

Request No. 03/2016: "First / Second Generation Immigrants" – Background and Assessment. Report prepared by Giorgio Brunello and Maria De Paola

Introduction

This report reviews the terms “first and second generation immigrants” and their usage in the economics literature and in European statistics. We start by providing in Section 1 the definitions of these terms as they emerged in the late seventies and eighties. We also discuss their drawbacks as descriptors of an heterogeneous population of immigrants and their descendants. Section 2 is devoted to reviewing national and international data with the purpose of understanding whether and how these definitions can be implemented in the European context. Conclusions follow.

1. Defining First and Second Generation Immigrants

Economists and other social science scientists have long been interested in tracking socio-economic progress across immigrant generations. Integration processes take time and the analysis of the social and economic outcomes of immigrants and their descendants is key to understand how inclusive modern societies are. While the traditional perception was that “over the course of two or three generations, immigrants are transformed from a collection of diverse national origin groups into a homogeneous native population” (Borjas,1993), today the relevance of the intergenerational transmission of educational and labour market outcomes is widely recognized. Therefore, it is important to analyse the economic and social outcomes not only of immigrants but also of their descendants.

The terms “first and second generation immigrants” have been introduced to distinguish between immigrants who have recently migrated to a host country and individuals with an immigrant background. Chiswick (1977) is one of the first economists to investigate the economic outcomes of first and second generation immigrants. He not only uses these terms but also introduces as additional terms “sons of immigrants” and “individuals with foreign parentage”.

Early economic studies such as Carliner (1980) and Borjas (1992) have distinguished between first and second generation immigrants, defining the former as individuals living in the host country but born in a foreign country and the latter as individuals born in the host country with at least one parent born in a foreign country. These definitions have been used by the economic literature ever since, see for instance Bauer and Riphahn, 2013; Card, 2005; Chiswick and DebBurman, 2004; Cobb-Clark, et al.

2012; Lüdemann, 2013 and Schneeweis, 2015. In spite of their wide usage, they are not free of ambiguities. Perhaps more importantly, both first and second generation immigrants are heterogeneous groups.¹ This fact has prompted scholars to provide a finer classification of either group, as discussed more in detail below.

Although first generation immigrant children are foreign born as their parents, they have often spent a critical part of their formative years in the host country, eventually absorbing the local culture. The observed relevant differences between immigrants who arrive as children and those who arrive as adults has induced sociologist Rubén Rumbaut to characterize the former by introducing in the late 1960s the term “one-and-a-half generation” (later switched to the decimal “1.5 generation”).

More recently, Rumbaut and several other scholars have argued that the foreign-born should be partitioned into more detailed sub-populations according to the age at migration, to register the fact that migrants have been more or less exposed to host country institutions and have had more or less to share with individuals born in the host country (Rumbaut, 2004). According to the scale proposed by Rumbaut (2004), individuals who arrived in the host country between ages six and twelve are the true 1.5 generation. On the other hand, those who arrived at age five or younger belong to the “1.75 generation” and are closer to the “second generation” because of their limited experience in their native country. Finally, those who arrived in the host country between ages 13 and 17 are the “1.25 generation,” closest to the “first generation”. This classification has been used partially or entirely in the economic and sociological literature. For instance, Dronkers and de Heus, 2012, and Ohinata and van Ours, 2012 adopt only the “1.5 generation” definition, and Benassi et al, 2015 use also the other categories.

While second generation immigrants are defined as those born in the host country from at least one foreign born parent, it does make a difference whether only one parent or both parents are foreign born. To take this into account, some studies distinguish between immigrants with a mixed background - who are native born and have one foreign born parent and one native born parent - and immigrants with a foreign background – who are native born with both parents being foreign born. On the one hand, Dustmann et al. (2012), Algan et al. (2010) and Dustmann and Glitz (2011) define second generation immigrants as the children born in the destination country from foreign born parents, excluding from their analysis mixed background immigrant children. On the other hand, Eurostat (2011) reports separate statistics for “persons with mixed migrants background” and “persons with foreign background”.

¹For instance, classifying all foreign born individuals as first generation immigrants does not allow to distinguish between long-term and short-term migrants.

Researchers have also emphasized the gender of the foreign born parent to underline that the consequences of having a foreign parent vary with whether it is the father or the mother who is born abroad.² Some studies (Jasso and Rosenzweig,1990; Pagnini and Morgan,1990) define second generation immigrants as the offspring of foreign born mothers, irrespective of whether the father is native or foreign born. Other studies focus instead on whether the father is foreign born (Model, 1988). The selected definition is often dictated by the research topic. For instance, given the mother's role in the socialization of children, studies investigating cultural transmission focus on mother's nativity status; on the other hand, studies focusing on social mobility consider the father's nativity status.

Another source of heterogeneity for first and second generation immigrants is the country of origin, which affects directly or indirectly both their economic behaviour (for instance in terms of labour force participation) and their economic and social outcomes. Among others, Borjas (1992) suggests that the economic performance of immigrants' children is likely to depend not only on parental skills but also on the average human capital of their ethnic group ("ethnic capital"). Recently, several papers have paid attention to the characteristics of the country of origin for first generation immigrants and of the parents' country of origin for second generation immigrants (see for instance Dronkers and Fleischmann, 2010; Nekby and Rodin, 2007; Constant et al. 2009; Giannelli and Rapallini, 2015; van Ours and Veenman, 2010 and Dustmann et al. 2010).

When addressing the integration of immigrants, a relevant concept is citizenship. First and second generation immigrants are typically defined by considering their place of birth, but either group includes both people with citizenship in the host country and people who have maintained a foreign citizenship. Host country citizenship is important not only because it confers political and social rights but also because it affects the sense of membership and belonging (see Vink, (2013)).

First generation immigrants typically attain citizenship in the host country by naturalization, which requires significant periods of residence and additional "proofs" of belonging.³ Second generation immigrants become citizens either because of "*Ius sanguinis*" (descent from a citizen parent) or because of "*Ius soli*" (entitlement to citizenship by birth in the country). While the former is broadly recognized, the latter is applied by some countries in Europe (Belgium, France, Germany, Greece, Ireland, the

²Chiswick (1977) argues that since foreign born fathers are likely to be of higher ability and motivation than native men and ability and aspirations are transmitted from parents to children, having a foreign born father might be associated with higher earnings for second generation immigrants. On the other hand, if the knowledge of the host country's culture and language is more deeply influenced by mothers, having a foreign born mother may decrease the earnings potential.

³Residence-based naturalization varies significantly across Europe. There is heterogeneity both in terms of the length and type of residence required and in the presence and degree of additional requirements, such as proficiency in the language of the host country and knowledge of its history (see Bauböck et al., 2016).

Netherlands, Portugal and Spain) but not by others (for instance, Iceland, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Italy, Sweden and Turkey).

The combination of place of birth and citizenship suggests a classification of immigrants alternative to the classical “first and second generation”, which produces four different groups: foreign born and foreign citizen; foreign born and citizen; native born and foreign citizen; native born and citizen. In some circumstances, this definition is adopted when the information on the parents’ place of birth is not available, which precludes the use of the classical definition. For instance, Algan et al. (2010), define first generation immigrants for Germany as “individuals born outside of Germany who have either only foreign citizenship or who obtained German citizenship through naturalization”. Instead, second generation immigrants are defined as “individuals born in Germany who hold either only foreign citizenship or German citizenship that they obtained through naturalisation”.

In summary, the distinction between first and second generation immigrants is well established but overlooks important differences within each group, which include whether a single parent or both parents are foreign born, the gender of the foreign born parent, the attainment of citizenship and the age of immigration. While in the US citizenship is based on “*ius soli*” and, as a consequence, all second generation immigrants are citizens of the host country, in Europe, due to the different legislations adopted by the different countries, there is heterogeneity and second generation immigrants include both citizens and non-citizens. The implementation of finer definitions that incorporate these differences would require however that the necessary data are available, possibly on a comparative scale. In the next two sections of this report, we describe what statistical information on immigrants is currently available in national and European data.

2. What is Available in National and International Data

The study of the situation of immigrants and their descendants in Europe is hampered by the lack of adequate data. In fact, despite the increasing demand for data on the topic, in several European countries statistical information on important features such as age at arrival, country of birth, parental country of birth and acquisition of nationality is still not available. In addition, the data that are available are not easily comparable because of differences in national definitions. As a stark illustration of the current status, Algan et al. (2010) provide definitions of first and second generation immigrants that vary according to the data available in the countries they consider in their analysis.

Therefore, data availability dictates the classification of immigrants that can be adopted. In countries where only the information on place of birth and citizenship is available, it is possible to identify four

immigrant groups: 1) foreign-born foreigners, or immigrants born abroad without the citizenship of the country; 2) foreign-born nationals, or immigrants born abroad and having the citizenship of the country; 3) native-born foreigners, or persons born in the country without the citizenship of the country; 4) native-born nationals, or persons born in the country with the citizenship of the country (UNECE, (2006)).

When the information about parents refers to the acquisition of citizenship rather than to the place of birth, it is impossible to distinguish natives from second generation immigrants if the parents of the latter have acquired citizenship in the host country by the time of their offspring's birth. When countries collect data on both place of birth and citizenship of immigrants and on the place of birth of their parents, the following groups can be identified: native-born nationals with national background; native-born foreigners with national background; foreign-born nationals with national background; foreign-born foreigners with national background; native-born nationals with foreign background; native-born foreigners with foreign background; foreign-born nationals with foreign background; foreign-born foreigners with foreign background.

The United Nations Economic Commission for Europe (UNECE, (2006) and (2015)) has recently formulated a number of recommendations for the collection of population censuses and household surveys. These recommendations emphasize the growing importance of data on immigrants for European countries and suggest the collection of information on: country/place of birth; country of citizenship; residence abroad and year of arrival in the country; parental place of birth; reason for migration and knowledge of the host country language.

2.1. Population censuses

Population censuses are a key source of information on immigration and for the analysis of the social and economic outcomes of immigrants and their descendants. In many countries, census data provide information on the country of citizenship, country of birth and country of previous residence, that can be used to define immigrants and individuals with an immigrant background. In addition, census data provide information on a number of economic and social outcomes such as employment, education, and household composition.

However, most censuses in Europe collect information on place of birth and citizenship of the respondents but not of their parents, which precludes the identification of second generation immigrants. For instance, the UK census asks about the place of birth and since 1991 the ethnicity, but is silent on the place of birth of parents. Similarly, the French Census does not provide information on

the country of birth of parents. This information is available in Germany and Italy since 2005 and 2001 respectively.

2.2. Household sample surveys

Regularly scheduled household surveys, such as the Labour Force Survey (LFS) and General Household Survey (GHS), contain relevant information on individuals with an immigrant background, such as the country of birth, citizenship, citizenship at birth and the country of birth of parents. In some countries these surveys provide information also on the knowledge of the host country language, which can be particularly relevant as proficiency in the local language is key for both educational and labour market outcomes. The nature and detail of the information available, however, varies by country.

2.3. European migration data

Harmonised European data sources on immigrants and their economic and social situation include the European Labour Force Survey (EU-LFS) and the European Union Statistics on Income and Living Conditions (EU-SILC). The European Union Labour Force Survey is a large quarterly sample survey covering the resident population aged 15 and over in private households in the EU, EFTA (except Lichtenstein) and candidate countries.

The EU-LFS is an important source of information about the structure of and trends in the EU labour market. Most notably, it forms the basis for the monthly unemployment rate which is one of the key short term indicators. The EU-LFS provides detailed quarterly data on employment and unemployment broken down along many dimensions including age, gender and educational attainment. In this survey, households are asked about their country of birth and nationality. Country of birth is classified as a) national; b) another EU-27 country (since 2007); c) non EU-27 country. Nationality is classified as: a) national; b) citizen of another EU-27 country (since 2007); c) citizen of a non EU-27 country. Since the information on parental country of birth is missing, second generation immigrants cannot be identified in these data.

The EU Statistics on Income and Living Conditions is the main source for the compilation of statistics on income, social inclusion and living conditions. It provides comparable micro-data on income, poverty, social exclusion, housing, labour, education and health. In 2008, the EU-SILC was implemented in 31 countries — the 27 EU countries, Iceland, Norway, Switzerland and Turkey. As in

EU-LFS, households are asked about their country of birth and citizenship. Country of birth is the country of residence of the mother at the time of birth. Therefore, in this survey as well we cannot identify second generation immigrants.

In 2008, an ad hoc module established by Commission Regulation (EC) No 102/2007 was added to the EU-LFS regarding the labour market situation of migrants and their immediate descendants. In this module, eleven additional variables relating to this topic were collected. The module was carried out by all EU Member States as well as by Norway and Switzerland. The data that were collected within this module included the country of birth of the father and the mother, allowing the identification of second generation immigrants. The ad hoc module was repeated in 2014.

The LFS ad hoc module for 2014 refers to persons aged 15-64. The migration status distinguishes between nationals and immigrants, and between first and second generation immigrants. First generation immigrants are defined as persons who established their usual residence in another country than the one they were born, for a period that is – or is expected to be – at least 12 months. The usual residence means the place at which a person normally spend the daily period of rest, regardless of temporary absence for purposes of recreation, holidays, visits to friend and relatives, business, medical treatment or religious pilgrimage or, by default, the place of legal or registered residence. Second generation immigrants refer to two different groups of immediate descendants of immigrants. The first group, with a mixed background, is defined as persons who are born in the country of interview (native born) and who have one foreign born parent and one native-born parent. The second group, with a foreign background, is defined as persons who are native-born, with both parents being foreign born.

Table 1 shows the distribution of the population of natives and immigrants in EU-27. We distinguish between natives, first generation immigrants – or generation 1; second generation immigrants (or generation 2) – or native born with both parents being foreign born; and generation 2.5 immigrants – or native born with one parent being foreign born. Figure 1 shows the percentage of first generation immigrants in the population aged 15-64. Apart from small countries such as Luxembourg and Cyprus, this percentage is highest in Austria, Switzerland, Norway, Sweden and the UK. Figure 2 presents instead the percent of second generation immigrants, which is highest in Estonia, Latvia, Switzerland and France.

Table 1. Natives and immigrants (generations 1, 2 and 2.5) in EU-27. Age 15-64. 2014.

Country	Natives	Generation 2.5	Generation 2	Generation 1	Total
Belgium	5,244.1	456.9	344.8	1,201.4	7,247.2
Bulgaria	4,749.0	8.8	m	22.9	4,780.7
Czech Republic	6,493.8	257.5	66.2	243.9	7,061.4

Germany	41,539.6	1,173.7	1,745.0	8,378.5	52,836.8
Estonia	576.7	88.6	95.5	97.3	858.1
Greece	5,875.6	64.6	61.1	647.5	6,648.8
Spain	24,962.9	467.5	135.7	4,736.5	30,302.6
France	27,384.0	3,278.5	2,415.3	4,951.5	38,029.3
Croatia	2,250.8	196.0	95.6	277.9	2,820.3
Italy	33,226.4	814.1	139.5	5,002.1	39,182.1
Cyprus	423.1	17.4	1.4	130.0	571.9
Latvia	889.4	143.8	103.6	125.3	1,262.1
Lithuania	1,779.5	73.1	30.6	63.2	1,946.4
Luxembourg	119.0	28.6	31.7	182.8	362.1
Hungary	6,361.7	75.3	23.2	130.0	6,590.2
Malta	250.1	7.9	1.9	22.8	282.7
Austria	4,045.7	311.3	210.2	1,108.6	5,675.8
Poland	24,609.1	361.2	169.9	79.8	25,220.0
Portugal	5,862.6	212.7	41.7	620.4	6,737.4
Romania	13,419.3	m	m	12.4	13,431.7
Slovenia	1,099.1	89.6	59.2	151.5	1,399.4
Slovakia	3,748.8	63.3	9.7	30.5	3,852.3
Finland	3,211.9	57.6	7.7	191.1	3,468.3
Sweden	4,226.6	475.3	212.9	1,199.9	6,114.7
United Kingdom	29,392.0	2,082.4	1,712.4	6,905.5	40,092.3
Norway	2,613.3	108.2	32.3	593.5	3,347.3
Switzerland	2,805.2	502.5	372.0	1,759.1	5,438.8

Notes. M: missing or unreliable values

Figure 1. Share of first generation immigrants in the population aged 15 to 64. By country

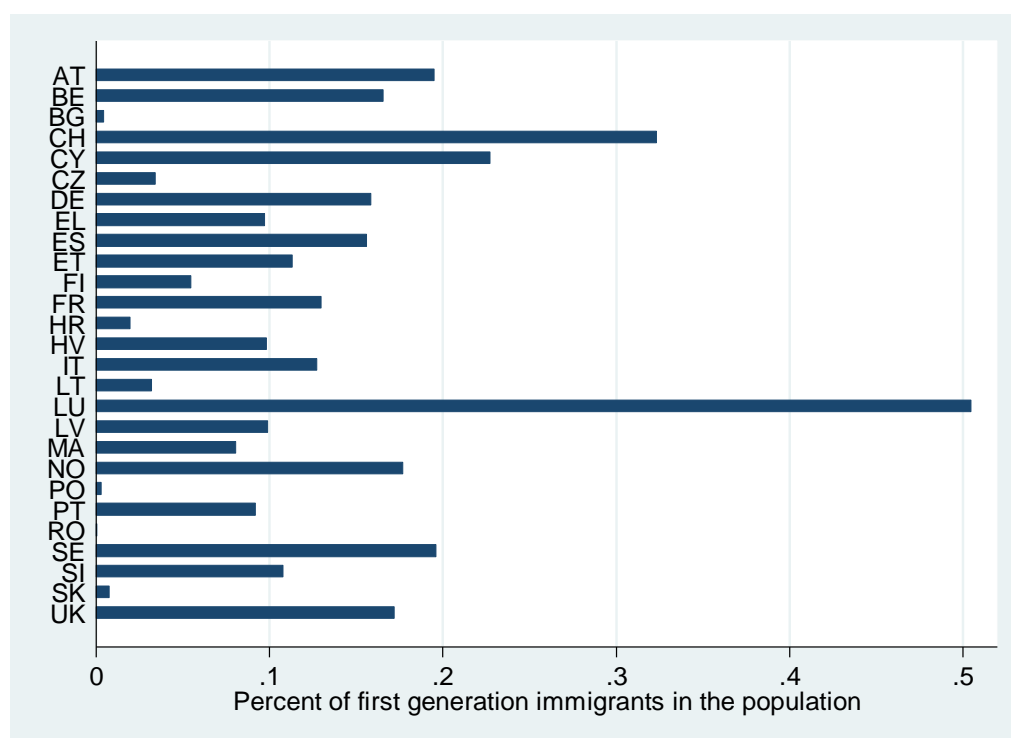
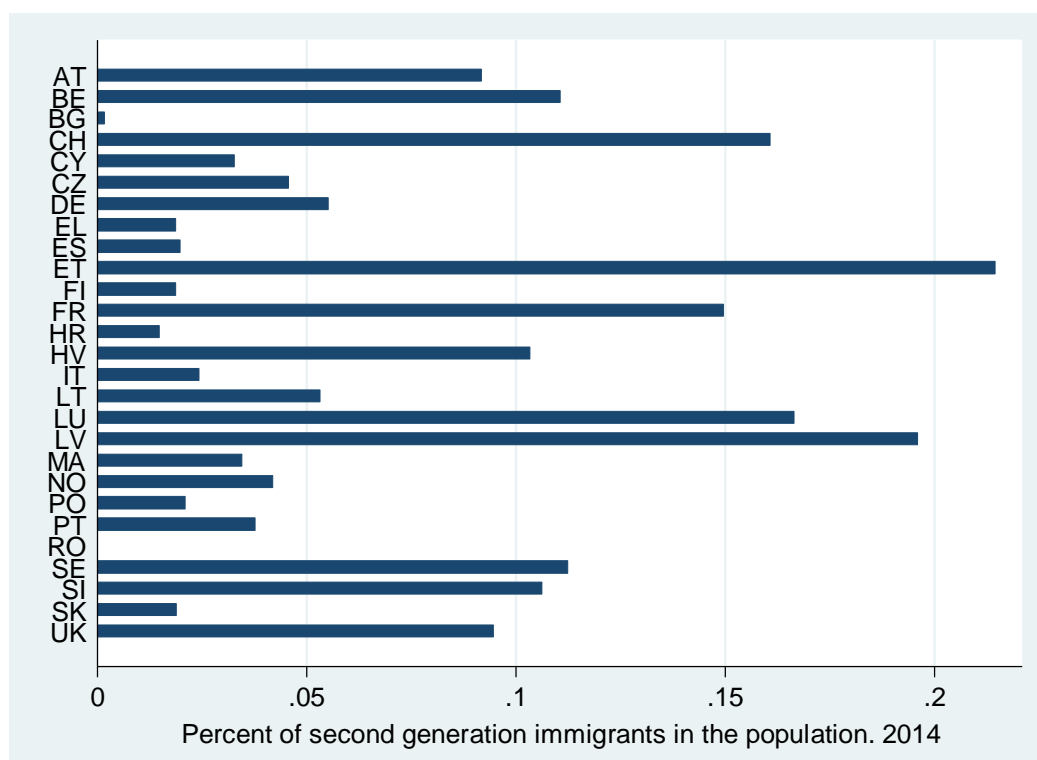


Figure 2. Share of second generation immigrants in the population aged 15 to 64. By country



The 2014 ad hoc module provides useful information on educational attainment and labour market status by generation of immigrants. Table 2 shows the percentage with tertiary education by country, and Table 3 illustrates the percentage employed in the overall population. On the one hand, Table 2 indicates that education attainment above upper secondary education is often higher among immigrants than among natives. On the other hand, Table 3 shows that aggregate employment rates of first generation immigrants are similar to those of natives. Unfortunately, these data do not contain information on earnings.

Table 2. Percent with tertiary education. By country and type. Both sexes and age 15 to 64.

Countries	Natives	First generation	Second generation	Generation 2.5
Belgium	35.4	30.2	19.6	28.4
Bulgaria	23.7	38.6	m	m
Czech Republic	19.3	25.8	13.1	14.9
Germany	24.1	21.0	9.3	18.6
Estonia	31.0	41.1	31.2	33.1
Greece	25.6	13.4	11.7	22.7
Spain	34.0	25.3	20.6	28.7
France	30.2	30.7	29.4	33.7

Croatia	19.3	16.3	18.1	18.5
Italy	15.5	11.7	3.8	17.9
Cyprus	36.2	36.8	48.6	30.0
Latvia	27.9	21.2	25.6	28.6
Lithuania	30.4	36.8	42.0	29.0
Luxembourg	30.3	50.1	19.1	24.7
Hungary	19.8	29.8	12.3	24.2
Malta	16.4	35.1	m	m
Austria	26.9	27.1	16.2	28.6
Poland	23.3	40.4	14.1	25.3
Portugal	18.3	27.2	23.8	24.3
Romania	14.2	m	m	m
Slovenia	26.6	14.0	25.4	30.5
Slovakia	17.9	22.7	25.8	18.8
Finland	35.4	28.8	m	23.8
Sweden	32.8	38.2	23.9	29.7
United Kingdom	32.1	45.3	39.3	37.1
Norway	37.1	38.7	27.0	44.1
Switzerland	33.7	36.8	24.4	34.0

Notes: m: information missing or unreliable.

Table 3. Percent employed. By country and type. Both sexes and age 15 to 64.

Country	First Generation			
	Native	generation	2	2.5
Belgium	65.5	53.9	46.8	53.9
Bulgaria	60.8	58.2	m	m
Czech Republic	69.1	70.7	60.3	66.7
Germany	75.8	67.7	56.2	68
Estonia	70.4	69.2	71.5	69.3
Greece	49.6	50.3	27.4	29
Spain	58.0	52.3	35.5	41.2
France	66.7	58.0	57.1	63.2
Croatia	56.8	52.0	46.1	39
Italy	55.7	59.1	16.4	43.2
Cyprus	61.4	68.6	m	37.8
Latvia	66.8	66.7	65.7	66.5
Lithuania	65.0	70.4	70.5	64
Luxembourg	63.2	71.4	54.3	60.3
Hungary	61.4	69.2	40.9	50.4
Malta	62.0	64.9	m	55.1
Austria	73.6	64.9	59.2	68.8
Poland	61.1	64.3	53.5	59.3
Portugal	63.0	66.8	49.7	43.4
Romania	61.3	m	m	m
Slovenia	65.2	60.6	61.8	63.1
Slovakia	60.7	63.9	72.9	57.7
Finland	69.3	63.6	m	58.6
Sweden	78.4	65.4	60.3	74.8
United Kingdom	74.3	69.3	68.5	70.7
Norway	77.0	69.1	62.4	75.7

Switzerland	83.1	76.5	76.1	76.6
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Notes: m: information missing or unreliable.

An additional important source of European – wide data is the PIAAC survey, an international survey conducted in 2011 in 24 countries as part of the Programme for the International Assessment of Adult Competencies. It measures the key cognitive and workplace skills needed for individuals to participate in society and for economies to prosper. The survey is implemented by interviewing a representative sample of adults aged 16 to 65 in their homes – 5,000 individuals in each participating country. It assesses literacy and numeracy skills and the ability to solve problems in technology-rich environments, and collects a broad range of information, including how skills are used at work and in other contexts, such as the home and the community, education, lifelong learning, training and earnings.

Since PIAAC includes information on the country of birth of the respondents and her mother and father, first and second generation immigrants (both 2 and 2.5) can be separately identified. In addition, PIAAC has a question on the age of immigration, which allows the identification of the generations 1.25, 1.5 and 1.75, defined in Section 1. Tables 4 and 5 show average numeracy and literacy test scores by immigrant status – first and second generation and those immigrated by age 15 - for the 19 countries for which data are publicly available.⁴ These measures of skills suggest that second generation immigrants perform generally better than first generation ones, and often better than natives.

Table 4. Numeracy test scores, by country and by immigrant status

Countries	natives	first generation immigrants	second generation immigrants	immigrated by age 15
Austria	284.6388	249.6733	261.9279	256.4951
Belgium	283.6846	241.4558	251.1722	258.6355
Canada	258.33	252.6373	276.7574	268.0863
Cyprus	263.6351	265.0301	289.9444	268.3676
Czech Republic	277.9193	257.2519	255.5594	244.0732
Estonia	277.4171	257.9486	266.3229	259.7697
Finland	286.9132	231.4535	242.3	263.45
France	263.1299	210.3956	250.2132	230.6192
Germany	281.1787	243.8631	269.4082	m
Ireland	256.568	261.618	274.2695	266.5811
Italy	252.6958	232.2996	249.3795	246.5475
Japan	289.5264	233.7161	310.7548	265.2747

⁴Data for Australia are not publicly available. Immigrant status as detailed in the table is not available in Denmark, Sweden, Russia and Slovakia.

Korea	263.0344	223.7104	243.9477	262.1476
Netherlands	286.3959	237.7775	270.7648	254.7171
Norway	287.9278	240.1076	253.4937	257.5937
Poland	265.0976	262.494	251.464	262.494
Spain	247.3466	216.0771	234.1941	236.7596
United Kingdom	262.9897	241.5028	251.9017	238.4263
United States	258.0099	232.2845	256.9398	243.14

Note: m: missing data

Table 5. Numeracy test scores, by country and by immigrant status

Countries	natives	first	second	immigrated by age 15
		generation immigrants	generation immigrants	
Austria	277.434	246.4716	258.9023	256.8833
Belgium	279.0507	226.4684	251.1971	258.2233
Canada	268.9258	253.6078	286.1886	275.3116
Cyprus	270.7432	262.8051	294.8227	262.9248
Czech Republic	277.2566	266.7623	261.6151	257.5432
Estonia	282.5634	252.0175	264.7643	257.8989
Finland	291.9978	227.4851	247.2156	270.5589
France	268.4258	215.4562	261.1442	242.676
Germany	279.4753	244.3972	265.9945	m
Ireland	268.619	264.5263	282.7494	276.7712
Italy	256.2649	227.2569	235.4362	244.245
Japan	297.4826	224.4888	317.8599	271.1427
Korea	272.6316	225.8311	246.401	270.2816
Netherlands	289.1995	237.2112	276.2633	262.0354
Norway	286.0349	243.4061	264.741	261.2911
Poland	274.1298		260.8008	291.8748
Spain	253.7353	217.4348	236.844	243.7941
United Kingdom	273.0641	259.1542	268.7901	254.7245
United States	275.7982	238.5262	276.7001	260.0457

Note: m: missing data

Hourly (or monthly) earnings are not available in the public PIAAC data for five European countries (Denmark, Austria, Germany, Slovakia and Sweden). The public data cover all the 17 European countries participating to the survey but Denmark, Sweden and Slovakia if one is prepared to consider wage deciles rather than levels, which are computed in PIAAC by dividing the original data into ten equally sized groups per country, based on the position in the earnings distribution. More detailed information on the earnings of immigrants is available from the EU-SILC survey, that has information on household income as well as on individual gross and net earnings. As discussed above, however, the

classification of immigrants available in that survey does not allow to identify second generation immigrants.

The PIAAC survey is very useful but has been carried out only once, although similar versions of the same survey were implemented in the mid - 1990s (the International Adult Literacy Survey, or IALS) and in the early 2000 (the Adult Literacy and Life-skills Survey, or ALL). The OECD has been implementing since 2000 on a regular basis – every three years – the Programme for International Student Assessment (PISA), which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. To date, students representing more than 70 economies – including European countries - have participated in the assessment. The most recently published results are from the assessment in 2012. Around 510,000 students in 65 economies took part in the PISA 2012 assessment of reading, mathematics and science representing about 28 million 15-year-olds globally. Of those economies, 44 took part in an assessment of creative problem solving and 18 in an assessment of financial literacy. As for PIAAC, PISA includes the necessary information to distinguish between first and second generation immigrants.

Additional international efforts to collect data on immigrants include the TIES project (<http://www.tiesproject.eu/>), which studies the topic of economic, social and educational integration of second generation immigrants. The main objective of this project is to create a European dataset of more than 10,000 respondents in fifteen European cities and eight countries. The focus is on descendants of immigrants from Turkey, ex-Yugoslavia and Morocco.⁵

Conclusions

The distinction between first and second generation immigrants is well established in economics but identifies two fairly heterogeneous groups, who differ in several aspects, including whether a single parent or both parents are foreign born, the gender of the foreign born parent, the attainment of citizenship and the age of immigration. In countries such as the US, second generation immigrants are also citizens. In many European countries, where *ius sanguinis* still prevails, “second generation” does not imply citizenship. The implementation of finer definitions that incorporate these differences is desirable but requires that the necessary data are available, possibly on a comparative scale. While national data often provide different information, which lead to country-specific definitions of immigrants and their descendants, international data are only starting to collect the relevant

⁵We also mention the European Union Minorities and Discrimination Survey (EU_MEDIS II), conducted in 2008 and 2015/16 on more than 20,000 immigrant and ethnic minority people, interviewed face-to-face in all 27 EU Member States.

information. Immigration is quickly becoming a very important issue in Europe, and in the future statistical information will be required not only on first and second generations, but also on third generations, who are born in the host country with at least one grand-parent born abroad.

References

- Algan, Y, Dustmann C., Glitz A. and Manning A. (2010), The economic situation of first and second-generation immigrants in France, Germany and the United Kingdom, *Economic Journal*, 120(542), F4–F30.
- Bauer P. and Riphahn, R. (2013), Institutional determinants of intergenerational education transmission — Comparing alternative mechanisms for natives and immigrants, *Labour Economics*, 25, pp. 110–122.
- Benassi F., Paluzzi E., Salleo C., Strozza S. (2015), Labour market integration of migratory generations: an exploratory analysis based on census data, mimeo.
- Borjas, J. (1992), Ethnic Capital and Intergenerational Mobility, *The Quarterly Journal of Economics*, Vol. 107 (1), pp.123-150.
- Borjas J. (1993), The Intergenerational Mobility of Immigrants, *Journal of Labor Economics*, Vol. 11, No. 1, Part 1: Essays in Honor of Jacob Mincer, pp. 113-135
- Carliner, G. (1980), Wages, Earnings, and Hours of First, Second and Third Generation American Males, *Economic Inquiry*, 18, pp. 87-102.
- Chiswick, B. and DebBurman N. (2004), Educational attainment: analysis by immigrant generation, *Economics of Education Review*, 23(4), pp. 361–79.
- Chiswick, B. (1977), Sons of Immigrants: Are They at an Earnings Disadvantage?, *American Economic Review. Papers and Proceeding* , 67, pp. 376-774.
- Cobb-Clark, D., Sinning, M., and Stillman, S. (2012). Migrant youths' educational achievement: the role of institutions. *Annals of the American Academy of Political and Social Science*, 643(1), pp.18-45.
- Constant AF, Gataullina L, Zimmermann K (2009), Ethnosing immigrants, *Journal of Economic Behavior and Organization*, 69(3), pp. 274–287
- Dustmann C., Frattini T., Theodoropoulos N. (2010), Ethnicity and second generation immigrants in Britain, CReAM Discussion Paper No 04/10, University College London.
- Dustmann C., Frattini T., Lanzara G. (2012), Educational achievement of second-generation immigrants: an international comparison, *Economic Policy*, pp. 143–185.
- Dustmann, C. and Glitz A. (2011), Migration and education, in Hanushek, E., Machin S. and Woessmann L. (eds.), *Handbook of the Economics of Education* (vol. 4, ch. 4), North-Holland, Amsterdam.
- Dronkers J, de Heus, M. (2012) - The educational performance of children of immigrants in sixteen OECD countries, CReAM Discussion Paper No 10/12, University College London

- Eurostat (2011) *Migrants in Europe: A statistical portrait of the first and second generation*, Luxembourg.
- Fleischmann F, Dronkers J. (2010), Unemployment among immigrants in European labour markets: an analysis of origin and destination effects, *Work, Employment & Society*, 24(2), pp. 337–354
- Giannelli, G. and Rapallini, C. (2015), Immigrant Student Performance in Math: Does It Matter Where You Come From?, IZA Discussion Papers 9019, Institute for the Study of Labor (IZA).
- Lüdemann L. and Schwerdt G. (2013), Migration background and educational tracking Is there a double disadvantage for second-generation immigrants? *Journal of Population Economics*, 26, pp. 455–481.
- Jasso, G and Rosenzweig M. (1990), *The New Chosen People: Immigrants in the United States*, Russel Sage Foundation, New York.
- Model, S. (1988), Italian and Jewish Intergenerational Mobility in 1910 in New York. *Social Science History*, 12, pp. 31-48.
- Ohinata, A. and van Ours J. (2013). How immigrant children affect the academic achievement of native Dutch children. *The Economic Journal*, 123, F308-F331.
- Oropesa R. S. and Landale N. (1997), In Search of the New Second Generation: Alternative Strategies for Identifying Second Generation Children and Understanding Their Acquisition of English, *Sociological Perspectives*, 40(3), pp.429-455.
- Nekby L. and Rödin M. (2010), Acculturation identity and employment among second and middle generation immigrants, *Journal of Economic Psychology*, 31(1), pp. 35–50.
- Pagnini D., Morgan S. (1990), Inter-marriage and social distance among US immigrants at the turn of the century, *American Journal of Sociology*. 96(2), pp. 405-432.
- Schneeweis N. (2015), Immigrant concentration in schools: Consequences for native and migrant students, *Labour Economics*, 35, pp.53-76.
- UNECE (2006), Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing, New York and Geneva, United Nations.
- UNECE (2010) *Guidelines for Exchanging Data to Improve Emigration Statistics*, Geneva.
- Van Ours, J. and Veenman J. (2003), The educational attainment of second-generation immigrants in The Netherlands, *Journal of Population Economics*, 16(4), pp. 739–53.
- Vink M. (2013), Immigrant Integration and Access to Citizenship in the European Union: The Role of Origin Countries, INTERACT Research Report 2013/05