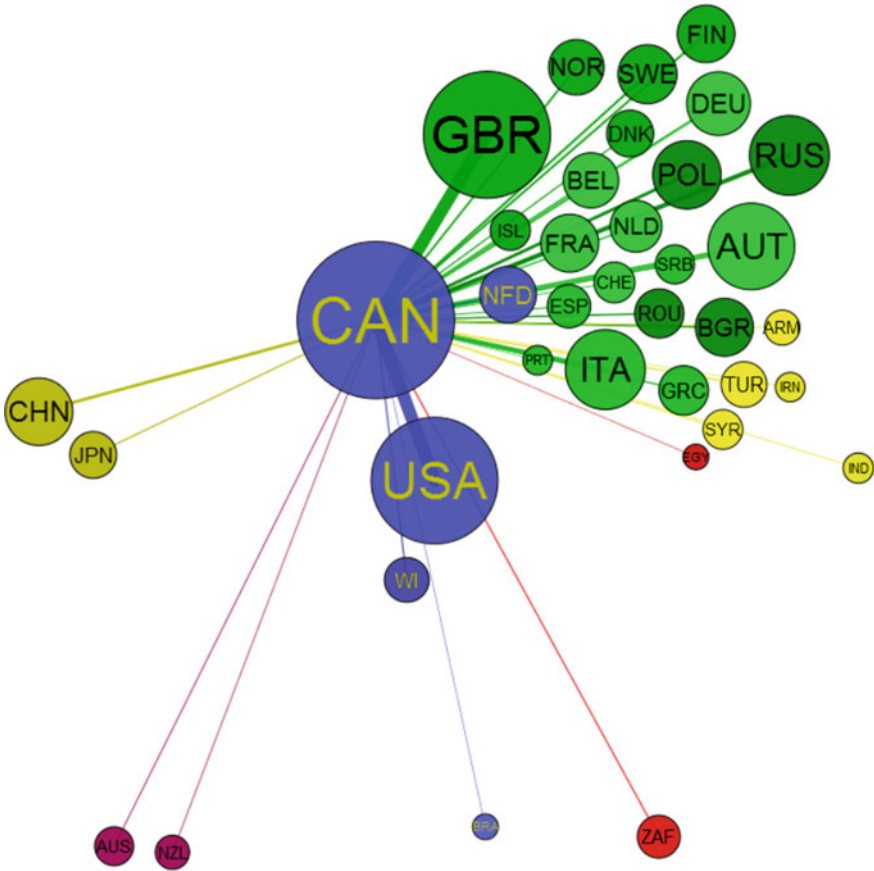
Fig. C.11 Migration to Canada, 1910–1914
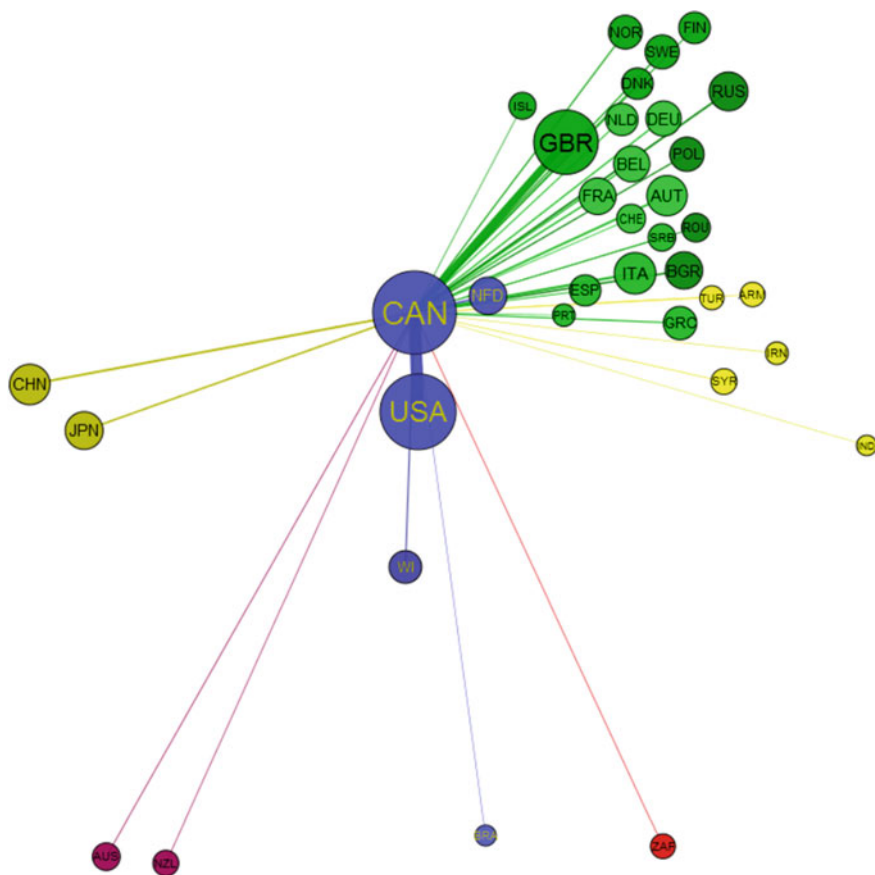
Fig. C.12 Migration to Canada, 1915–1920
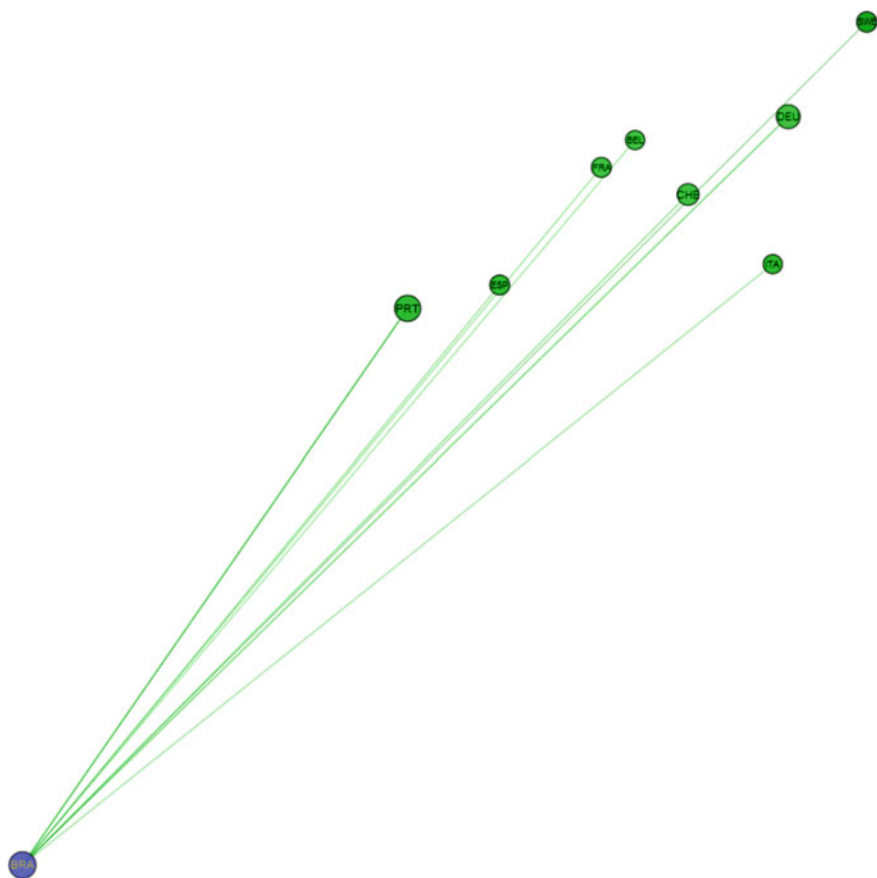
Fig. C.13 Migration to Brazil, 1850–1859
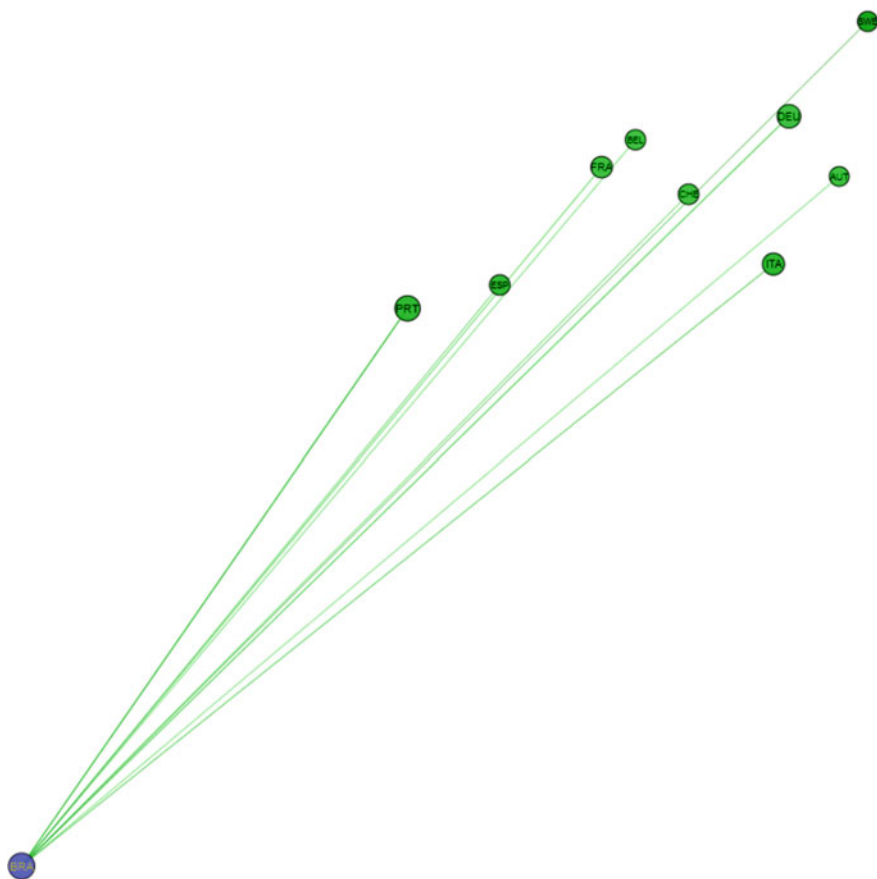
Fig. C.14 Migration to Brazil, 1860–1869
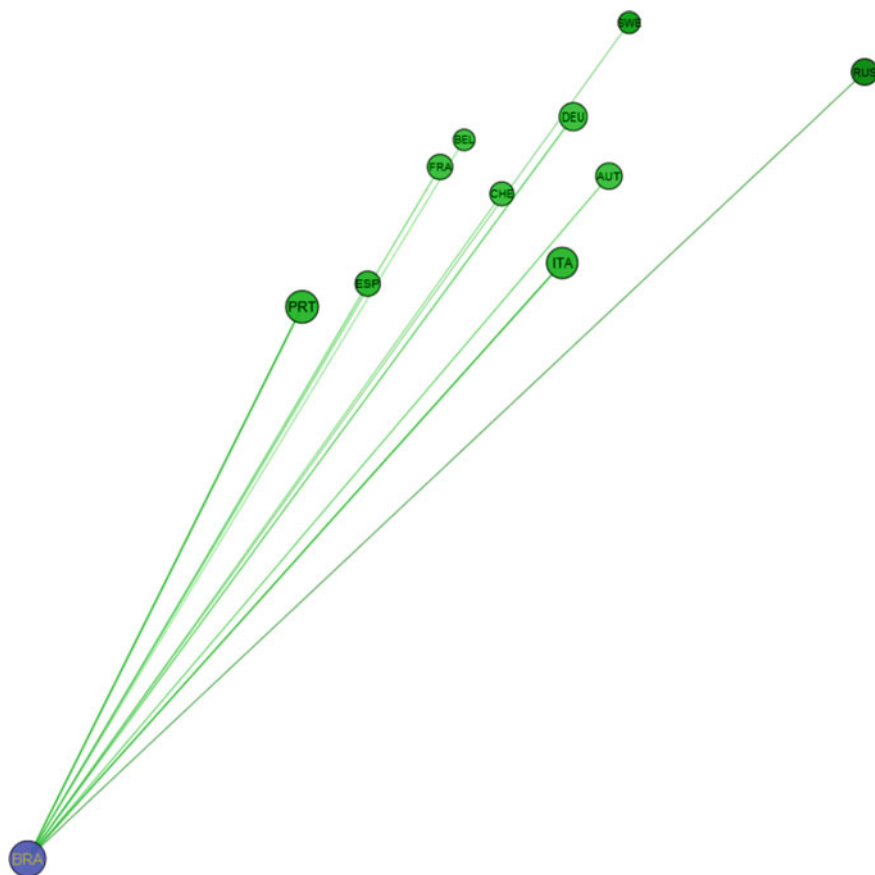
Fig. C.15 Migration to Brazil, 1870–1879
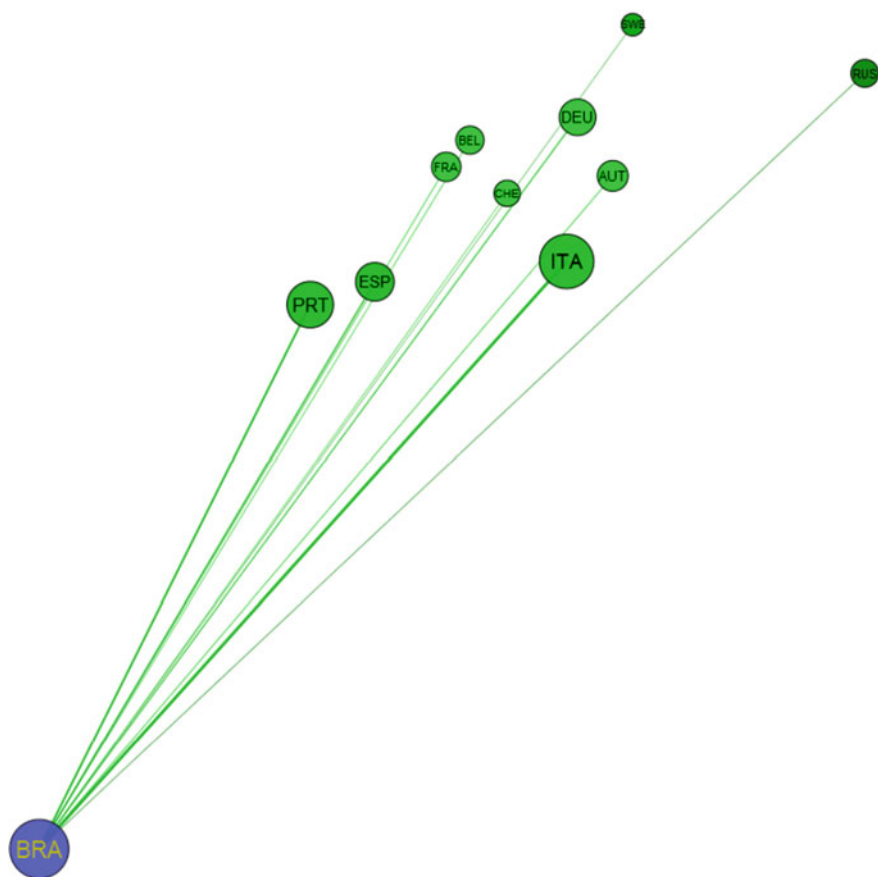
Fig. C.16 Migration to Brazil, 1880–1889
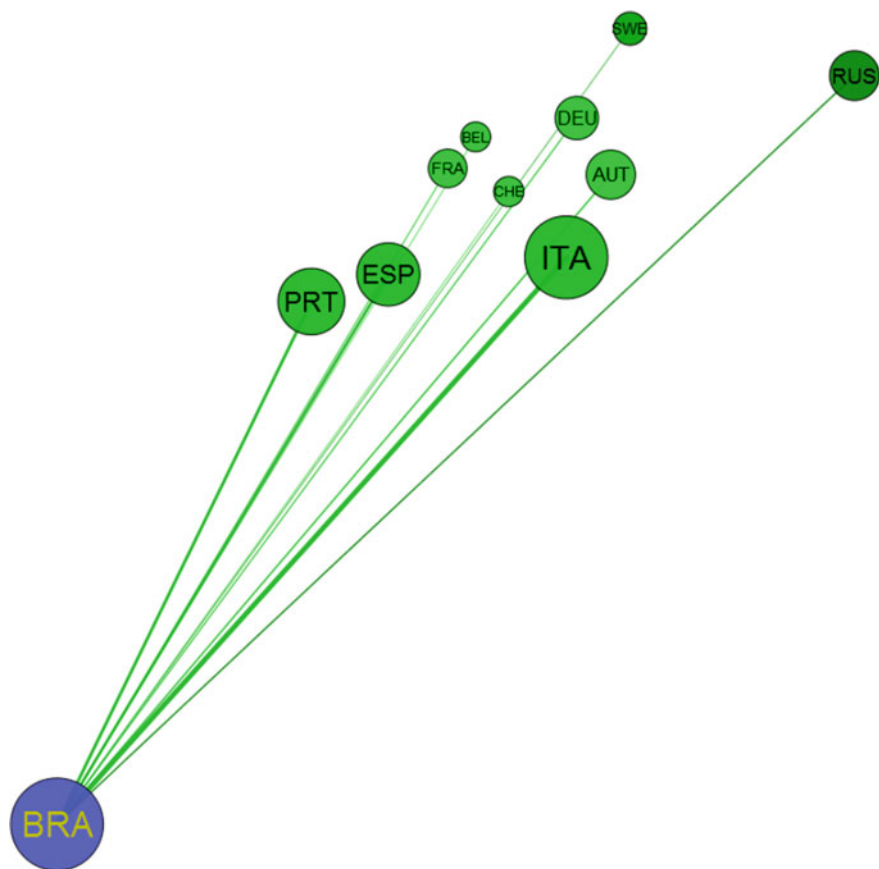
Fig. C.17 Migration to Brazil, 1890–1899
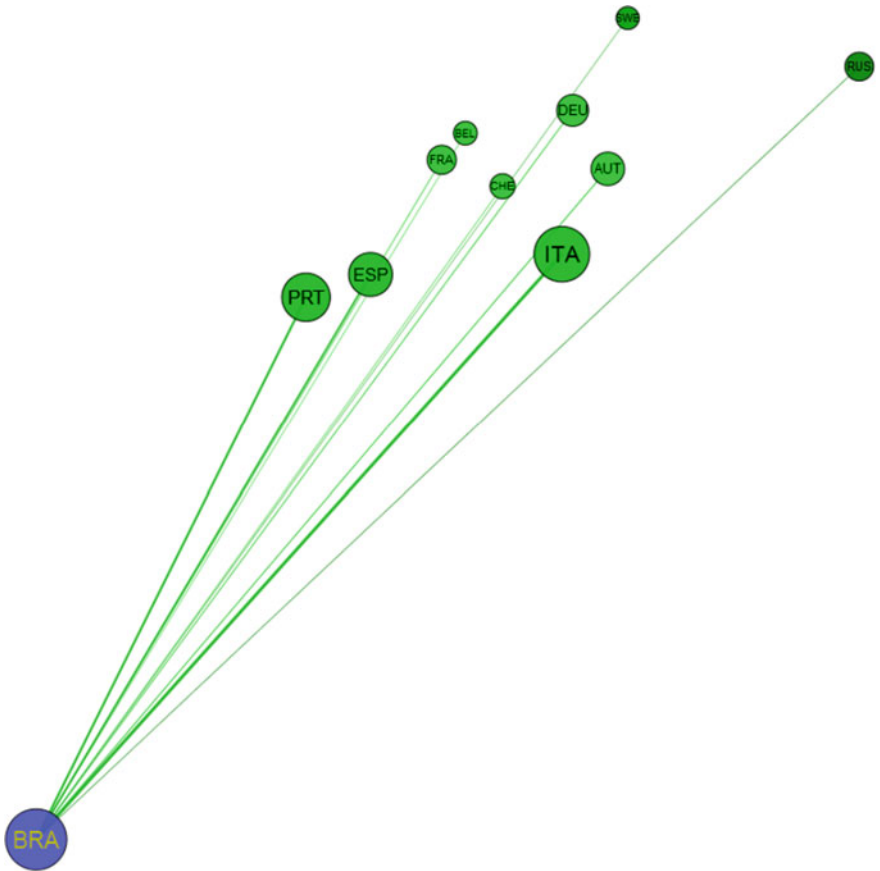
Fig. C.18 Migration to Brazil, 1900–1904
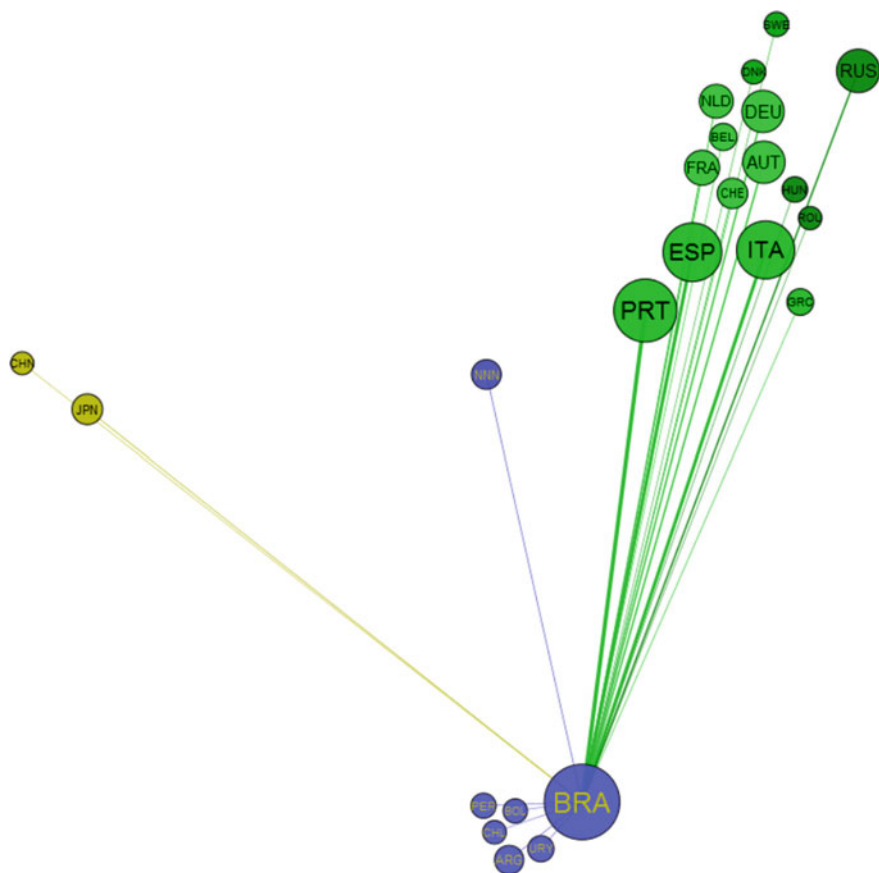
Fig. C.19 Migration to Brazil, 1905–1909
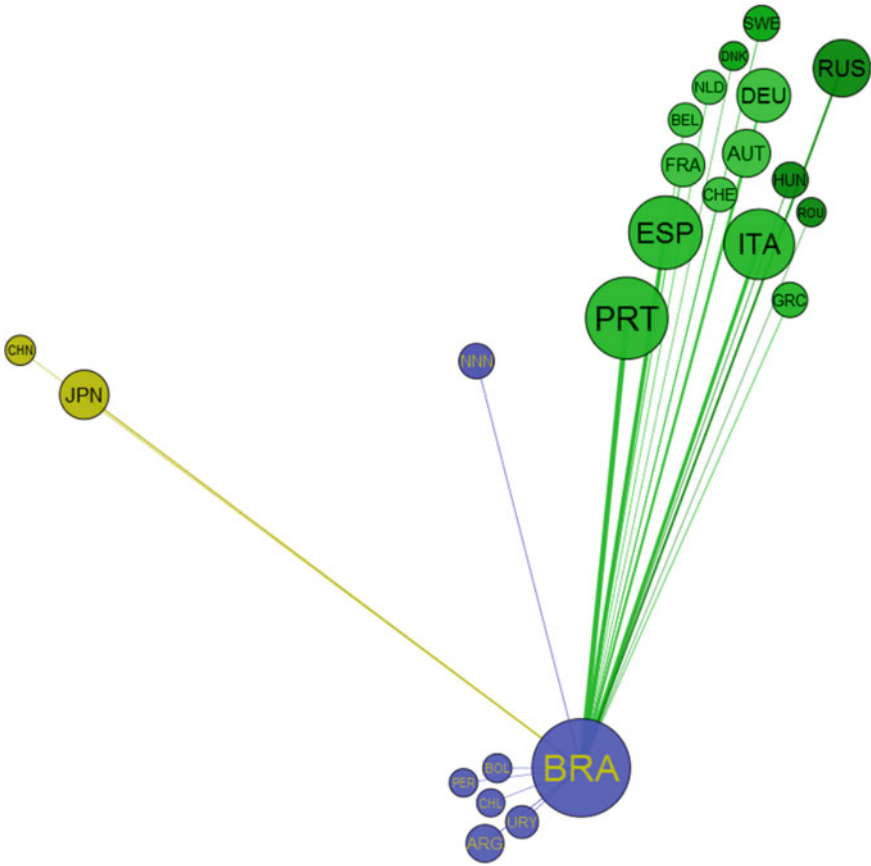
Fig. C.20 Migration to Brazil, 1910–1914
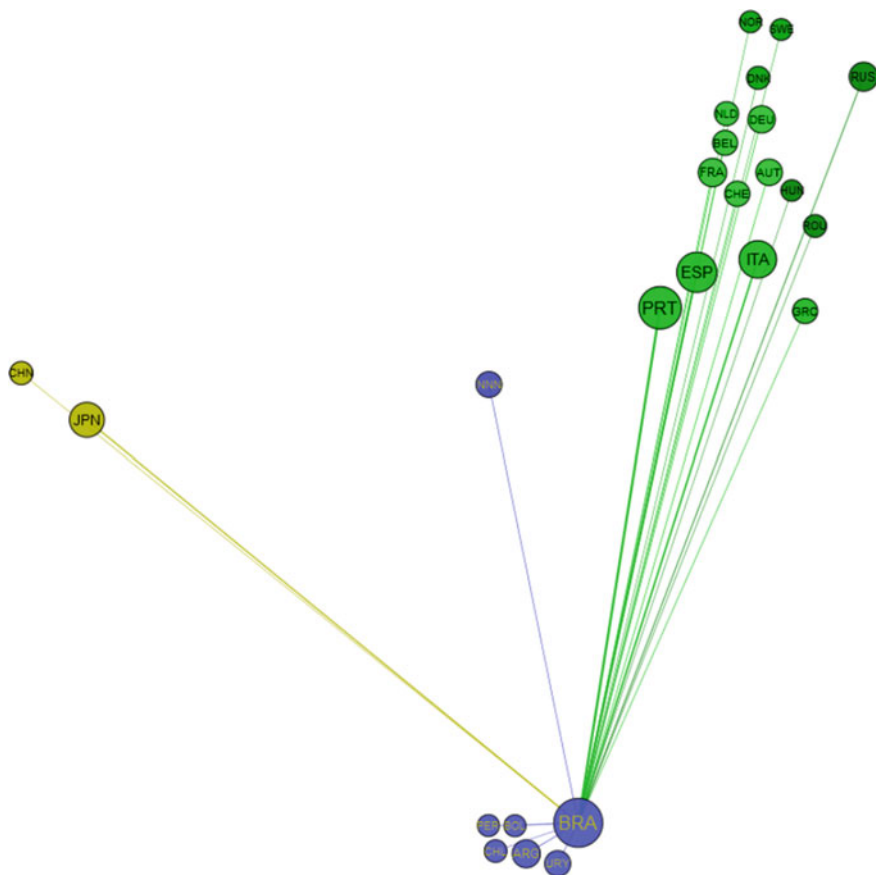
Fig. C.21 Migration to Brazil, 1915–1919
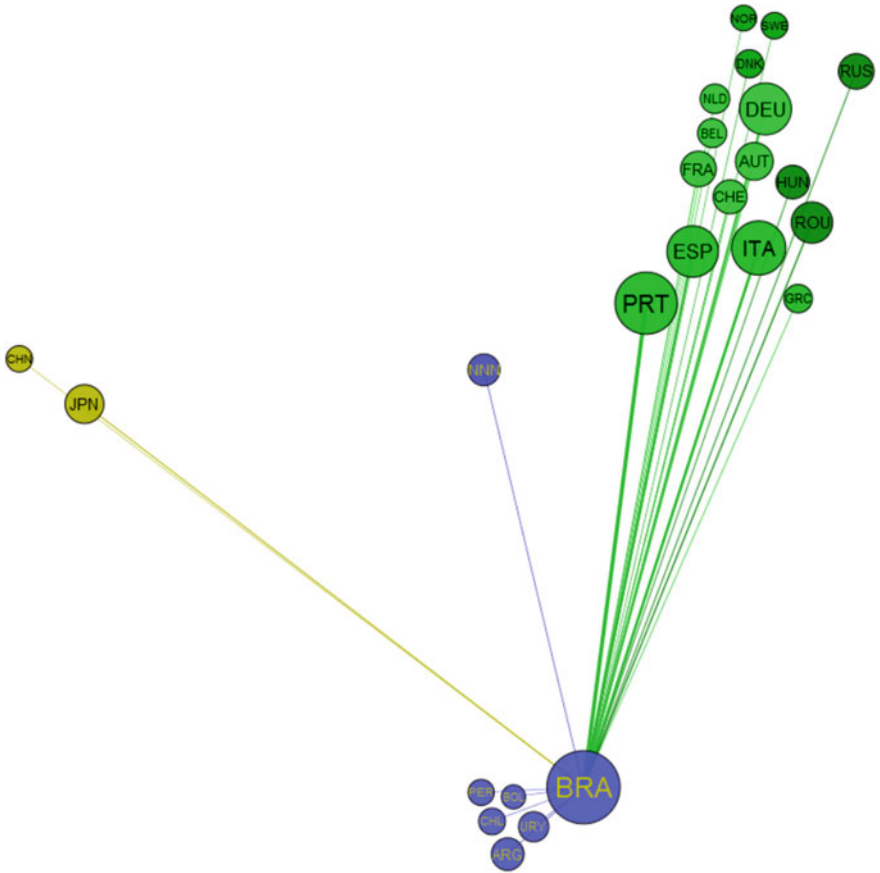
Fig. C.22 Migration to Brazil, 1920–1924
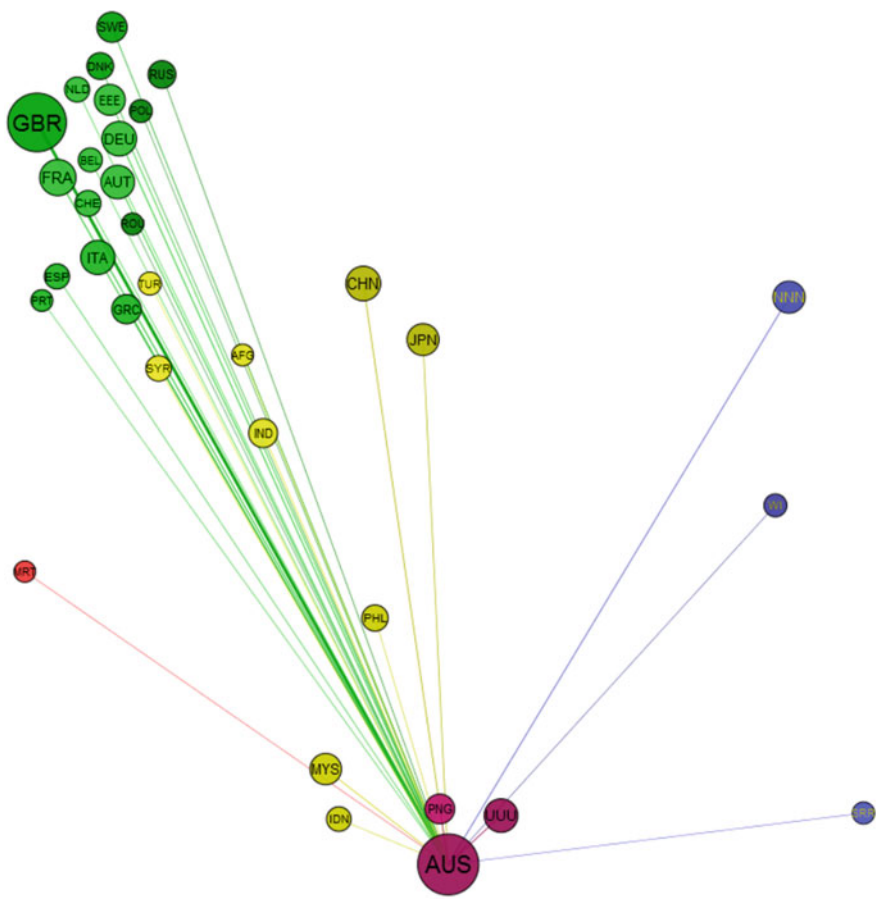
Fig. C.23 Migration to Australia, 1902–1904
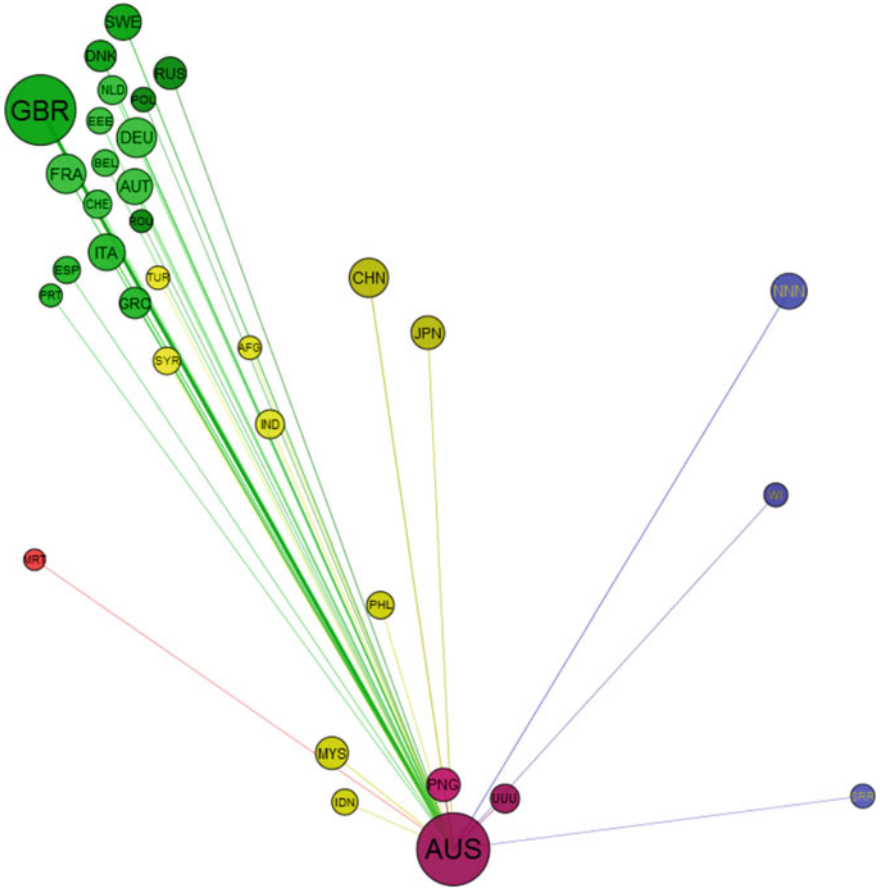
Fig. C.24 Migration to Australia, 1905–1909
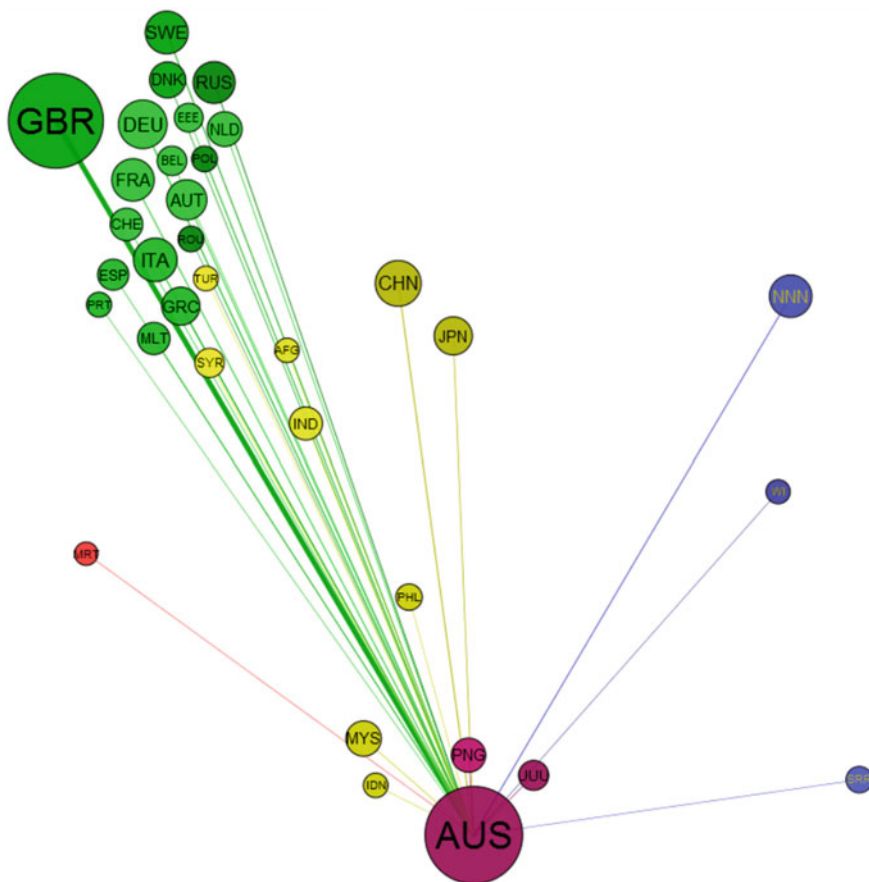
Fig. C.25 Migration to Australia, 1910–1914
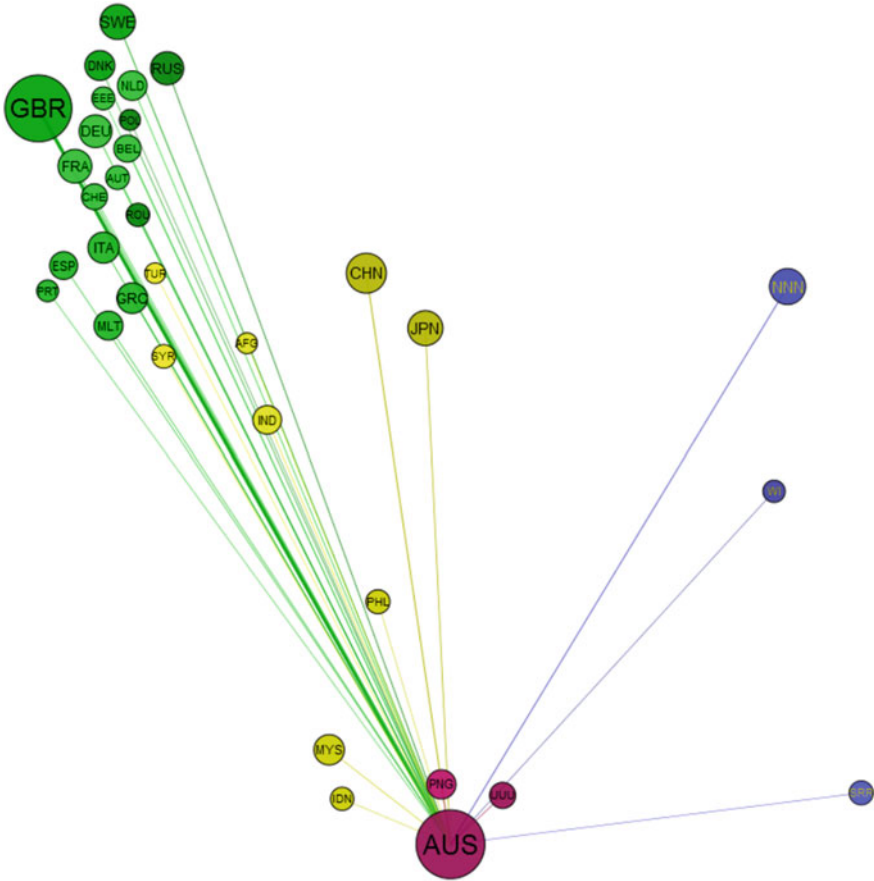
Fig. C.26 Migration to Australia, 1915–1917
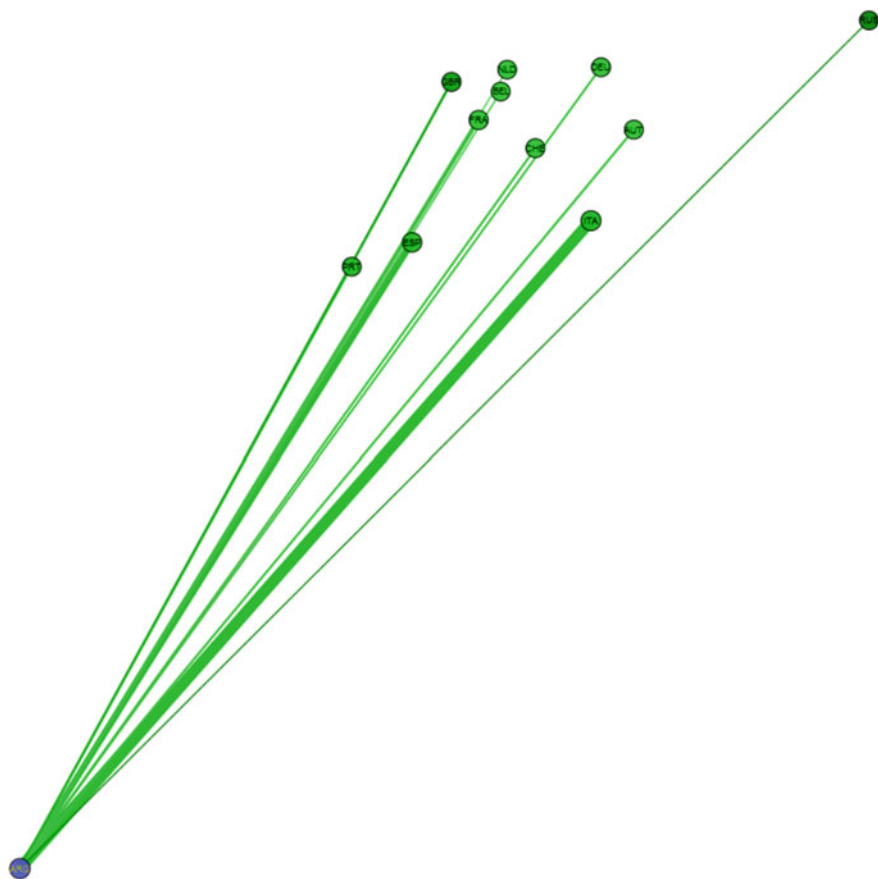
Fig. C.27 Migration to Argentina, 1857–1859
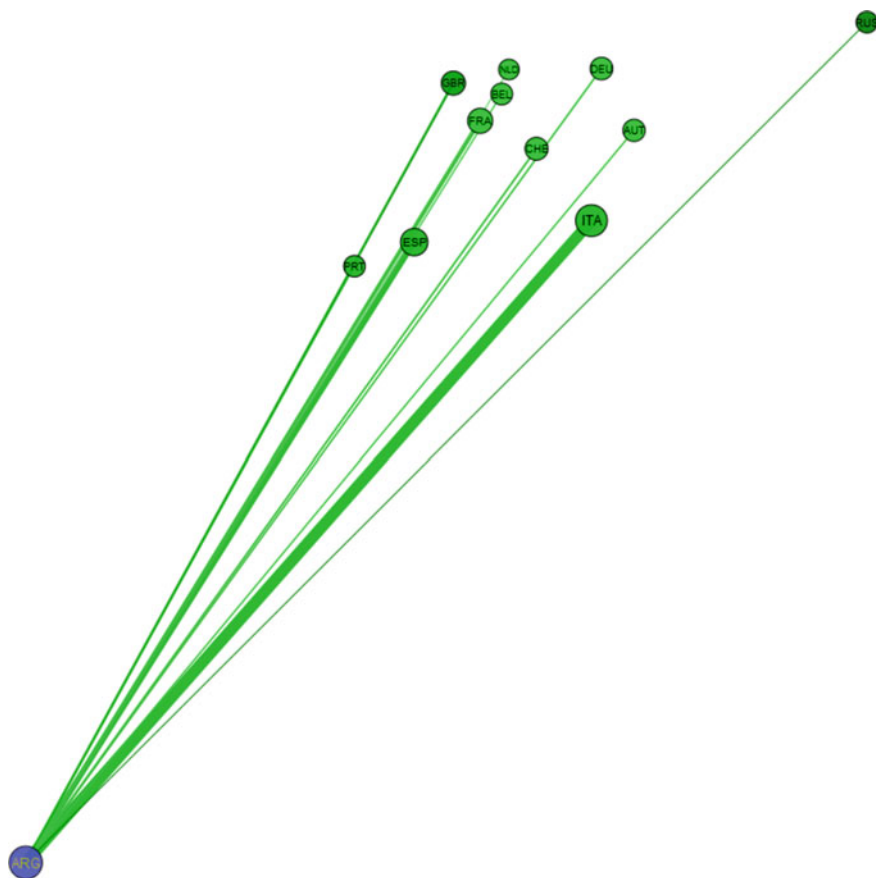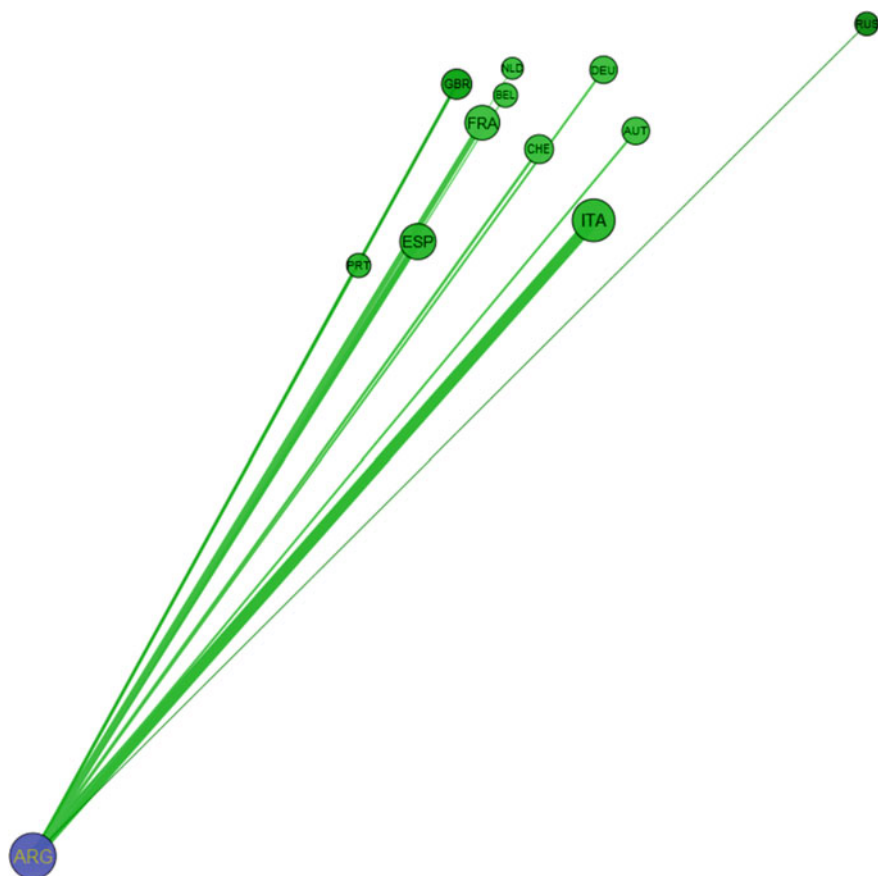
Fig. C.28 Migration to Argentina, 1860–1869

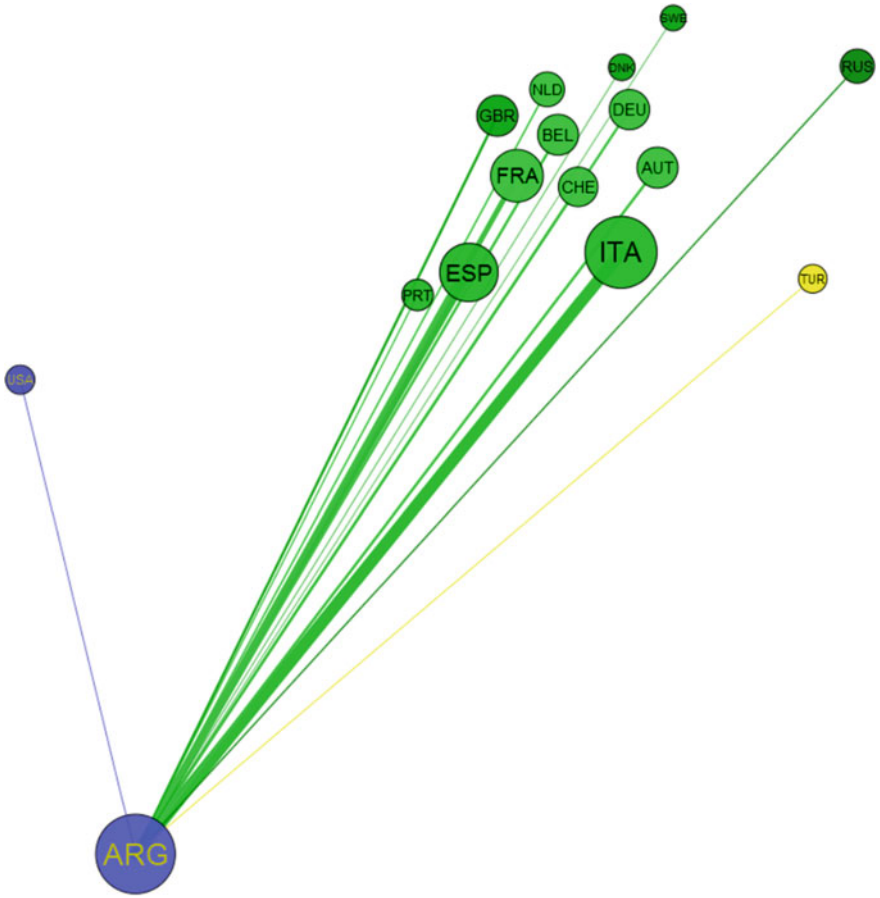**Fig. C.29** Migration to Argentina, 1870–1879

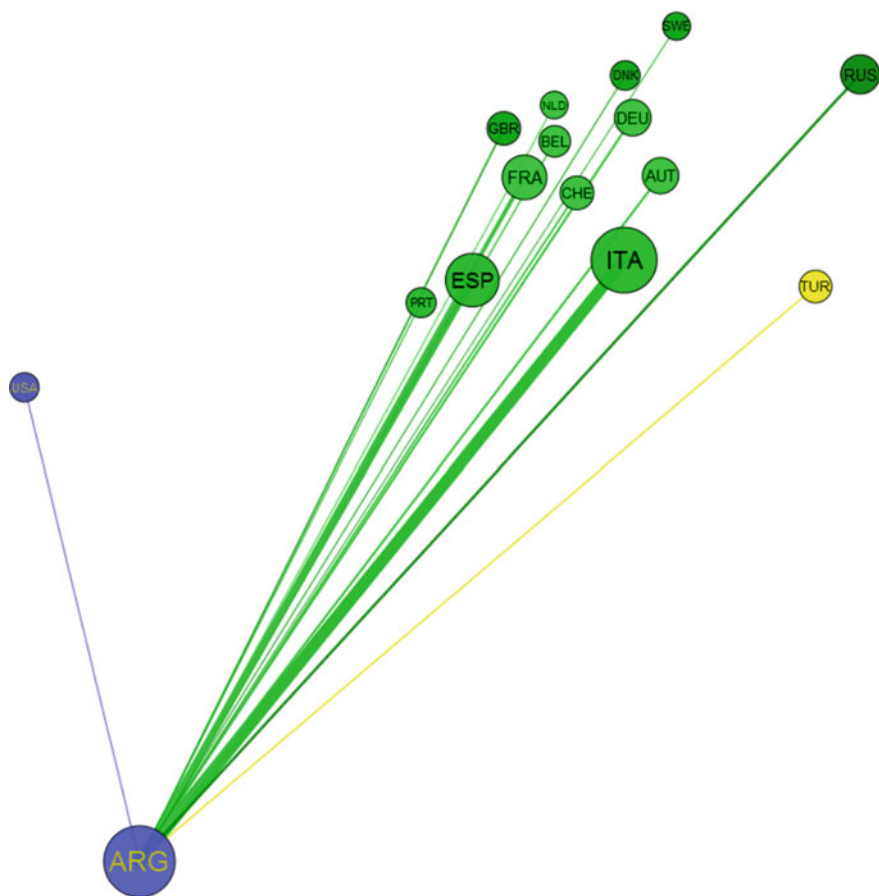**Fig. C.30** Migration to Argentina, 1880–1889

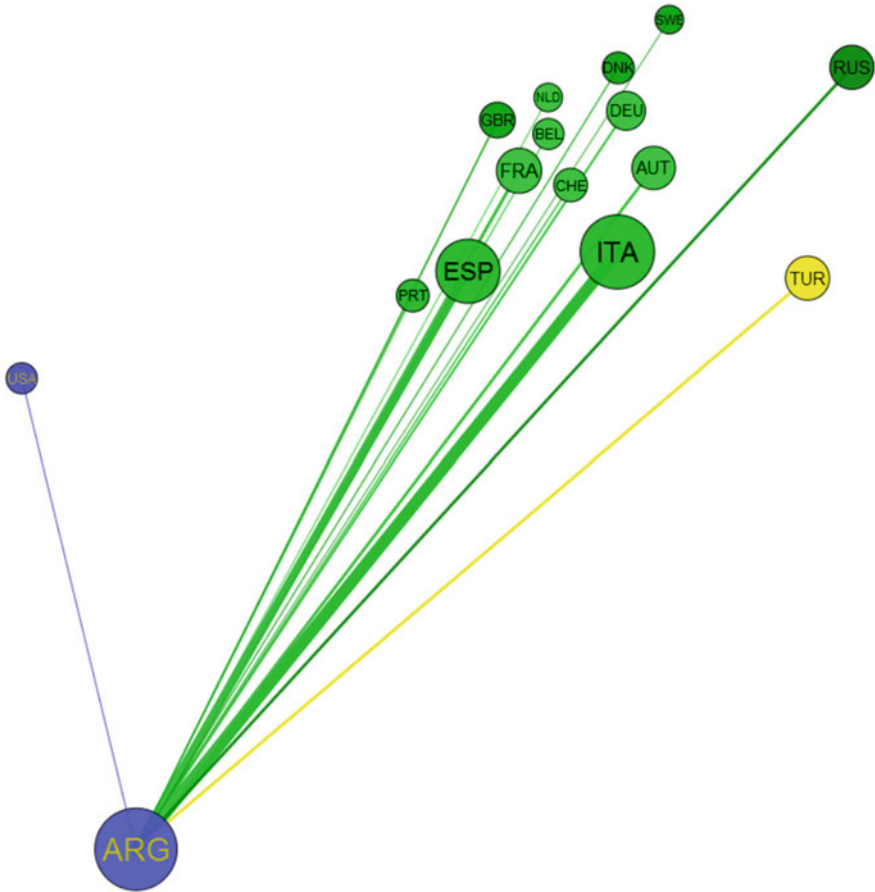**Fig. C.31** Migration to Argentina, 1890–1899

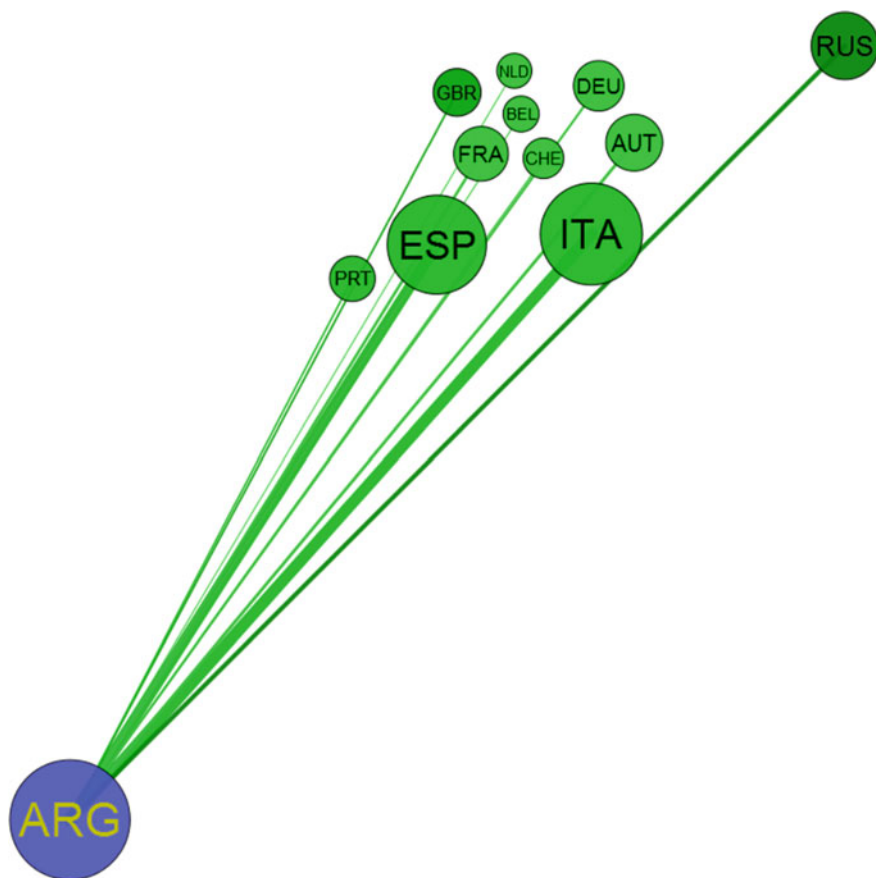**Fig. C.32** Migration to Argentina, 1900–1904

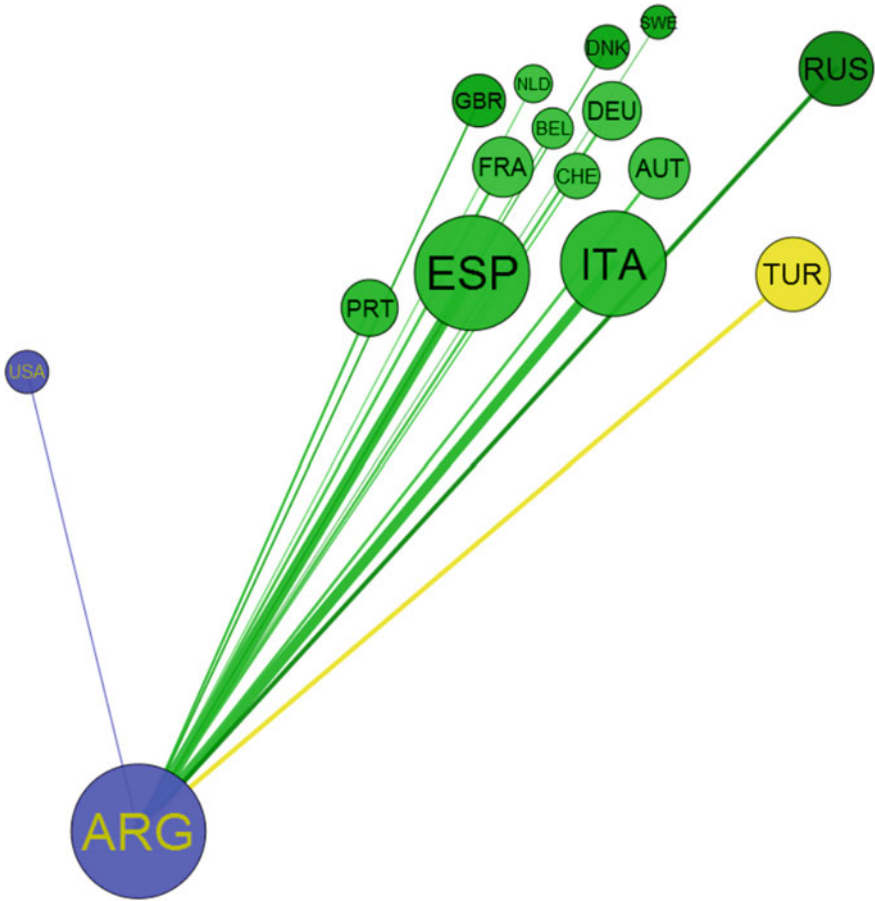**Fig. C.33** Migration to Argentina, 1905–1909
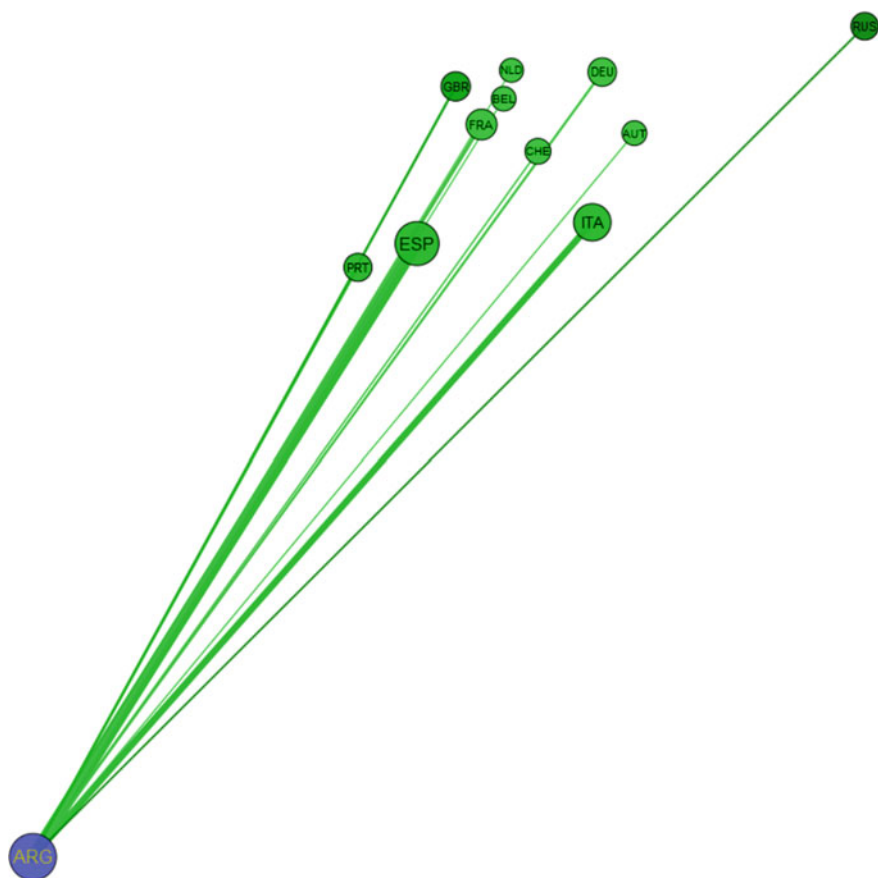
Fig. C.34 Migration to Argentina, 1910–1914

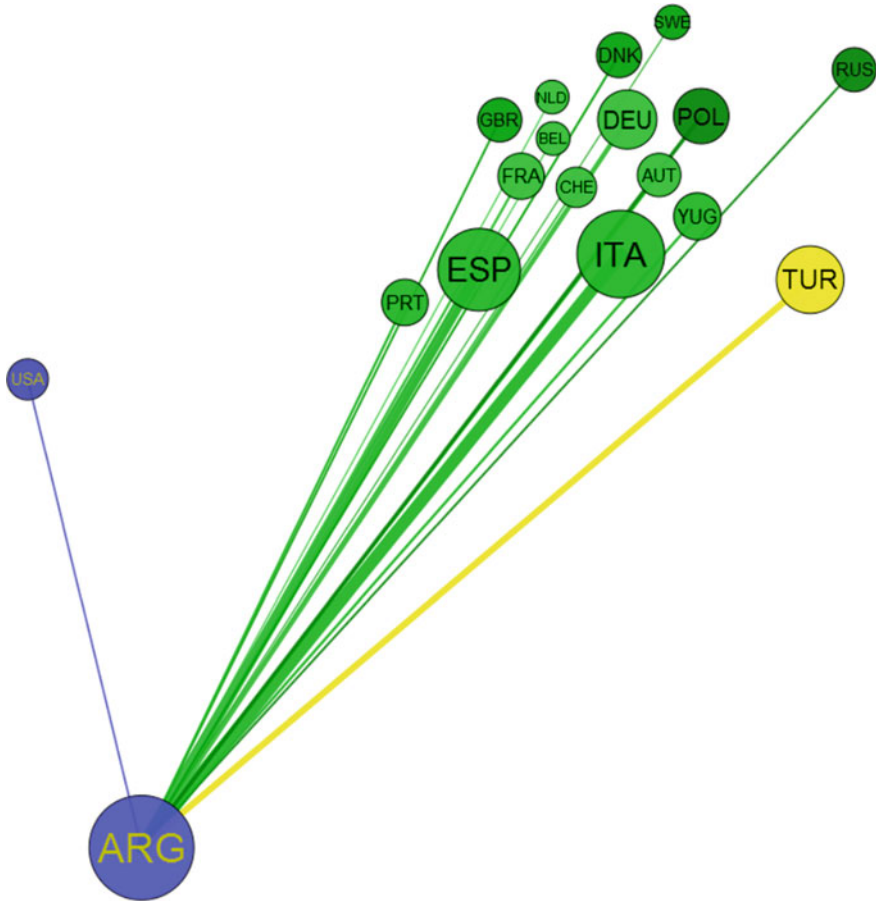**Fig. C.35** Migration to Argentina, 1915–1919

Fig. C.36 Migration to Argentina, 1920–1924

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