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## Trajectories of Integration

### Naturalization, Intermarriage and Education in Denmark, 1980-2015

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An aerial photograph of a person walking on a dark asphalt road. The road is marked with numerous white, wavy, parallel lines that curve across the frame, creating a sense of movement and direction. The person is wearing a blue and black patterned shirt, blue pants, and a backpack, and is walking away from the camera.

# Trajectories of Integration

Naturalization, Intermarriage and Education in  
Denmark, 1980-2015

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ANNA TEGUNIMATAKA

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# Trajectories of Integration

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The incomplete integration of immigrants poses challenges to society, and understanding immigrants' different trajectories in this respect is crucial. In this dissertation, certain effects of policy and family related factors on socio-economic outcomes of first and second generation immigrants in Denmark is studied. The association between family composition and socio-economic outcomes of the individual is in this thesis examined by studying the effects of intermarriage. Comparably high intermarriage premiums are found for immigrants who experience limited possibilities in the Danish labor market. Positive effects of intermarriage are also found when comparing the educational performance of children of intermarriage to the educational performance of children with two foreign born parents, also when taking school and family level characteristics into account.

Policy and legislation constitute other factors that can either stimulate or hinder immigrant integration. Rules and regulations concerning naturalization is one such policy area. Consistent naturalization premiums are found in this dissertation, but only for immigrants who are more marginalized in the Danish labor market. Also education policies matter. The removal of supplementary mother-tongue education led to lower grades in Danish, supporting the argument that mother-tongue proficiency matters for second language acquisition.

Common findings in all studies included in this dissertation are the large group differences in terms of results. For immigrants who originate from countries that are more culturally and geographically proximate to Denmark, naturalization and intermarriage are less important as integration tools. Instead groups with more distant countries of origin are benefiting from intermarriage and naturalization.

# Trajectories of Integration

Naturalization, Intermarriage and Education in  
Denmark, 1980-2015

Anna Tegunimataka



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DOCTORAL DISSERTATION

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Lund, April 2017

Anna Tegunimataka

# List of papers

- I Helgertz, Jonas, Bevelander, Pieter, & Tegunimataka, Anna (2014) Naturalization and earnings: A Denmark-Sweden comparison. *European Journal of Population*, 30, 337-359.
- II Elwert, Annika, & Tegunimataka, Anna (2016) Cohabitation premiums in Denmark: income effects in immigrant-native partnerships. *European Sociological Review*, 32(3), 383-402.
- III Tegunimataka, Anna (2017) The intergenerational effects of intermarriage. *Unpublished manuscript*.
- IV Tegunimataka, Anna (2017) Does Mother-Tongue Education Matter for School Achievements? Evidence from Denmark. *Unpublished manuscript*.



# Introduction

## Motivation, contribution and aim

Immigration has reshaped societies of Western Europe for decades and will continue to do so for decades to come. This imposes a challenge to immigrant receiving countries, and also to the foreign born and their children in their quest of becoming socially and economically integrated into their new country of residence. Immigrant integration has both economic and socio-cultural dimensions, and is a complex process that continues throughout the life course and across generations (Waters & Gerstein, 2015: p.19). The participation of the foreign born and their descendants in important societal institutions such as the labor market or in education has been deemed vital for individuals in order to “function as self-realized citizens” (OECD 2015) as it is linked to a variety of outcomes, such as living standards, health, income, and education (Alba, Reitz, & Simon, 2012).

A common way of assessing the integration of first- and second generation immigrants is to study their socio-economic outcomes in terms of educational achievement, unemployment, and labor force participation. Some immigrant groups are, even many years after settlement, disadvantaged compared to natives<sup>1</sup>. This is traditionally explained by individual level characteristics such as human capital, age at arrival, and language proficiency, or labor market related factors such as business cycles (Borjas, 1985; Baker & Benjamin, 1994; Chiswick, 1978). The breadth of factors influencing immigrant integration illustrates the need for a multidimensional perspective, taking individual and family related factors, as well as contextual factors of the receiving country into account. Families are important as they influence socialization, transmit culture, language, norms, and behavior, and provide important social networks for the individual, while contextual factors, such as policies and legislation of receiving country governments, matter as they can be regarded as significant instruments in the integration process of the individual.

Research on immigrant integration has recently been expanded by an increasing interest in family related factors such as marriage and parental composition and their effect on immigrant integration (Meng & Gregory, 2005; Furtado &

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<sup>1</sup> Native born with two native born parents

Theodoropoulos, 2010; Kalmijn, 2015). One potential engine of integration is represented by intermarriage between immigrants and natives, which not only can be seen as an indication of eroding social boundaries between majority and minority groups, but has, furthermore, been deemed important for the individual, as the spillover of knowledge and assets between spouses may be important in terms of integration. Native spouses provide access to native networks, help with language development, and possess knowledge concerning norms and customs, all of which are valuable assets for the immigrant spouse in the labor market. The positive effects of intermarriage may, moreover, be intergenerational, affecting socio-economic outcomes of the children of intermarriage. Compared to children of two foreign born parents, children of intermarriage can reap the benefits of having a native parent through access to a range of country specific resources.

Country of origin differences in terms of the socio-economic outcomes of immigrants are well established in the migration literature, but less is known about how different instruments, with the potential of improving the integration process, works for different groups. Important instruments of integration include the legislation of receiving governments, such as the citizenship legislation or different integration policies. The importance for labor market outcomes may furthermore differ according to immigrant origin. Increasing distance between the immigrant group and the majority population in terms of appearance, class, language, culture, norms, and values, leads to slower integration due to a less positive reception into the society (Portes & Rumbaut, 2001). For certain immigrant groups, particularly those facing discrimination in the labor market, acquiring the receiving country citizenship may work as an important signaling device for potential employers, interpreted as a symbol of commitment to the receiving country. Similarly, policies with the aim of enhancing immigrant integration may work differently, depending on the country of origin of the immigrant.

The overarching aim of this thesis is to study immigrant integration through both a family and policy perspective, with a focus on Denmark. This is done in four papers, examining longitudinal register data from 1980 until 2015, all individually contributing to our understanding of immigrant integration in a contemporary European setting, while at the same time shedding light on four specific research questions. The family dimension is represented by studying the socio-economic outcomes of intermarriage, both for the first generation immigrant's income attainment and for the second generation immigrant's educational attainment. The policy dimension is taken into account by studying the educational effects of a school reform specifically aimed at first- and second generation immigrants, as well as examining the outcomes of citizenship acquisition in terms of income attainment for first generation immigrants.



The motivation for studying the integration of immigrants in Denmark is twofold. First, Denmark has a relatively recent history of migration, but has, at the same time, a very heterogeneous immigrant population. The relatively fast demographic transformation of an ethnically homogenous Nordic welfare state makes Denmark an interesting case to study. Second, Denmark has been the scene of major changes implemented in the area of integration policy, of which the consequences are not yet fully understood. Similar to other welfare states, first generation immigrants and their children also experience a socio-economic disadvantage in Denmark. Foreign born individuals have higher risks of unemployment and are more dependent on welfare benefits, and immigrant-native wage gaps are found for both men and women (Statistics Denmark, 2015; Büchel & Frick, 2005). The disadvantage persists for the second generation of immigrants, which has higher dropout rates in school and lower grades compared to their native peers. Taking multiple dimensions of integration into consideration, this thesis represents an important contribution to the existing migration literature in general, and to the Danish migration literature in particular.

## **Outline**

The first study in this thesis is concerned with the effects of naturalization for first generation immigrants, comparing Denmark and Sweden. Naturalization has been regarded as an important steppingstone for immigrants' social and economic integration, thereby affecting several aspects of an immigrant's and second generation immigrant's life. This paper studies the individual level effects of naturalization, with the aim of detecting a naturalization premium; thus, a difference in income attainment between immigrants that obtain a host country citizenship and those who do not, that can be interpreted in causal terms. The importance of naturalization may, moreover, matter to a different extent for different immigrant groups, and for that reason, this paper takes origin differences of the immigrant population into consideration. The comparative nature of the paper, comparing Denmark and Sweden, is motivated by legislative differences that could potentially result in different outcomes in the two countries.

Individual level income attainment may also be affected by interethnic partnerships (Meng & Gregory, 2005; Furtado & Theodoropoulos, 2010; Dribe & Nystedt, 2015). Intermarriage has the potential to enhance immigrant integration in general and to affect individual level outcomes in particular. Income effects can indeed be explained by positive selection, but can also be the result of spillover effects between partners. The aim of the second paper is in line with the aim of the first, being to detect whether a causal effect of cohabitation/intermarriage on the immigrant's income exists. This paper uses panel data methods in order to disentangle the two and to detect a direct income effect of intermarriage. The paper

also separates the analysis according to region of origin, in order to see differences in intermarriage premiums.

The third aspect of immigrant integration brought forward in this dissertation focuses on children with intermarried parents, and the central question is whether their educational outcomes are more in line with native Danes or if their performance lies closer to that of second-generation immigrants. Previous research has found that children with intermarried parents have better educational outcomes compared to foreign-born children and children belonging to second generation immigrants (Chiswick & DebBurman, 2004; Ramakrishnan, 2004; van Ours & Veenman, 2010), while they perform slightly worse than their native peers (Kalmijn, 2015). Studying educational outcomes of children from intermarriage is important since it says something about the long-term consequences of both intermarriage and immigration. The heterogeneous character of the immigrant group in Denmark is once again explored as different origins of the non-native parents are taken into account.

The final study focuses on first- and second generation immigrants' educational performance, through the examination of the effects of a Danish schooling reform. The question of whether mother-tongue training should be offered to children with an immigrant background was heavily debated during the Danish election of 2001 and led to a policy change (in 2002) where municipalities had the right to decide whether to continue providing supplementary mother-tongue education for children originating from countries outside the EU and EES. The financial support from the government for providing this form of education was, however, eliminated. The paper explores municipal variation in the implementation of the reform and asks if the removal of supplementary mother-tongue education has a negative or positive impact on children's performance in the Danish language and in mathematics.

## **List of contribution: co-authored papers**

- I Paper 1 is co-authored with two colleagues (Jonas Helgertz, Lund University and Pieter Bevelander, Malmö University). The analysis of Denmark has been made exclusively by the author of this dissertation.
- II. Paper 2 is co-authored with one colleague (Annika Elwert, Lund University). The contribution to the paper of the co-author is 50 percent.

# Theory and previous research

## **Immigrant integration and assimilation**

A common theoretical point of departure in migration research is the concept of integration. It is often used to describe the changes that individuals and societies undergo as a response to migration (Waters & Gerstein, 2015: p.19). It is a process that depends on the incorporation of immigrants and their descendants in vital societal institutions and relies on the acceptance of migrants by the majority group. Another term widely used in migration literature describing the process of inclusion of immigrants into host country societies is assimilation. While assimilation in contemporary literature is often used as a synonym for integration (Waters & Gerstein, 2015: p.19), it traditionally describes a process through which immigrants adjust to the majority group (or native population) by giving up their own cultural traits (Brown & Bean, 2006). The concept of assimilation dates back to the Chicago school, established during the 1920s, and views assimilation as a straight line process where immigrants' behavior will change over time, and eventually become indistinct from natives (Schunck, 2014). This implies that foreign born individuals that have spent a longer time in the host country as well as subsequent generations of immigrants are more similar to natives (Brown & Bean, 2006). This theoretical model was heavily influenced by the experience of the early European immigrants to America; the early versions of the assimilationist framework has, since then, been broadly contested and accused of being "Anglo-conformist," in that immigrants should adapt to a non-changing white protestant middle class. Early alternatives to the assimilationist view were published in the 1960s through the influential work by Glazer and Moynihan (1970). Here the "Melting Pot" concept was introduced, which meant that a heterogeneous population would, in time, become more homogenous. But while immigrants assimilated, they would also keep particularities from their country of origin and their culture.

More recent developments of the assimilationist framework in a US context have been developed along these lines and have been suggested by Alba and Nee (2003). Their alternative framework involves a changing majority population, as well as an incorporation of minority culture into the majority group. This would primarily mean reducing differences between immigrants and the native majority in areas such as residence, political participation and representation, income attainment, and labor market participation (Waters & Gerstein, 2015).

In the European literature, the concept of assimilation are used somewhat differently (Schneider & Crul, 2010), where much focus has been on country differences in policy approaches toward immigrant integration. While more recent American assimilation theories imply both a changing majority and minority group, the

European debate, rather, views immigrant assimilation in contrast to multiculturalism (Rodríguez-García, 2010). The European understanding of assimilation is based on the view that true equality between groups can only be achieved by the full adjustment of minorities to majority rules, customs, and culture. France is often brought up as an example where immigrants (mainly from the former colonies) are supposed to adjust to French values and lifestyle (de Palo, Faini & Venturini, 2006). The opposite of this view is referred to as the multicultural or pluralist approach, based on “acknowledgement and protection of cultural diversity” (Rodríguez-García, 2010: p.254).

A number of scholars argue that the assimilation process looks different for different groups. Portes and Zhou (1993) and Portes and Rumbaut (2001) argue that rapid assimilation into the society is only one possibility, and that immigrants rather go through a process of segmented assimilation. This is because “immigrants, even those of the same nationality, are frequently divided by social class, the timing of their arrival and generation. Depending on the timing of their arrival and context of reception, immigrants can find themselves confronting diametrically different situations, and hence the course of their assimilation can lead to a number of different outcomes” (Portes & Rumbaut, 2001: p.45). They further argue that immigrants differ according to three important dimensions that decide the likelihood of incorporation of immigrants into host societies. The first dimension is related to individual features that matter for integration such as age, education, language proficiency, and experience. For example, immigrants with higher education or possessing occupational skills are more likely to succeed in the new country, even if they lack country specific skills upon arrival. The second dimension is about the social environment of the receiving country, which is deemed significant for the successful incorporation of immigrants. Receiving governments can decide upon legislation and policies that may or may not ease the integration for individual immigrants. Also, the social reception by the majority group is suggested as an important aspect to take into consideration. The further the distance between the immigrant group and the majority population in terms of appearance, class, language, culture, norms, and values, the slower the integration process and reception into the host society. The immigrant community also plays an important role and, in cases where a large co-ethnic community exists, the community can help immigrants find a job and be of assistance in the first years of settlement, which might have an important influence on the future socio-economic mobility of the immigrants (Portes & Rumbaut, 2001). The relative size of the co-ethnic group might also have negative effects on the process of integration. According to van Tubergen and Kalmijn (2005), “the larger the immigrant group, the more likely day-to-day interactions will happen within the group, and the less likely day-to-day interactions will happen with the receiving group. Immigrants from larger groups are therefore less exposed to the destination language and will be less likely to learn

the second language” (van Tubergen & Kalmijn, 2005: p.1421). The final dimension of importance brought forward by Portes and Rumbaut (2001) is the family structure, which matters for immigrants in that it reinforces cultural norms, as well as provides networks and other forms of spillovers.

### **Traditional explanations for the immigrant disadvantage**

The economic assimilation of immigrants has been a major focus in the (economic) migration literature. Chiswick (1978) followed the earnings of newly arrived immigrants over time and found that immigrants have lower earnings than natives in the early years following migration, due to depreciation of the value of human capital acquired in the country of origin. With time, there is a catch-up as a result of human capital increases and the acquisition of country specific skills, and the earnings of immigrants may then even surpass the earnings of natives. This is explained by immigrants’ incentives to acquire human capital specific to the host country labor market as well as the positive self-selection of immigrants. This view was, however, questioned by Borjas (1992) who argued that immigrants originate from different waves of migration and from a variety of countries, which would explain differences in outcomes. For example, certain immigrant groups may be less productive and have less of an earnings potential than other immigrants.

In many Western European countries, there are substantial employment and earnings gaps between natives and foreign born, and this gap has become larger during the last few decades (although receiving country differences exist (OECD, 2015)). The majority of studies are made studying first generation immigrants, and a lower level of human capital among certain groups of immigrants is a common explanation for both the immigrant-native gap, as well as the gaps found between different countries of origin (Constant & Zimmermann, 2005). Another common explanation for the employment gap between foreign born and natives is the changing organizational structure of the European labor markets, now demanding more communicative and country specific skills than they had earlier (Lundh & Ohlsson, 1999; Scott 1999; Rosholm, Scott & Husted, 2006). Furthermore, the labor demand is affected by macro-economic conditions, and immigrants are, to a greater extent than natives, employed in sectors sensitive to cyclical fluctuations in the economy and they are thus more likely to lose their job during an economic downturn (Chiswick, Cohen & Zach, 1997; Barth, Bratsberg & Raalum, 2004; Åslund & Rooth, 2007). A previous study by Dustmann and colleagues found foreign borns’ employment to be more sensitive to economic downturns compared to natives in the UK and Germany (2010). The economic crisis of 2008 resulted in increasing unemployment levels in Denmark, with immigrants from non-Western countries losing their jobs to a greater extent than natives (Statistics Denmark, 2015).

The disadvantage experienced by the foreign born in the labor market may also be explained by preference or statistical discrimination, and information asymmetries. This is the case if the employer has certain preferences manifested in their hiring behavior. Also, if the employer is uncertain about the potential productivity of a future (immigrant) employee they might prefer another candidate (Phelps, 1972). Several studies on European contexts have found evidence of both discrimination and information asymmetries in the labor market (Zschirnt & Ruedin, 2015; Carlsson & Rooth, 2007).

The main cause for migration is another important factor possibly explaining the unfavorable position of foreign born in the labor market. Individuals that are forced to leave their home countries due to war or political instability are often less likely to adapt to the new country and are often less favorably selected for the labor market than economic migrants (Levels & Dronkers, 2008).

Whether the unfavorable position of the first generation immigrants remains for their children, the second generation, has been considered by studying labor market outcomes as well as school results. The second generation is a very diverse group that differs in several fundamental dimensions (Portes & Rumbaut, 2001). The importance of micro-level factors, such as socio-economic origin, parental or individual human capital, or household income when analyzing the labor market performance and educational attainment of the second generation is well known (see for example, Chiswick, 1977). The parental country of origin, associated with different economic, political, and cultural properties, also plays an important role in determining the outcomes of the child (Hammarstedt & Palme, 2012; Rooth & Ekberg, 2003; Levels, Dronkers & Kraaykamp, 2008; Nielsen, Rosholm, Smith & Husted, 2001). The average human capital level of the ethnic group, sometimes labeled “ethnic capital” and proposed by Borjas (1992), has also been shown to have an impact on the performance of the second generation. He argues, “The skills of the next generation depend not only on parental inputs, but also on the average quality of the ethnic environment in which parents make their investments” (Borjas, 1992: p.124). The empirical evidence reveals that the skills of today’s generation depend not only on the skills of their parents, but also on the average skills of the ethnic group in the parents’ generation. This could, for example, mean that belonging to an ethnic group with generally strong human capital would affect the educational and labor market outcome in a positive way.

### **Bringing family and policy into the study of immigrant integration**

The traditional explanations of the immigrant disadvantage across Western countries serve as an important point of departure when studying immigrant integration. The complexity of the integration process, however, calls for further



analysis including a policy and family dimension, and a stronger emphasis on causality.

Intermarriage may be regarded as an important steppingstone towards full integration for the individual, and marriage between different ethnic groups is, furthermore, a sign of acceptance and equality between the groups (Kalmijn, 2010). Although most people still choose to marry someone from their own ethnic group, intermarriage is rising in both in the United States (Qian & Lichter, 2007) and in Western Europe (Nottmeyer, 2009). The likelihood of entering a mixed marriage is dependent on several social, cultural, and economic factors (Kalmijn, 2015). The share of individuals of the opposite sex belonging to the same ethnic group (the ethnic gender ratio) is an important factor deciding the prevalence of intermarriage. If the availability of potential spouses from the co-ethnic group is low, the likelihood of intermarriage will be higher (Nottmeyer, 2015). Intermarriage is also more likely the longer the immigrant has been in the country and more likely for second generation immigrants than for the first generation (van Tubergen & Kalmijn, 2006). An important finding in the literature on intermarriage is that immigrants with higher education and socio-economic status are more likely to marry natives (Qian & Lichter, 2007; Van Tubergen & Maas 2007). An American study by Chiswick and Houseworth (2011) showed that positive assortative matching by education<sup>2</sup> is more common for intermarried immigrants. Better education is, moreover, often related to second language (host-country language) proficiency, which may be an important link to interaction with natives (Nottmeyer, 2015). There are, however, not only differences in the likelihood of intermarriage, depending on educational status, but also differences that depend on culture and country of origin. Large cultural differences decrease the likelihood of intermarriage, and immigrants from certain countries or ethnicities are less likely than others to marry natives. Along these lines, Dribe and Lundh (2008) found that Western and Nordic immigrants in Sweden had a higher probability of intermarriage than other immigrants.

There are a number of potential outcomes associated with intermarriage. Traditional studies of marriage have found a positive association between marital status and income (see for example Kenny, 1983; Nakosteen & Zimmer, 1987). This can be explained both by a higher probability of more able and productive individuals to marry (positive selection into marriage) but there could also be causal effects of marriage on income through, for example, household specialization, which means that married men can fully specialize in work, making them more productive than single men (Becker, 1985). Spousal human capital spillover is, moreover, put forward as an alternative explanation for the causal effect on marriage on income. In the case of intermarriage, positive selection based on observed characteristics

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<sup>2</sup> Both spouses have a similar educational level.

such as educational level, and unobserved characteristics such as openness to majority culture or ambition is a possible (or even very likely) explanation to why immigrants married to natives are more successful than other immigrants in terms of income and labor market integration (see for example Dribe & Lundh, 2008). However, it is likely that spousal spillover also matters a great deal in intermarriage. A native spouse can provide knowledge regarding host country institutions and labor markets, which will facilitate job seeking. Knowledge about customs and norms may also be helpful for successful outcomes in the labor market (Nottmeyer, 2015; Furtado & Theodoropoulos, 2010) and a native spouse can also share social networks that may lead to employment opportunities, as well as supporting language acquisition and communication skills important for networking and socialization at the workplace.

Spousal spillover might matter to a higher or lesser extent depending on the country of origin of the non-native spouse. Immigrants that fall behind natives on the European labor markets, normally those of more dissimilar origin in terms of culture, may benefit the most from intermarriage. Through their native spouses they gain access to native networks, of significant importance for labor market integration. Access to native networks is often more of a challenge for groups of more distant cultural and geographic origin than for groups of a more proximate origin. Moreover, the aforementioned increasing importance of country specific skills has by many been put forward as an important explanation for the deteriorating labor market situation for non-Western immigrants in Western Europe (see for example Rosholm et al, 2006). Country specific spillovers from a native spouse would in this regard be positively associated with labor market outcomes for these groups in particular.

Intermarriage is, furthermore, related to labor market signaling, where marriage to a native may be interpreted by employers as a positive sign of determination and commitment as well as closeness to the majority group. This may be important in particular for groups that often face discrimination in the labor market.

Other outcomes of intermarriage are not necessarily equally positive. There is a higher level of conflict in intermarriages (Zhang & van Hook, 2009; Heaton, 2002), and a study of Sweden showed that intermarriages have higher risks of marriage dissolution than marriages between individuals of the same ethnic background (Dribe & Lundh, 2012). The authors also confirm the value dissimilarity hypothesis: that the risk of union dissolution increases with value context dissimilarities between partners. In addition, parents (and other relatives) influence choices as shown by De Valk & Liefbroer, (2007) and there may be a higher likelihood of them being opposed to the relationship if there is a great cultural and geographical distance between the spouses. This has the potential of influencing the spouses' behavior.

Long-term consequences of intermarriage are to be found studying the outcomes of children with intermarried parents. Children with mixed parenthood (sometimes referred to as the 2.5 generation) are less likely to strongly identify with any particular group (Kalmijn, 2015) and thus, there is a potential of reducing prejudice and strong group identities in generations to come. Through the children, intermarriage connects families and social networks and leads to more ethnic contacts. Compared to immigrant children, children of intermarriage will have values and adhere to norms closer to the majority group and will, at large, reap the “benefits” of having a parent belonging to the majority. Nevertheless, intermarriage can be more complex, and negative outcomes such as parental conflict and separation may lead to negative outcomes for the children (Bernardi & Radl, 2014). This is related to a loss of financial resources, emotional stress of parents and children, as well as changing parenting practices. In addition to this, children of intermarriage might be viewed as belonging to the minority by the majority group. In American literature this is referred to as the *one drop rule* and applies to children of interracial couples (mainly black/white). Biracial children might then be subject to the same stigma as children belonging to the minority group (Kalmijn, 2015) and thus, the outcomes of children with intermarried parents are more in line with the outcomes of children of the minority group. Children of intermarriage may also be affected by conflict and pressure from relatives and extended family members expecting loyalty to the particular ethnic group (Kalmijn, 2015), which may lead children of intermarriage to face “a more complex set of options than the children who have two immigrant parents” (Kalmijn, 2015: p.248).

There is a rather limited number of studies available focusing on children with intermarried parents and most studies are concerned with issues regarding identity, while very few focus on socio-economic outcomes. One exception to this is a study of four European countries (England, Germany, Sweden, and the Netherlands) by Kalmijn (2015) that studies three outcomes: school achievement, social contacts, and cultural values. The study shows a significant effect of intermarriage on child outcomes. Children with intermarried parents are different from children with two immigrant parents in many aspects. They are less religious, have more social contacts with natives, and have higher language proficiency. However, Kalmijn (2015) also finds differences according to country of residence. Children of intermarriage are closer to second generation immigrants in cultural outcomes in England and Germany, while they are halfway between second generation immigrants and natives in Sweden and in the Netherlands in all three aspects studied. Another study on socio-economic outcomes for children of intermarriage was conducted by analyzing data from the Netherlands. Van Ours and Veenman (2010) presented results from a natural experiment, studying children of Moluccan immigrants and found that children with native mothers have higher educational

attainment than children with native fathers and children with two Moluccan parents.

Educational outcomes of immigrant children are not only affected by parental composition and socio-economic background. Educational systems and policies may work as instruments of enhancing integration and affecting outcomes. The fourth paper of this dissertation studies the effect of mother-tongue education on grades for immigrant children. Majority language proficiency is an important part of the country specific set of skills that has become increasingly important for successful integration due to a higher demand in the labor market. Whether mother-tongue education matters for second language acquisition has been heavily debated among scholars for decades, and to simplify, two main arguments dominate the debate. The first view is proposing the “separate development hypothesis,” arguing that the same cognitive skills enable learning of both the first and the second language. In this view, the learning of the second language is independent of the level of knowledge in the mother tongue, since according to this view, languages develop distinctly from other languages (Ball, 2010). In contrast to this view is the “interdependence hypothesis” suggests that first language knowledge can be positively transferred to the second language and that a high level of first language proficiency is beneficial when acquiring a second language (Cummins, 1991).

There are very few studies that conclusively support any of the aforementioned hypotheses. Studies that, to some extent, supported the interdependence hypothesis were published by Hill (1995) and Thomas and Collier (see for example Thomas & Collier, 1997). Hill (1995) conducted detailed interviews with 42 high school students in Sweden and found a positive association between grades in the majority language as well as in mathematics, and partaking in mother-tongue education provided in the school. Thomas and Collier (1997) showed a positive association between mother-tongue education and majority language proficiency. Controlling for socioeconomic differences, they suggested that children receiving supplementary mother-tongue education in parallel to majority language education performed better than students who only received education in the majority language.

A number of meta-studies on the effectiveness of bilingual education have been conducted in the USA, and the main conclusion is that bilingual education in general has a small but positive effect on achievement in English as a majority language (see, for example, Rolstad, 2005; or Relji et al. (2015) for a summary of previous metastudies). In a European context, very few studies have been conducted and there is a large variation in terms of sample, methods, and outcomes measured. In their meta-study, Relji et al (2015) concluded that, although limited in number, European studies suggest very similar overall results as the American ones; that bilingual

education for minority students has a positive but small effect on educational outcomes.

Another important policy instrument is naturalization. Acquiring host country citizenship may be regarded as the final step of an assimilation process, but can also be regarded as an important means of enhancing integration. Previous studies regarding income effects of naturalization have shown that immigrants with host country citizenship tend to perform better in terms of income, and while this can be explained by positive selection (more successful individuals in terms of income attainment disproportionately choose to naturalize), naturalization has the potential to causally impact immigrants' labor market outcomes and income in several ways. First, it may make jobs reserved for citizens available, like jobs in the army, police, or in parliament. It may also serve as an important signal of assimilation, commitment, and acculturation to the destination country as well as intentions to stay indefinitely (Liebig, 2011). Recruitment of a naturalized individual may also be regarded as less risky by the employer than the recruitment of workers with temporary work permits<sup>3</sup>.

Studying the effects of naturalization is linked to an empirical challenge due to likely selection of those individuals that naturalize. Positive selection means that individuals with more success and potential in the labor market naturalize to a higher extent than other individuals. Longitudinal data is perfectly suited for studying the effect of naturalization on income, both before and after the event of naturalization. There are a number of studies, both in an American and a European context, that attempt to detect a so-called *naturalization premium*, defined as a direct outcome of the decision to naturalize, interpreted in causal terms. Naturalization premiums are to a higher extent found in a North American context, while results from European studies are more mixed. Bratsberg, Ragan, and Nasir (2002), studied wage growth as a consequence of naturalization and found substantial levels of wage growth for young immigrant men in the US. In a study on Germany, Steinhardt (2012) showed increases in wage growth after the event of naturalization for male immigrants, while studies on Scandinavia have provided mixed results (see Scott, 2008, studying Sweden; and Bratsberg & Raam, 2011, studying Norway).

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<sup>3</sup> Naturalization may, however, also lead to less labor market integration and lower income (Euwals et al, 2010). Welfare state benefits are reserved for citizens in some countries, which may be an incentive for citizenship acquisition by individuals with the weakest labor market attachment.

# Context

## **Danish economy and labor market in the period of study**

The Danish economy has experienced several economic downturns since the Second World War, but has also become known for its ability to recover rapidly economically. During the same period, there has been an expansion of the Danish welfare state through major social reforms. In the beginning of the period examined in this dissertation, in the early 1980s, the Danish economy suffered from a severe economic crisis with unemployment levels fully comparable to continental levels, much higher than the other Scandinavian countries. During the 2000s on the other hand, the Danish economy boomed and unemployment was down to levels close to those of the 1960s. The Danish economy has, furthermore, changed in terms of the relative importance of large enterprises, which has increased both in number and in size since the 1980s (Iversen, 2008). In order to fully understand the economic setting of Denmark during the period of study of this dissertation, we need, however, to start by explaining the economic development that preceded.

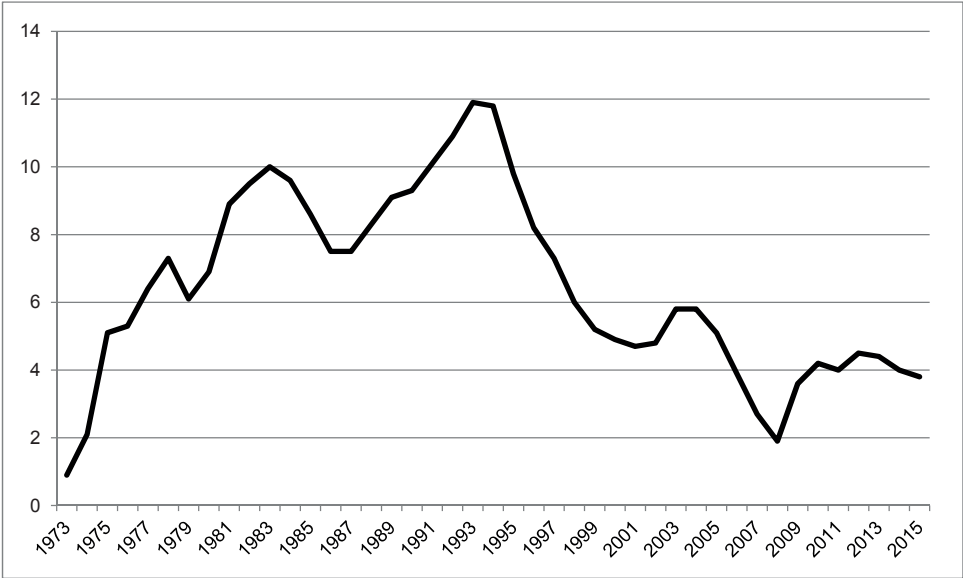
Like most other OECD countries, Denmark experienced times of growth and low unemployment in the post-war years. The so-called “golden age” of very high growth started somewhat later in Denmark compared to other Western European countries (Pedersen, 1994). This can be explained by the specific characteristics of the Danish economy. Denmark industrialized late and the dominating economic sector of the Danish immediate post-war economy was the agricultural sector. It was not until the 1950s that the workforce in the manufacturing industry outnumbered those working in agriculture. Agriculture was not included in the global trade liberalization following the Marshall Plan that took place after the war, and this led to problems with the balance of payments as well as a delayed expansion of the industrial sector. The structure of the non-agricultural part of the economy has, furthermore, been brought forward to explain the delayed “golden age” in Denmark. The economy was dominated by small firms, which did not lead to scale economies or investments in research and development.

The Danish high growth period started in 1958 and lasted until the first oil crisis of 1973. Agriculture lost some of its importance in the economy and employment grew in construction, in the manufacturing industry and in the rapidly expanding public sector. In the early 1950s, the share of employment in the public sector in Denmark was, except for Switzerland, the lowest among the OECD countries, but by 1980 it had grown to become one of the highest in Europe, with only Sweden having an even larger share (Pedersen, 1994). Welfare costs increased rapidly, and in the 1960s public expenditure in Denmark was higher than in most other OECD countries. This was mainly due to the expanding cost of healthcare and education

such as expanding caretaking of the elderly and public daycare facilities for children (Henriksen, 2006), which also facilitated increasing labor force participation of women. The comparatively progressive welfare policies of the postwar years were mainly implemented by the social democratic party that held power between 1953 and 1968 without interruptions (Henriksen, 2006).

The first oil crisis of 1973 led to elevated unemployment and the social democratic government of the mid-70s implemented traditional Keynesian measures, such as stimulating aggregate demand and increasing public employment, as an attempt to reinstall full employment (Goul Andersen, 2011). In addition to these measures, working hours were reduced and holidays extended. Unemployment, however, continued to rise, despite measures implemented, which led to the number of individuals dependent on unemployment benefits or social assistance from the state increasing substantially (Goul Andersen, 2011). Figure 1, below, shows the unemployment rate in Denmark between 1973 and 2015. Unemployment levels were below 2% in 1973; however, there was a rapid increase in unemployment levels throughout the 1970s and 1980s, with levels peaking in the early 1990s, at 11.9%.

**Figure 1. Unemployment in Denmark 1973-2016, percent of labor force.**



Note: Register based. Individuals not receiving unemployment benefits or social assistance are not included, ages 16-64.

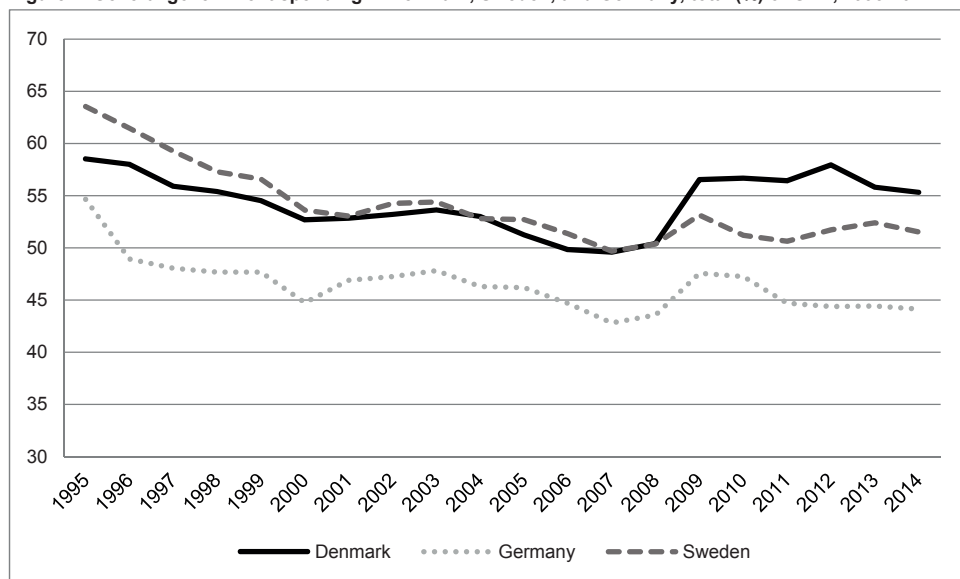
Sources: ILO LABORSTA (for the years 1973-1978), Statistics Denmark Statistikbanken-AULAAR (for the years, 1979-2016).



The economic problems escalated in the late 1970s, with slow growth, high inflation, and increasing government debt. The trade deficit reached 5.3% of GDP in 1976 and the foreign debt also increased from 12% of GDP to 25% of GDP throughout the 1970s (Statistics Denmark Statistikbanken, Goul Andersen, 2011). The government introduced income policies as an answer to the high inflation, which led to declining real incomes. The Danish krone (DKK) was also depreciated by 20%, which led to higher exports. However, the advantages were short-lived and Denmark faced negative growth again in the early 1980s (Goul Andersen 2011).

The Social Democratic government lost power to the right wing opposition in 1982, and new economic policies with the aim of reducing inflation and improve the competitiveness of the private sector were introduced. The DKK was pegged to the German mark and public expenditure was limited. These measures, in combination with global growth, led to increasing foreign demand. However, in the mid-80s, new problems emerged. Falling inflation and low interest rates stimulated private consumption, leading to increasing imports and, subsequently trade deficits (Lidegaard, 2011). The economy of the 1980s suffered from fundamental structural problems, permanent balance of payment deficits, and increasing foreign debt, which were explained by the low competitiveness of Danish companies (Lidegaard, 2011), which in turn constrained employment (Goul Andersen, 2011). The Danish manufacturing industry was still characterized by small and medium sized companies, which made it hard to mobilize necessary investment in technological improvements. The trade deficit of the mid-80s resulted in policies with the aim of dampening consumption by restricting credit on loans for homes and private consumption, and to encourage savings. The slow growth and high unemployment continued into the 1990s, and this was prolonged by the global recession at the time. Unemployment reached a historic high in 1993 with 11.9%. Linked to the universal nature of the Danish welfare state (Esping-Andersen, 1990) with comparatively high compensation rates, the public transfers expressed as a share of GDP reached high levels (above 50%) during the years of high unemployment. Figure 2, below, shows general government spending (includes all government consumption, investment and transfer payment) (OECD, 2017) between 1995 and 2014, comparing Denmark to neighboring Sweden and Germany. The 1990s witnessed a declining trend for all three countries, with Sweden having the highest levels of government spending until around the year 2000. Towards the end of the period, after 2008, there was a visible shift in Danish government spending, overtaking Sweden as the country with the highest GDP share.

Figure 2. General government spending in Denmark, Sweden, and Germany, total (% of GDP, 1995-2014).



Note: General government spending, as a share of GDP and per person.

Source: OECD (2017), General government spending (indicator). doi: 10.1787/a31cbf4d-en.

The economy improved in the mid-1990s with decreasing unemployment and increasing growth. The causes behind this have, however, been debated (Goul Andersen, 2011). One common explanation attributes the shift to the economic policies introduced by the new social democratic government of 1993. Their aim was to stimulate the economy by increasing government spending and private consumption. Furthermore, the government introduced more active labor market policies that put increasing demands on the unemployed in terms of adjustment and training (Lidegaard, 2011). Reforms were also aimed at stimulating the labor supply by reducing the duration of eligibility for unemployment benefits from seven years to four years in 1998<sup>4</sup>, as well as reducing the early retirement benefits<sup>5</sup>. Another explanation brought forward attributes the economic upturn to booming exports, mainly driven by German demand, but also by increasing oil exports. In 1997, Denmark was the third largest oil exporter in Europe (after Norway and Great Britain). As a result, the Danish economy was in a good state at the start of the new millennium. Gone were the days of high inflation and trade deficits and large Danish corporations had now become engines of growth (Lidegaard, 2011). As regards to the latter, a change in terms of the relative importance of large enterprises took place

<sup>4</sup> The high compensation rates of 90% were nevertheless maintained.

<sup>5</sup> In Danish this is called *efterløn*

in the late 1980s. The number of employees (in Denmark and abroad) in the 25 largest enterprises increased from around 155,000 in 1973 to more than 800,000 in 2003 (Iversen, 2008). At the same time, the global importance of large Danish corporations increased substantially and in the late 1990s they were among world market leaders in sectors such as brewing, shipping, and medicine. Another important development in the Danish economy concerns increasing foreign direct investment (FDI). In the 1980s the total Danish FDI was to less than 1% of GDP. There was a constant increase throughout the 1990s, and by the year 2000 FDI reached 22% of GDP<sup>6</sup> (World Bank, 2017)<sup>7</sup>. As a result of these changes, Denmark had by the early 2000s become a small open European economy (SOEE), characterized by a combination of efficient, stable democratic public institutions, the ability to define and exploit global niches, as well as a long-term insistence on liberal, open economic principles (Iversen, 2008).

Similar to the majority of Western nations, the years after the financial crisis of 2008 have been characterized by low growth and falling employment rates. GDP growth has been low in Denmark also, compared to the neighboring countries Sweden and Germany, as seen in Figure 3.

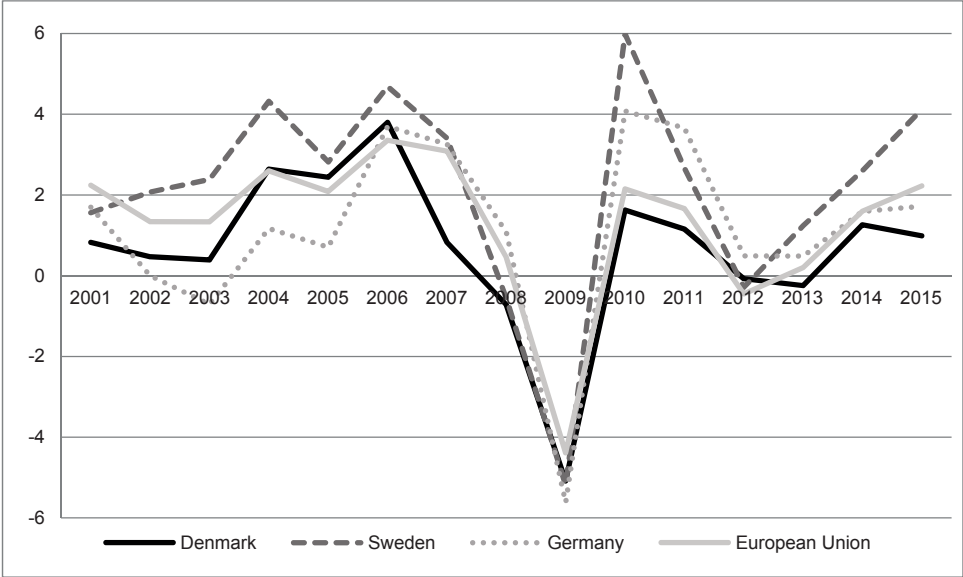
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<sup>6</sup> The level of FDI in 2000 is, however, at an historical high, and levels have since then been more modest (for example 5% of GDP in 2005).

<http://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS>

<sup>7</sup> <http://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS>

Figure 3: GDP growth rates in Denmark, Sweden, Germany, and the EU (15), 2001-2015.



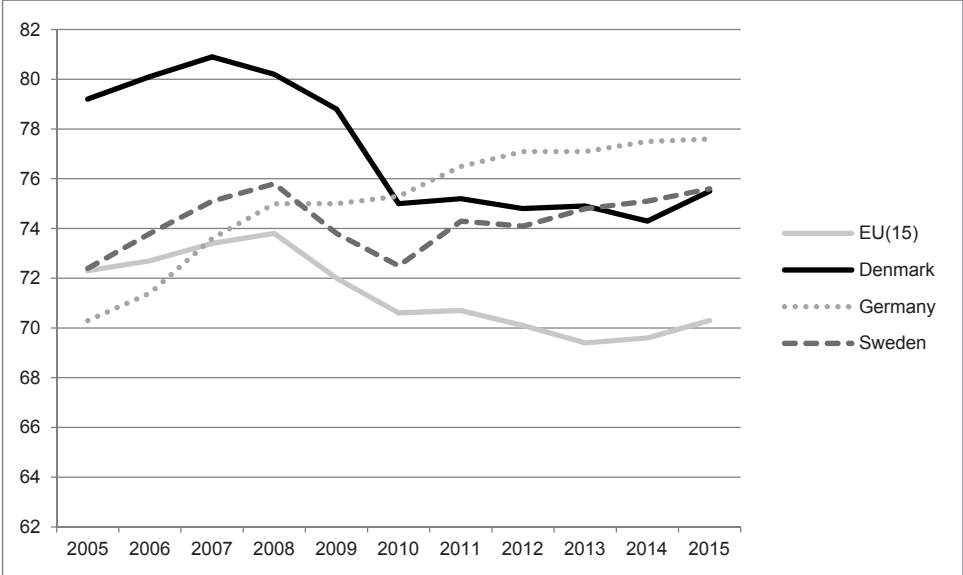
Note: Annual percentage growth rate of GDP at market prices based on constant 2010 U.S. dollars.

Sources: World Bank national accounts data, and OECD National Accounts data files.

Low productivity growth was a challenge to the Danish economy already pre-crisis, but continues to lower the expectations for future economic success (The Danish Central Bank, 2012). Compared to neighboring countries, Danish productivity growth has been slower since the mid-1990s. Between 1995 and 2010 Danish labor productivity (measured by GDP per hour worked), grew by 11%, while it grew by 22% in Germany, and by 34% in Sweden (The Danish Central Bank, 2012). The OECD country report on Denmark lists a few additional challenges to the Danish economy (OECD, 2016). First, the overvalued housing market continues to misallocate resources in the economy. Second, the OECD argues that the Danish economy is not as well connected to global value chains, as other comparable small open economies, and third, the relative high level of investment in research and development does not bring the expected benefits (OECD, 2016). The economic crisis has, moreover, led to falling employment. Figure 4 shows the employment rate in Denmark between 2001 and 2015, once again compared to Germany, Sweden, and the EU average. From the figure, a very clear drop in employment rates for Denmark is visible. Before the financial crisis of 2008, Denmark had male employment rates of more than 80%, substantially higher than the neighboring countries. In 2015 Denmark was completely surpassed by Germany and had levels slightly lower than Sweden, yet still higher than the EU (15) average. The changing age distribution has been suggested as one explanation. According to the Danish

Economic Councils (2016), there is, compared to other countries, an increasing share of individuals aged 15–29 and a falling share of individuals more likely to be employed for ages 30–44. More individuals entering higher education due to fewer employment opportunities has, furthermore, been brought forward as an explanation (Danish Economic Councils, 2016).

Figure 4: Employment rates for males, age 15–64 in Denmark, Sweden, Germany, and EU (15), 2005–2015.



Note: Age 15–64. EU 15 includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

Source: Eurostat, Labor Force Statistics, 2016. Based on European Union Labor Force survey.

From the description of Danish macro-economic development during the period of study, two important factors regarding the Danish labor market and economy have emerged. First, there has been a substantial reduction in unemployment levels from the late 1990s onwards, and although the period after the financial crisis of 2008 has been characterized by decreasing participation rates, the Danish unemployment rate has remained below the OECD average (see Figure 5 below). Second, Denmark has high levels of public transfers that have remained more or less constant throughout the period of study.

Figure 5: Unemployment rate in Denmark, Germany, Sweden, and the OECD, 1991–2014.



Note: The standard definition of unemployed persons is those individuals without work, seeking work in a recent past period, and currently available for work. It is the labor force or the economically active portion of the population that serves as the base for this indicator, not the total population. The ILO estimates are harmonized to account for inconsistencies resulting from data source, definition, reference period, coverage, age group, and collection methodologies. (<http://databank.worldbank.org/data/reports.aspx?source=2&series=SL.UEM.TOTL.ZS&country=#>). Source: ILO Key Indicators of the Labor Market database.

Much of the Danish economic success of the early 2000s has been attributed to the *flexicurity* model (Andersen & Simonsen, 2005). The fundamental aim of the model is to combine flexibility for employers with security for employees. This somewhat counterintuitive characteristic is a hybridization between the flexible labor market model in a liberal welfare state, and a typical Scandinavian labor market model characterized by generous social benefits (Madsen Kongshoj, 2013). It consists of three fundamental parts, where the first part refers to flexible labor market regulation. Denmark has, compared to most Western European countries, low levels of labor protection dating as far back as 1899. It constitutes an important part of a general agreement that emphasizes the right of the employer to hire and dismiss workers, while also recognizing the rights of the trade unions when negotiating wages and working conditions. The Danish labor market has worked under these premises until present times and it is up to the social partners to decide upon the dismissal. This flexibility is beneficial for the employer as it is possible to dismiss employees in periods of slow growth and to hire again when the economy is growing. The protection against dismissal varies greatly depending on the sector, where the dismissal process is more regulated for salaried workers, as compared to blue-collar workers who in some cases can leave or be dismissed with a one day

notice (Andersen, 2012). The second part of the flexicurity model is the high level of compensation available for the unemployed. The Danish unemployment insurance system is based on the *Ghent system*, where the unemployment insurance is subsidized by the state but administered by the trade unions. A majority of the unemployed in Denmark are members of an unemployment insurance fund. The third part of the model is active labor market policies, such as training and support for a job search.

The Danish labor market model received much positive attention in the years leading up to the financial crisis of 2008 (Madsen Kongshoj, 2011) and was often promoted as an ideal for other countries (European Commission, 2006). Some critical voices have, however, been raised, questioning the flexicurity model in times of recession (Madsen Kongshoj, 2011). The basic argument is that the low levels of labor protection leads to falling employment during an economic crisis and since 2008, there has been a relatively rapid rise in unemployment and a shrinking labor force, and this has, by some, been attributed to the flexicurity model (Madsen Kongshoj, 2011). Immigrants, youth, and the unskilled are especially unemployed and often on a long-term basis (Madsen Kongshoj, 2013). Another problem with the flexicurity model, especially for groups with a weaker labor market attachment, is that 15% of employed are not eligible to receive any income support or assistance through the active labor market programs (Madsen Kongshoj, 2013). This is due to changes in the unemployment benefit system that were implemented after the economic crisis as an attempt to increase incentives for a job search. The duration of the period of receiving unemployment benefits was shortened, but more importantly, the rules for qualifying for benefits altered. Now an individual should have had 52 weeks of full-time employment during the previous three years in order to be eligible for benefits. Before the reform, the requirement was 26 weeks. The low labor protection for the Danish labor market, in combination with the latest implemented rules on eligibility, makes certain groups particularly vulnerable (Madsen Kongshoj, 2013).

## **Immigrants in Denmark**

### *Migration history*

With steadily growing migration since the end of the Second World War, Denmark has experienced a significant demographic transformation along ethnic lines. The character of the immigrant inflow has at the same time changed; from being dominated by migrants from countries with a similar culture and societal structure as Denmark, to being dominated by immigrants from countries with a larger cultural distance (Tranæs, 2014). The foreign born and their children are, as in many other countries having received a similar inflow of migrants, falling behind in terms of

educational attainment and labor market participation, and while Denmark has among the smallest foreign born populations in the OECD (OECD, 2014), it has nevertheless resulted in political responses that are unique in Scandinavia.

Danish post-war migration history can be divided into five phases (Pedersen & Smith, 2001; Tranæs, 2014) (see Table 1.). The delay of the post-war phase of economic growth in Denmark initially led to comparably high unemployment levels and net emigration throughout the 1950s. This first phase lasted from the end of the Second World War until the late 1950s. Most foreign born entering Denmark in the early postwar years originated from neighboring countries, reinforced by the common Nordic labor market agreement introduced in 1954 (Tranæs, 2014).

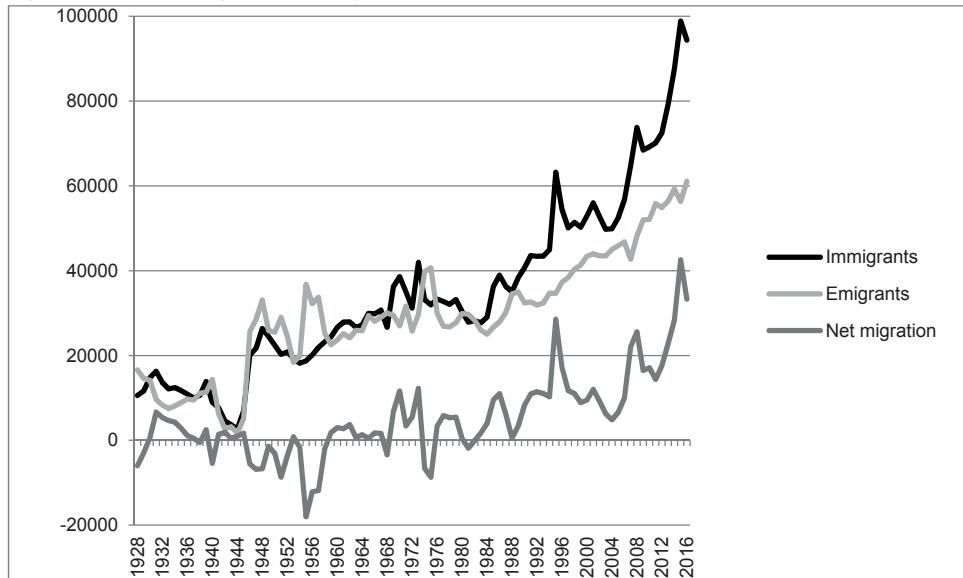
**Table 1. Danish migration history, five phases.**

Time Period	Important Characteristics
1945–late 1950s	Net emigration from Denmark
Late 1950s–1974	Labor migration and full employment
1974–mid-1980s	Low levels on immigration, mainly family reunification migrants
Mid-1980s–2001	Increasing levels, mainly refugees and family reunification migrants
2001–	High levels, mainly labor migrants and students

The second phase took place roughly from the late 1950s and to the first oil crises and is characterized by guest worker migration to Denmark, attracted by full employment, high labor demand, and an expansion of the welfare state (Brochmann & Hagelund, 2012). Guest worker migration only occurred on a rather small scale, with migrants mainly originating from Yugoslavia, Turkey, and Pakistan. Overall, immigration to Denmark was still a fairly limited phenomenon, and in the early 1970s, only about 2% of the population was born abroad. While this phase effectively ended with the oil crisis, immigration had already begun to slow down towards the end of the 1960s, when the inflow of guest workers became more regulated due to increasing pressure from the trade unions (Tranæs, 2014). The unions demanded that guest workers should be part of the regular labor market and that the same rules should be applied to them as to native Danish workers in the labor market. They should, furthermore, have the same rights to unemployment and sick leave benefits and have the same wage level. From Figure 6, the rather slow growth in immigration from the postwar years until the mid-1980s is evident, and although the guest worker entry in Denmark created some political debate, their influence on Danish society was very limited.



Figure 6: Flows of immigrants and emigrants in Denmark, 1928–2015.

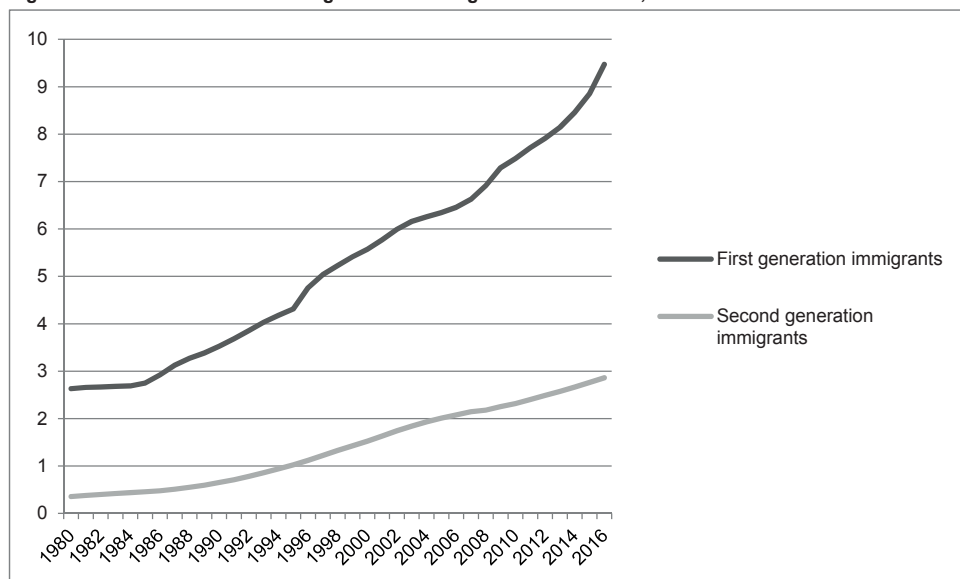


Source: Statistics Denmark: Statistikbanken, (HISB3: nøgletal om befolkningen).

The third phase started with the economic downturn of the 1970s, which led to an end of further labor migration. This was politically motivated by avoiding increasing the unemployment among unskilled workers (Tranæs, 2014). This resulted in comparably low levels of migration to Denmark in the short term. Those entering Denmark in this period were mainly family members of the former guest workers. In the long term, this meant the beginning of a shift in the composition of immigrants, which also defines the fourth phase, characterized by a growing inflow of refugees and family reunification migrants. More specifically, at the end of the 1980s, war and political unrest in Iraq, Lebanon, and Palestine led to an increased immigration inflow of individuals seeking refuge from the conflict. Tranæs (2014) argues that the immigrant law, *Udlændingeloven*, of 1983 was an important reason for this shift. The law made family reunification easier and, among other things, it also led to increasing marriage migration (Tranæs, 2014).

Since the 1990 onwards, new waves of migration have hit Denmark due to international unrest such as war in the former Yugoslavia, which led to increasing migration to Denmark. This resulted in first and second generation immigrants constituting a growing share of the Danish population. In 1980 Denmark had less than 3% first immigrants, growing to more than 9% in 2016. The second generation reached 3% in 2016 (see Figure 7).

Figure 7: Share of first and second generation immigrants<sup>8</sup> in Denmark, 1980–2016.



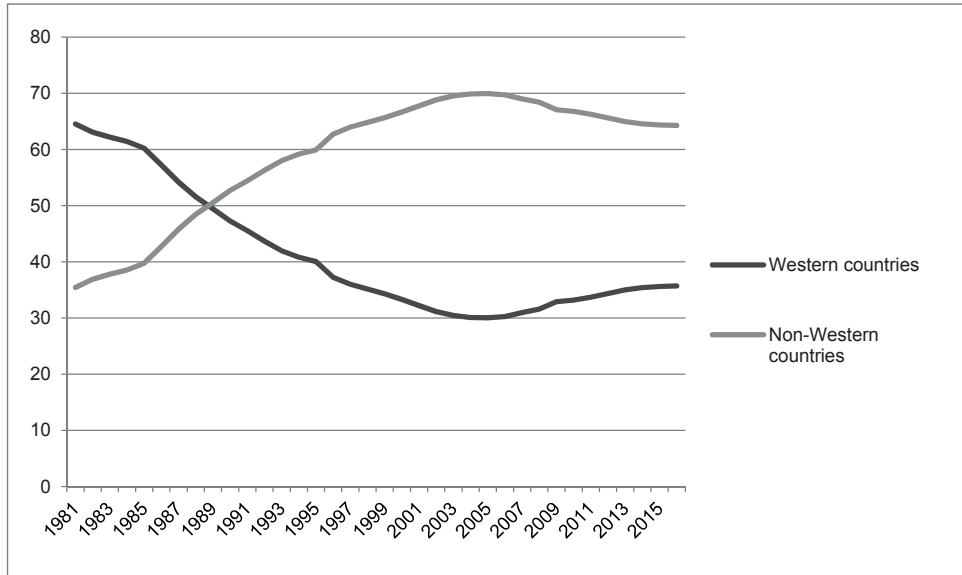
Note: Own calculation based on the full population in Denmark, yearly, 1st of January.

Source: Statistics Denmark: Statistikbanken (FOLK2).

The ethnic composition of the immigrant population has furthermore changed. In 1980, the foreign from other Western countries comprised the largest share of all foreign born, more than 60%, a share that has since shrunk to less than 40% of all foreign born (see Figure 8). Another illustrative example is provided in Table 2, displaying the ten most common countries of origin for first generation immigrants in Denmark for different time periods. The number of first generation immigrants from neighboring countries such as Germany, Sweden, and Norway has remained more or less constant since 1980, while other groups such as foreign born from non-Western countries such as Turkey and Iraq have more than doubled.

<sup>8</sup> Both parents born abroad and no parent is a Danish citizen. (Definition used by Statistics Denmark.)

Figure 8. Composition of foreign born in Denmark, share of Western<sup>9</sup> and non-Western, 1981–2016.



Note: Own calculation based on the full population in Denmark, yearly, 1<sup>st</sup> of January.

Source: Statistics Denmark: Statistikbanken (FOLK2).

<sup>9</sup> Includes Nordic countries, EU, Andorra, Liechtenstein, Monaco, San Marino, Switzerland, Canada, USA, Australia, and New Zealand. (Definition used by Statistics Denmark.)

**Table 2. Dominant immigrant groups in Denmark, 1980, 1990, 2000, 2010, and 2015.**

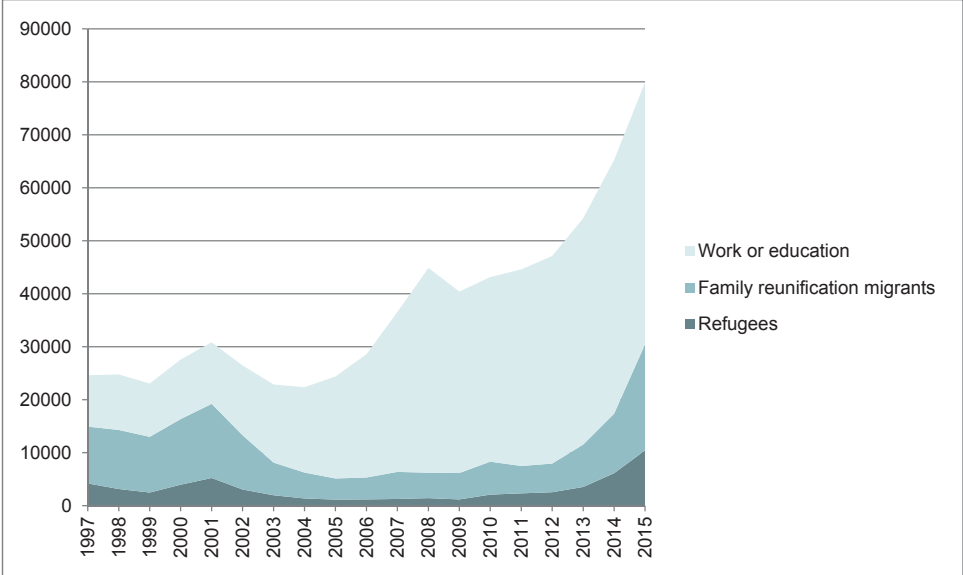
	1980		1990		2000		2010		2015	
1. Germany	26333	1. Turkey	29431	1. Turkey	48773	1. Turkey	59216	1. Turkey	61634	
2. Sweden	15979	2. Germany	23123	2. Germany	25446	2. Germany	30912	2. Poland	39465	
3. Turkey	14086	3. Sweden	13708	3. Bosnia- Herzegovina	19727	3. Iraq	29264	3. Germany	31962	
4. Norway	13872	4. Norway	13116	4. Lebanon	19011	4. Poland	28401	4. Iraq	30994	
5. Pakistan	7845	5. Pakistan	12006	5. Pakistan	17509	5. Lebanon	23775	5. Lebanon	25572	
6. UK	7598	6. Yugoslavia	10504	6. Yugoslavia	17176	6. Bosnia-Herzegovina	22221	6. Pakistan	23770	
7. Yugoslavia	7452	7. Poland	9662	7. Iraq	14902	7. Pakistan	20392	7. Bosnia-Herzegovina	22697	
8. Poland	6467	8. Iran	8591	8. Somalia	14856	8. Yugoslavia	16959	8. Romania	20226	
9. USA	5769	9. Great Britain	8547	9. Norway	14647	9. Somalia	16831	9. Somalia	19707	
10. Finland	4054	10. Lebanon	7938	10. Sweden	14604	10. Norway	16067	10. Iran	18572	

Note: Own calculation based on the full population in Denmark, yearly, 1<sup>st</sup> of January.

Source: Statistics Denmark: Statistikbanken (FOLK2).

The final, and current, phase of Danish migration history is characterized by a changing structure as regards the type of migrants that are granted residency in Denmark. Throughout the 2000s, migration policies have changed towards becoming increasingly strict, resulting in fewer refugees and family reunification migrants entering Denmark and more immigrants entering Denmark for educational or work related reasons(see Figure 9). Today, out of the total of foreign born, about 19% originates from Eastern Europe, about 8 and 2% from Africa and Latin America, respectively, and about 41% from Asia<sup>10</sup>. The remaining stock of foreign born (30%) is mainly individuals from the neighboring Nordic countries.

**Figure 9: Reasons for granted residence permits, 1997–2015.**



Note: Includes non-Nordic immigrants without Danish or Nordic citizenship. Twenty percent of the values are imputed by Statistics Denmark.

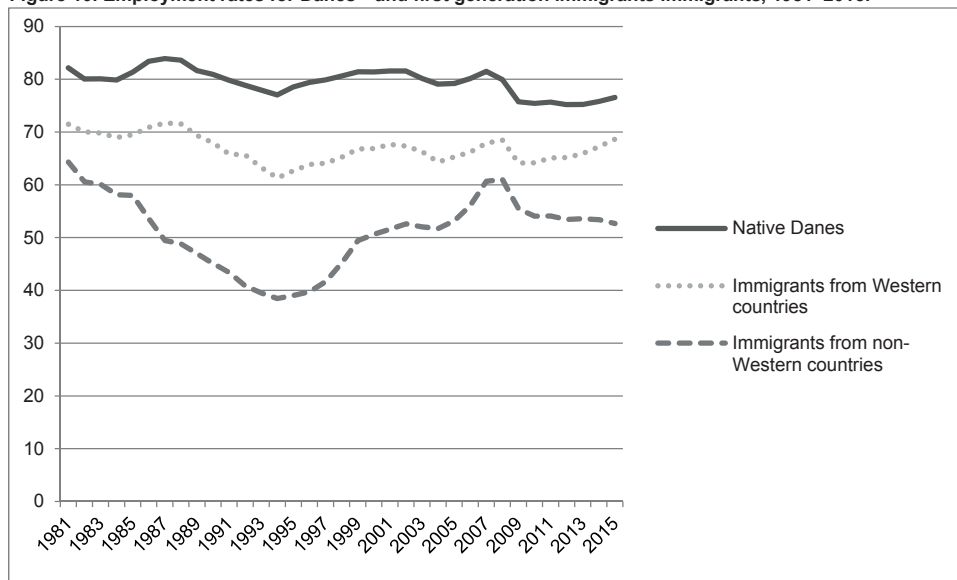
Source: Statistics Denmark: Statistikbanken (VAN8A).

<sup>10</sup> Statistics Denmark: Statistikbanken (FOLK1C)

### Labor market integration

As in most immigrant-receiving countries in Europe (Constant & Zimmermann, 2013; Holland & De Valk 2013), first and second generation immigrants are falling behind in the Danish labor market and their employment rates are substantially lower than those of native born Danes (Heinesen, Husted & Rosholm, 2011; Statistics Denmark, 2015; Liebig, 2007). There are large differences in outcomes depending on the country of origin. For example, foreign born from neighboring countries have labor force participation rates that are more in line with those of native Danes, whereas foreign born from non-Western countries have labor force participation rates that are substantially lower. The gap between non-Western first generation immigrants and Danes became wider during the 1980s and 1990s, and in the mid-1990s, employment rates for non-Western men were below 40%. This can partially be explained by the fact that many of the non-Western migrants to Denmark in this period were refugees that on average had spent less time in Denmark, which is negatively associated with labor market success (Pedersen & Smith, 2001). The gap between non-Western migrants and natives, however, decreased from 1995 until 2007, mainly due to extensive growth in the Danish economy in the early 2000s. Since the financial crisis of 2007, the gap has once again widened, especially for men (see Figure 10.). This is explained by men working in sectors sensitive to economic downturns to a greater extent.

Figure 10. Employment rates for Danes<sup>11</sup> and first generation immigrants immigrants, 1981–2015.



Notes: Register based. Yearly observations. November. Ages 16–64.

Source: Statistics Denmark: Statistikbanken (RAS).

<sup>11</sup>Not including second generation immigrants

The size of the employment gap is indeed related to economic cycles but may be explained by differences in human capital between different immigrant groups. When considering individuals' highest obtained education, larger shares of first generation immigrants are found at both the lower end of the distribution (primary education) and at the high end (tertiary education) (Nielsen, 2011). Large differences dependent on country of origin are also found (Statistics Denmark, 2015). The aforementioned increasing importance of county specific skills for successful immigrant integration may be part of the explanation for the employment gap (Rosholm et al, 2006). The changing organizational structure of the labor market in Denmark is imposing requirements of qualifications such as knowledge of the host-country language are making foreign born less attractive in the labor market over time. Moreover, the relatively compressed wage structure with high effective minimum wages in Denmark has been suggested as an explanation to the employment gap (Tranæs, 2014). This means that it is difficult for migrants to get employment, as wages are relatively high and migrants often lack the country specific skills needed. The employment gap between non-Western immigrants and natives can, moreover, be explained by the incidence of discrimination against non-Western immigrants<sup>12</sup> on the Danish labor market, as discussed by Liebig (2007).

#### *Naturalization, intermarriage and educational attainment among first and second generation immigrants in Denmark*

This dissertation studies immigrant integration from a broad perspective, covering 1) naturalization premiums in terms of income, 2) intermarriage premiums, both in terms of income and in terms of intergenerational effects through school grades of children with intermarried parents, and 3) mother tongue education premiums in terms of school grades. Here, both the current situation and its development over time in the Danish context are summarized.

Starting with naturalization, large country of origin differences are found in terms of citizenship acquisition in Denmark. Table 3, below, shows the number of changes to Danish citizenship in the top ten most common origin groups in different years. The pattern is the same as when studying the shifting composition over time in Denmark. Western countries are more likely to be among the top ten in 1980 than in later years. A clear drop in the number of individuals naturalizing is also seen in the table comparing the year 2000 with 2010 and 2015. This is due to the changing citizenship legislation in Denmark introduced in the early 2000s increasing the requirements of naturalization. A study conducted on behalf of the Swedish government studying the effects of naturalization as well as the selection into naturalization comparing the Scandinavian countries showed that after 20 years in

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<sup>12</sup> This also applies to the non-Western second generation of immigrants

Denmark only 5.1% of Nordic migrants had naturalized in Denmark<sup>13</sup>. First generation immigrants from Western Europe have naturalization rates that are somewhat higher than those of Nordic migrants after 20 years (approximately 10% are naturalized); however, between 50 and 60% of non-Western first generation immigrants are naturalized after 20 years in Denmark. Nevertheless, compared to naturalization rates of non-Western first generation immigrants in Sweden and Norway, the rates in Denmark are rather modest. In Sweden, almost 100% of all first generation immigrants from Asia and Africa are Swedish citizens after 20 years in Sweden. This can be explained by the stricter requirements for naturalization in Denmark (Bevelander, Helgertz, Bratsberg & Tegunimataka, 2015).

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<sup>13</sup> This is partly explained by restrictive rules in Denmark and Norway in terms of double citizenship.



**Table 3. Individuals that naturalized in Denmark by original citizenship, in 1980, 1990, 2000, 2010, and 2015.**

	1980	1990	2000	2010	2015			
Germany	558	Vietnam	Turkey	3096	Iraq	509	Iraq	1174
South Korea	446	Pakistan	Stateless	2382	Afghanistan	435	Afghanistan	420
Stateless	200	Norway	Iraq	2224	Turkey	259	Somalia	253
Great Britain	190	Germany	Somalia	1205	Stateless	246	Turkey	222
Norway	161	Poland	Iran	1112	Somalia	213	Pakistan	204
India	157	Sweden	Lebanon	1103	Bosnia-Herzegovina	144	Stateless	149
Pakistan	149	Yugoslavia	Yugoslavia	917	China	119	Sweden	122
USA	147	Morocco	Sri Lanka	824	Russia	112	Iran	110
Sweden	129	Turkey	Vietnam	651	Ethiopia	107	Kosovo	108
Poland	119	Great Britain	Pakistan	550	Vietnam	104	Bosnia-Herzegovina	106

Source: Statistics Denmark: Statistikbanken (DKSTAT).

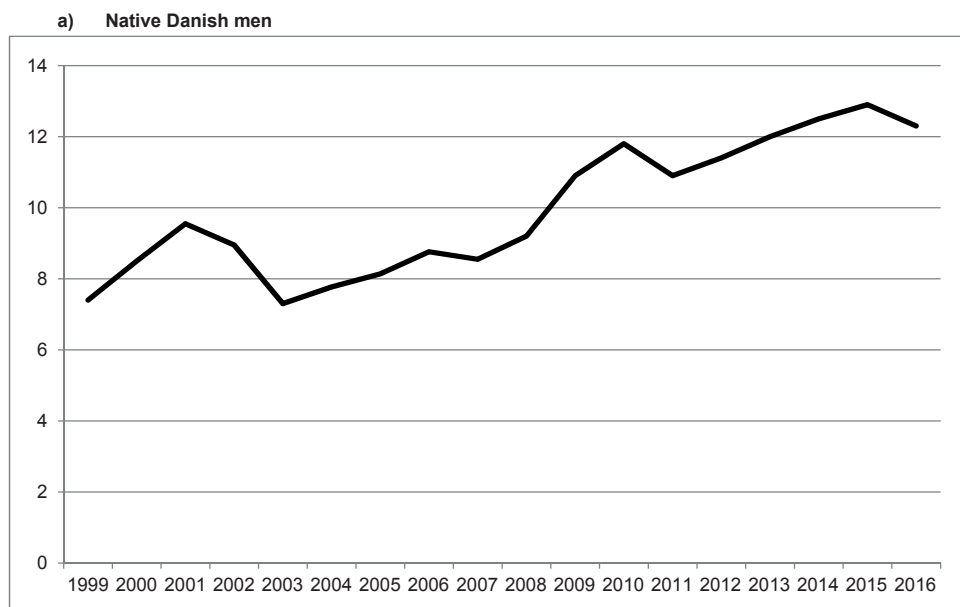
The second and third papers included in this dissertation study intermarriage premiums, both in terms of income and in terms of intergenerational effects through school grades of children with intermarried parents. There is a large country difference in the prevalence of mixed marriages across Europe. More than 20% of marriages in Switzerland are mixed<sup>14</sup> while almost no marriages in Romania are mixed. For the majority of European countries, there has been an increase in rates over time, although in countries where the immigrant population is small or where immigration is a more recent phenomenon, rates are generally lower (Lanzieri, 2012). Intermarriage rates in Denmark are among the lowest in Europe and the neighbors Sweden and Germany have higher rates, both above 10% of all marriages, whereas the rate for Denmark is below 10% (Lanzieri, 2012). Figure 11, below, shows the share of all marriages in a year for Danish men and women where the spouse is not Danish. There have been increasing rates for men since 1999, and intermarriage rates for Danish men have by 2016 reached a share of 12%. For women, the rates are lower and no increase is visible since 1999, with a rate that hovers at around 6%.

Furthermore, there are large differences between different countries in terms of the frequency of intermarriage. Figure 12 and Figure 13, below, show country of origin groups of the spouse for men and women in new marriages taking place in 2015. Figure 12 shows that Danish men (who intermarry) to the greatest extent marry immigrant women from Asia and EU28, whereas almost 60% of Danish women who intermarry, marry immigrants from Europe (Figure 13).

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<sup>14</sup> Here, defined as marriages in which one partner is native born and the other born abroad. Marriages between foreign born individuals from different countries of origin are not included.

Figure 11. Inter-marriage rates, all new marriages, men and women, 1999–2016.



Note: Share of all marriages (between individuals of the opposite sex) in a given year between a native Danish man and a woman of another origin.

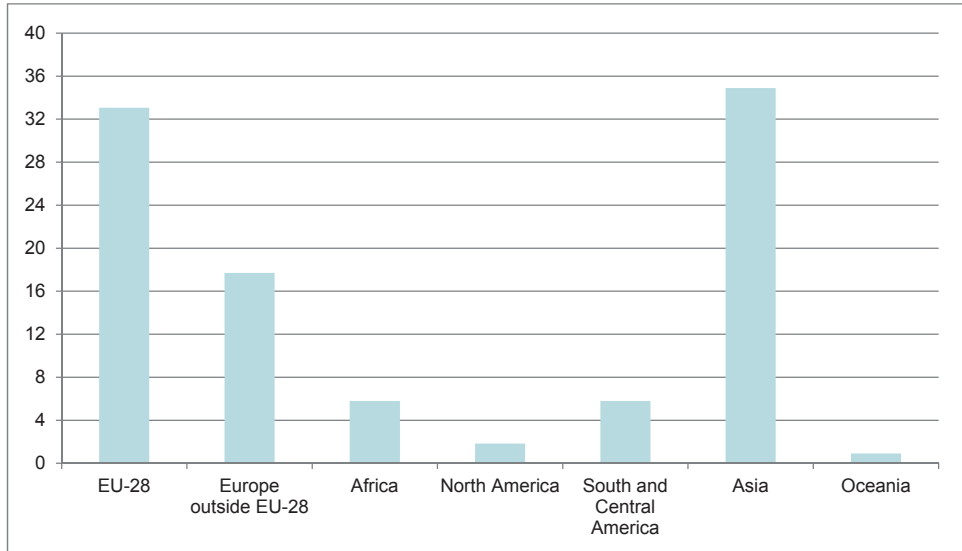
Source: Statistics Denmark: Statistikbanken (VIE4).



Note: Share of all marriages (between individuals of the opposite sex) in a given year between a native Danish woman and a man of another origin.

Source: Statistics Denmark: Statistikbanken (VIE4).

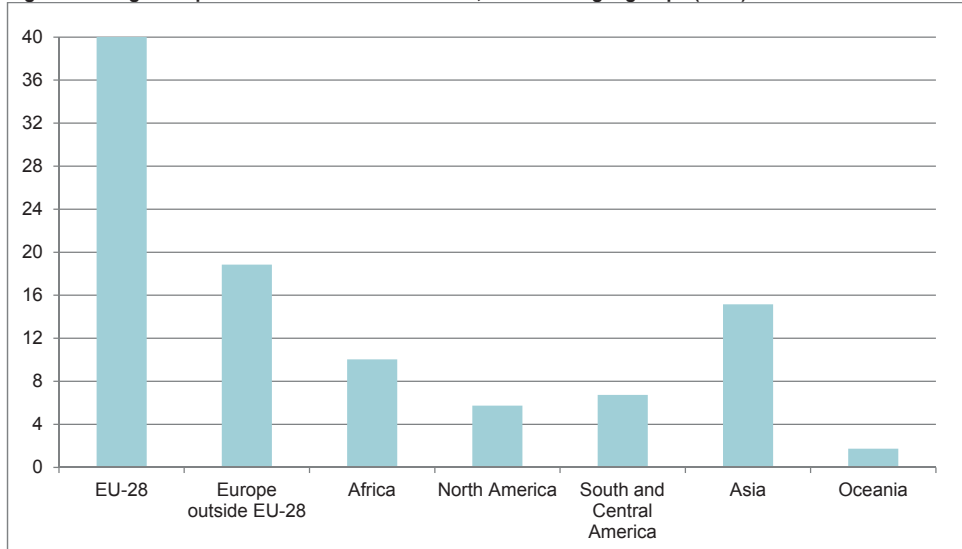
**Figure 12: Origin of spouse for native Danish men; different origin groups (2015).**



Note: Marriage between native Danish men and non-Danish women.

Source: Statistics Denmark: Statistikbanken (VIE4).

**Figure 13: Origin of spouse for native Danish women; different origin groups (2015).**

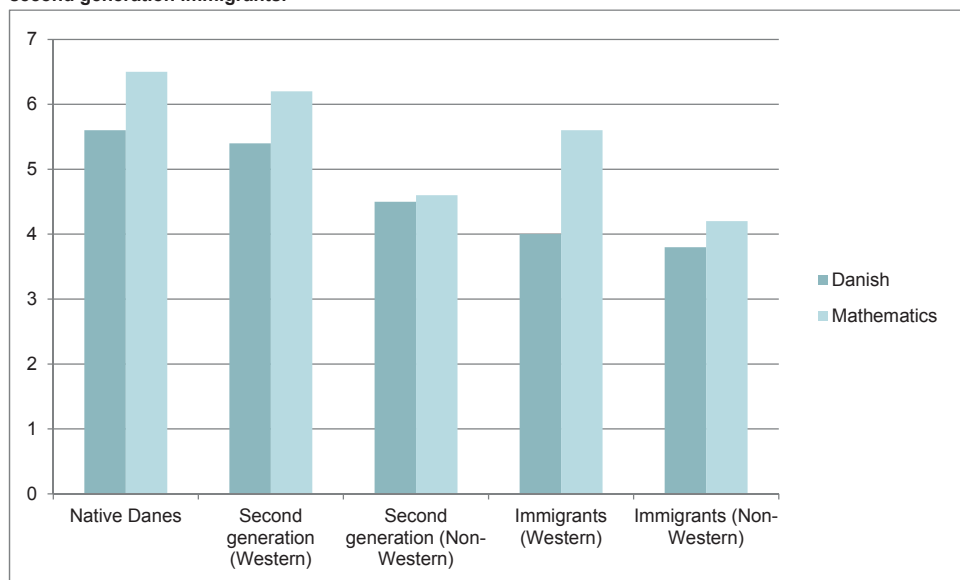


Note: Marriage between native Danish women and non-Danish men.

Source: Statistics Denmark: Statistikbanken (VIE4).

Substantial immigrant group differences are also found in terms of educational attainment, with Western first generation immigrants performing at levels close to that of native Danes, whereas non-Western first generation immigrants are falling behind their peers (Statistics Denmark, 2015). For the second generation, the same pattern is visible for both boys and girls with parents originating from non-Western countries having a lower performance than native Danes and second generation immigrants from Western countries. Gender differences are, furthermore, visible with girls outperforming boys in Danish. In mathematics, the performance is more similar (see Figure 14 and Figure 15 below).

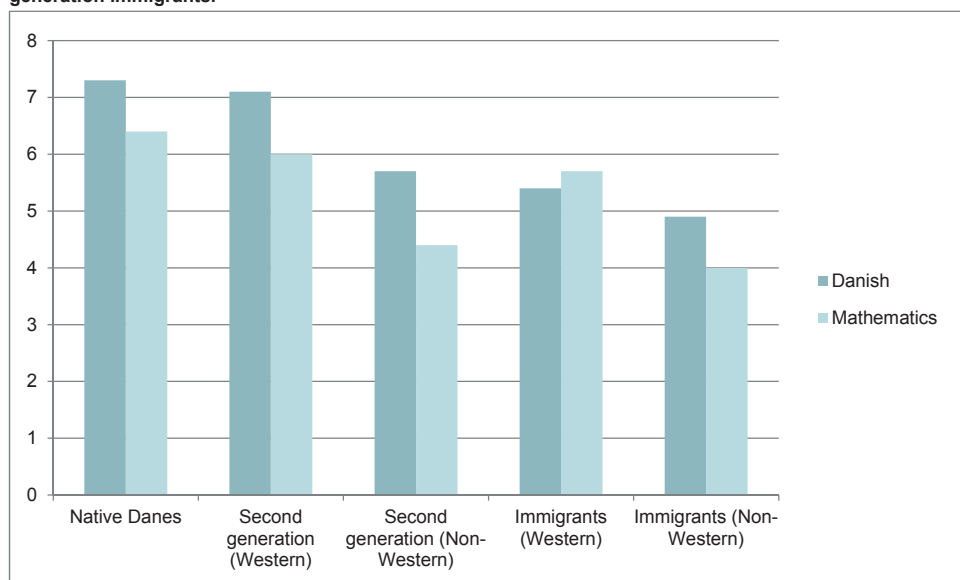
**Figure 14: Grades in Danish and mathematics for boys: Native Danes, first generation immigrants and second generation immigrants.**



Note: Grades in Denmark are based on a 7 point grading scale introduced in 2007 (see Table 5).

Source: Statistics Denmark, *Indvandrerne i Danmark 2015* (Kbh, 2015).

**Figure 15: Grades in Danish and mathematics for girls: Native Danes, first generation immigrants and second generation immigrants.**



Note: Grades in Denmark are based on a 7 point grading scale introduced in 2007 (see Table 5).

Source: Statistics Denmark, *Indvandrerne i Danmark 2015* (Kbh, 2015).

Dropout rates from vocational secondary education is, furthermore, higher among first and second generation immigrants in Denmark (Colding, Husted & Hummelgaard, 2009), and children growing up in neighborhoods with higher immigrant concentration tend to perform worse in school (Jensen & Rasmussen, 2011). The comparatively poorer performance of immigrant children compared to that of natives in terms of grades and dropouts can largely be explained by parental characteristics. Jacobsen and Liversage (2010) performed register data analysis of Danish data and showed that second generation immigrants fare worse in school compared to ethnic Danes, and that it can be explained by differences in socio-economic background. Nielsen et al (2001) analyzed Danish register data in the period 1985–1997 and studied the likelihood of obtaining a qualifying education, and found that parents’ labor market experience had a positive effect for both second generation immigrants and native Danes.

### *Migration policy*

The migration of the 1960s and early ’70s was motivated by labor demand. The immigrants were mainly hired at a low skilled job at the bottom of the income distribution (Pedersen & Smith, 2001). Denmark had no official migration or integration policy at this time and immigration was not regarded a “social problem” as it was in later periods. The labor migrants were expected to return to their home countries when they were no longer needed in the labor market, and by definition,

they all had a job. Towards the early 1970s, a long period of economic growth came to an end (Pedersen, 1994), which led to a decreasing demand for immigrant labor. This resulted in a stop of labor migration in 1973. The general opinion of the 1970s was that the extent of immigration was to be balanced against the capacity of the welfare state and the foreign born should be treated equally to natives, and thus, there should be *no* special departments established to deal with immigrant issues. This non-policy view in Denmark continued until the early 1980s (Brochmann & Hagelund, 2012). The economic crisis of the mid-70s led to high unemployment levels that persisted throughout the 1980s. Immigrants had unemployment levels that were substantially higher than the levels of natives and this created a lot of political debate and tension in the 1980s. The debate was concerned with two problem areas in particular: first, the low levels of self-sufficiency among immigrants, and second, the settlement patterns of immigrants (Brochmann & Hagelund, 2012).

The debate intensified in the late 1990s (Brochmann & Hagelund, 2012), explained by the increasing dominance of non-Western immigrants in Denmark, combined with this group's increasingly vulnerable position in the labor market (Tranæs, 2014). The high share of immigrants dependent on social welfare benefits became the focus of the political debate, which led the social-democratic government to introduce the Integration Act of 1998, which among other things introduced an *integration benefit* for immigrants that was significantly lower than the social assistance obtained by Danish citizens<sup>15</sup>. The purpose of this was to promote a faster integration of newly arrived immigrants, but has also been described as *assimilationist* by its critics (Mouritsen & Hovmark Jensen, 2014) due to its emphasis on value assimilation. According to the Integration Act, the purpose of the Danish integration policy was twofold. First, it focused on the economic participation of immigrants in Danish society through the promotion of self-reliance, and second, it was aimed at promoting the understanding of Danish values and norms in Danish society. All newly arrived immigrants had to follow an integration-program in order to receive social benefits and to eventually obtain permanent residency. For EU citizens, however, other rules applied and participation in the program was not mandatory.

When the liberals and conservatives, with support from the Danish People's Party came to power in 2001, a number of additional changes were made to Danish integration policy (Brochmann & Hagelund, 2012). A new ministry for refugees, immigrants, and integration was formed and a new legislative package was introduced with the aim of speeding up the integration of first- and second-generation immigrants, particularly women and young, second-generation males,

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<sup>15</sup> The introduction benefit was later modified due to EU regulations. A similar package was introduced in 2002, this time in accordance with EU regulations.

into the labor market. Tougher requirements regarding access to permanent residence and citizenship were, moreover, implemented (Hedetoft, 2006). Major changes were also made in the area of family reunification. Limitations were introduced and probably the most well-known is the implementation of the 24-rule which meant that, in order to obtain family reunification through marriage, both parties had to be more than 24 years of age, and their overall affiliation must be stronger to Denmark than to any other country. Other policies were introduced with the aim of increasing work incentives for immigrant families. Local municipalities were granted the permission to reduce cash benefits for one of two spouses in order to increase incentives for the other spouse to find a job. Moreover, in order not to lose eligibility for social assistance, the individuals had to work at least 300 hours in the regular labor market during the previous two years. These rules have been much debated and not least criticized for making lives harder for groups already marginalized in society (Hedetoft, 2006). While all policies were not solely aimed at immigrants, as they also aimed to increase work incentives for native Danes, immigrants were more affected by the policies.

In the area of immigrant education, further policy changes were implemented. In the debate leading up to the election of 2001, the question of whether Danish schools should provide mother-tongue education for minority children was discussed. Generally, two views dominated the debate. The first view considered mother-tongue education an important part of the comprehensive welfare state and that it was vital for ethnic minorities to develop their skills and knowledge in their mother tongue. This was regarded as important for maintaining social and cultural links to the country of origin, but also important for learning Danish as a second language (Timm, 2009). The other view was more assimilationist, with the argument that people decided to migrate to Denmark on a voluntary basis, and should, therefore, *adjust* to Danish culture, values and, not least, language. Mother-tongue training was seen as a private matter which that should not be provided in the public schools (Timm, 2009). With the new government of 2001 mother-tongue education for children from countries other than EU and the EES<sup>16</sup> lost its financial support from the government and was left to the municipalities to provide and finance. Consequently, participation in mother-tongue classes was dependent on municipality of residence.

In the area of citizenship legislation, Denmark has not followed the European trend of facilitating naturalization, instead choosing a rather different path (Ersboll, 2007). Denmark today has among the strictest citizenship legislation in Europe, with requirements of lengthy residence, as well as obligations to be economically self-sufficient and possessing knowledge of Danish language and culture (Ersboll, 2007). Despite this, Danish law and welfare state benefits such as health care and

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<sup>16</sup> Also including Greenland and the Faroe Islands.



access to education apply equally to Danish born and foreign born <sup>17</sup> regardless of citizenship. Non-citizens cannot, however, run for parliament, vote in parliamentary elections, or join the armed forces (Ersboll, 2007).

Danish citizenship legislation has taken a direction in terms of citizenship legislation that is very different from Sweden, which instead has moved towards facilitation of naturalization. The differences between Sweden and Denmark started to emerge as early as in the 1970s when a number of requirements towards naturalization were discussed in Denmark. This debate continued throughout the 1980s and '90s and resulted in major changes in the citizenship legislation in 2001, followed by additional changes in 2005 and 2008. The new rules included the right of the state to deprive citizenship of an individual that committed a crime against the state (Spång, 2015). The residence requirement was extended by two years to nine years in total and individuals becoming Danish citizens now had to sign an oath of allegiance to Denmark as well. The language proficiency requirements were introduced in 2005 and the knowledge of society requirement was introduced in 2007. Sweden instead further liberalized the rules concerning dual citizenship in 2001 (Spång, 2015). The last few years in Denmark has, however, moved towards liberalizing the rules, and in 2014 Denmark changed its legislation allowing dual citizenship.

The table below (Table 4) summarizes the main differences between Denmark and Sweden's requirements for permanent residence and citizenship.

**Table 4: Requirements for citizenship and permanent residence in Sweden and Denmark (2016).**

Central Requirements	Sweden	Denmark
Acceptance of double citizenship	Yes (from 2001)	Yes (from 2015)
Language requirements	No	Yes
Knowledge-of-society requirement	No	Yes
Economic self-sufficiency	No	Yes
Oath of allegiance	No	Compulsory
Residence requirements for citizenship	5 years	8-9 years

Source: (Brochmann & Hagelund, 2010; Spång 2015).

Denmark has been defined as a country with “neo-assimilationist” policies, due to a shift in policy from a more multicultural approach (Rodríguez-García, 2010).

<sup>17</sup> The integration benefit is an exception since it applies only to the foreign born.

Others argue that there has never been any multicultural policy approach in Denmark, rather the absence of any policies with the aim of increasing immigrant integration (Brochmann & Hagelund, 2012). There is, however, no doubt that the integration issue has generated a great deal of political attention since the mid-90s, which has resulted in a number of policies with the aim of enhancing immigrant assimilation, making Denmark comparatively unique in a Scandinavian context.

## Data

This thesis is mainly based on data from different registers available through the Danish Civil Registration System (CRS) administered by Statistics Denmark. Access to the data is obtained through the Department of Politics at Copenhagen municipality<sup>18</sup>. There are many advantages of using register data for research purposes, offering a richness of information and allowing for the study of several topics that can be studied over time and across generations. The Danish CRS was established in 1968 and all individuals residing in Denmark were then registered for administrative purposes such as the collection of taxes. It includes (among many things) information about the individual such as sex, date and place of birth, citizenship, immigration, and emigration. It also includes information on spouses, siblings, and parents of the individual. Through an individual identifier (the CPR-number<sup>19</sup>), multigenerational links are obtained, thereby linking individuals to their spouses, siblings, and parents.

All papers use basic demographic information (such as year of birth, sex, country of origin, citizenship) from the population registry (BEF<sup>20</sup>), available from 1980 onwards. For native born, the place of birth refers to both the parish and municipality of birth, whereas, for the foreign born, place of birth is reported at the country level. Vital information is continuously updated in the registers, and information concerning death or emigration of an individual is available. The population registry provides the possibility of linking families, which is an important aspect of this dissertation. Due to a number of previous changes in the family registry, there is a small possibility for errors in the parental links for individuals born between 1960 and 1968. This does not affect the studies included in this dissertation in any major way. For individuals born after 1968 and before 1960, the parental linkage is 100% correct (Pedersen et al, 2006).

Danish register data has been deemed of good quality for a number of reasons (see Pedersen et al, 2006). To name a few, the information available is not primarily used for research purposes, but mainly by the Danish government for administrative purposes, thereby being continuously checked and updated. Statistics Denmark also provides an ongoing validation of different registers and variables. Moreover, all individuals in Denmark are required by law to register with the CRS, which ensures full coverage of the population.

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<sup>18</sup> The INTERREG project “*Job og Uddannelse i Øresundsregionen*” is also acknowledged for assistance in data access.

<sup>19</sup> Central Person Register.

<sup>20</sup> Befolkningsoplysinger.

Since all four papers of this dissertation have different aims and research questions, different registers are used to address the particular question. Paper 1 studies the effect of naturalization on an individual's income attainment and therefore, relies on the income registry (INDK) for the years 1986 until 2007. Information on income originates from the *Danish Customs and Tax Administration*. The main outcome variable of the study is labor income defined in the Danish registers as income from primary and other employment, pretax-reduction. The quality of the variable has been evaluated both by statistics Denmark and external evaluators<sup>21</sup>. Individuals in Paper 1 are censored upon retirement, and this information is obtained from the Danish Customs and Tax Administration. Paper 1 studies the effect of naturalization on income attainment for different immigrant groups and therefore, the study population includes first generation immigrants who at their arrival to Denmark were citizens of a country in Eastern Europe, Latin America, Africa, or Asia. The sample furthermore includes individuals who, during their time under observation, become eligible for Danish citizenship (taking citizenship legislation into account). Information on the timing of naturalization is of particular importance for the study, and this is available through the population registry. Paper 1 compares income trajectories of first generation immigrants in Denmark to those of first generation immigrants in Sweden. The Swedish data used originates from SLI (Swedish Longitudinal Immigrant Database<sup>22</sup>). Individuals that appear in the SLI are in Paper 1, followed between 1986 and 2001.

The second paper uses information on spouses and cohabitation that is a unique feature of the Danish registers. The variables used are available in the family registry (FAIN)<sup>23</sup> from 1980. Information on spouses has been updated since 1968 without deleting historical information, which means that information on all spouses is available for all individuals. Statistics Denmark defines cohabiting couples as two unrelated individuals of the opposite sex who are registered at the same address. Moreover, the age difference between cohabitants should be less than 15 years and no other adult person should be registered at the same address. The registers identify the exact house and/or apartment the individual lives in, which means that unique households can be defined. In the case where many families live in the same apartment building, an indication of the exact apartment is available<sup>24</sup>. By using the registration system's unique identifier, a co-habiting partner's information,

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<sup>21</sup> Statistics Denmark

<http://www.dst.dk/da/TilSalg/Forskningsservice/Dokumentation/hoejkvalitetsvariable/loenforhold-der-vedroerer-ida-ansattelser-/joblon>

<sup>22</sup> See J. Helgertz, *Immigrant careers: Why country of origin matters*, Lund Studies in economic History ([Lund]: Lund University, 2010), vol. 53, for a thorough description of the SLI.

<sup>23</sup> Husstande og familier.

<sup>24</sup> This variable is called SIDEDOER in the register.

including country of birth, can be linked on a household level. This allows identification of foreign born with a Danish partner. The income registry is used in the second paper, as the main outcome variable of Paper 2 is total income. This variable is annual income and includes annual wages and incomes from self-employment, plus different kinds of welfare benefits. The sample includes first generation immigrants arriving as singles in Denmark between the ages of 15 and 40. Only fist marriages and cohabitations after migration are studied and observations are censored upon separation, divorce or widowhood.

The third and fourth papers use grades from a standardized final examination in Danish and mathematics taken by students in the spring semester of class 9. Grades have been registered by Statistics Denmark since 2002. In the third paper, grades from 2002 until 2011 are used, and in the fourth paper, the dataset is extended and includes grades until 2015. Various tests are taken in both subjects and thus the variables used are averages of the grades of many tests. The tests are marked both by the class teacher and an external teacher, which increases the objectivity of the grades given. The grades have been applied in several previous studies, both in epidemiology and in social science (see for example: Christensen et al, 2006; Nielsen & Rangvid Schindler, 2012).

The current Danish grading system is based on the ‘7-point scale’ which was changed during the academic year of 2005/2006 from the ‘13-point scale.’<sup>25</sup> Table 5 below show the grades used in paper 3 and 4 and the equivalent ETCS grades.

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<sup>25</sup> The 13-point scale and the 7- point scale are the official Danish names of the two grading systems. The first name is based on the highest grade points achieved and the second is based on the number of different grades given.

**Table 5. Grades- “7-point scale” and equivalent ETCS grade**

Danish grade	Explanation of grade	Equivalent ETCS grade
12	Excellent performance	A
10	Very good performance	B
7	Good performance	C
4	Fair performance	D
02	Adequate performance	E
00	Inadequate performance	Fx
-3	Unacceptable performance	F

The fourth paper looks at effects of an educational reform implemented in the autumn semester of 2002 that removed supplementary mother-tongue education in certain municipalities. The register data is in this study supplemented by survey data collected in 2007 and in 2016 (see Timm, 2009). The aim of the survey in 2007 was to map which municipalities continued to offer supplementary mother-tongue education after the reform. All Danish municipalities were questioned regarding the mother-tongue education provided by the municipality. The survey was not made for the purpose of this dissertation, and this comes with a few shortcomings. The survey is cross-sectional and information regarding the availability of mother-tongue education on the municipality level is available for the academic year of 2007/2008 only. For this reason, an additional survey was made for the purpose of this dissertation, in December 2016, in order to see if any municipalities had removed mother-tongue training since the first survey was conducted. All municipalities were once again contacted (via email or telephone) and were asked if they provided supplementary mother-tongue education free of charge for immigrants and second generation immigrants from countries other than countries of the EU, EES, Greenland, and the Faroe Islands. The final sample used in the study consists of 78 out of Denmark’s 98 municipalities. Seventy decided to remove mother-tongue education and eight decided to keep it. Twenty out of Denmark’s 98 municipalities were dropped from the analysis, mainly due to not responding in the first survey.

# Summary of papers

## **Paper 1. Naturalization and earnings: a Denmark–Sweden comparison**

Naturalization can be viewed as a final goal of an integration process, or as an important means in this process of achieving social and economic integration as it has the potential to enhance income and labor market attachment for immigrants. Identifying a causal effect of naturalization on income is a major empirical challenge, although very relevant from a policy perspective. A causal link between naturalization and income (*a naturalization premium*) would mean that liberalization of citizenship legislation could be used as an important policy tool used to enhance immigrants' integration.

Many previous studies have found that naturalized immigrants enjoy better labor market integration than those who retain citizenship from their country of origin. It is, however, important to be cautious about interpreting this in causal terms. Much of the superior integration found among those immigrants that eventually naturalize can be attributed to positive selection, which means that comparatively more successful immigrants choose, to a greater extent, to naturalize. A naturalization premium is normally explained by demand-side factors such as employers' behavior and attitudes. Employers may be more inclined to employ naturalized individuals due to potential signaling of intentions to stay and invest long term in the host country specific human and social capital, but also due to transaction costs that are lower for naturalized individuals than for those who only have temporary work and/or residence permits.

The aim of this first paper of the dissertation is to study the effects of naturalization on first generation immigrants' income attainment, comparing Denmark and Sweden. Many immigrant receiving countries have changed their citizenship legislation in recent decades; some towards a more stringent legislation whereas others have implemented liberalizing measures (Goodman, 2010). This paper studies Denmark and Sweden and despite many similarities between the two countries in terms of the structure and organization of the welfare state, important differences in terms of citizenship legislation are found. In Denmark important changes towards a more restrictive legislation has been made, with a language skills requirement as well as requirements of general conduct and knowledge of Danish history and society (Baubock, Ersboll, Groenendijk & Waldrauch, 2007). Sweden has instead taken the opposite direction and changed citizenship legislation with a more liberal approach without any self-sufficiency requirements or tests (Spång, 2015). This difference gives an opportunity to study differences in citizenship eligibility and how this affects naturalization premiums. Previous studies of Sweden

have provided somewhat mixed results (see for example Scott, 2008; Engdahl, 2011). This is the first study of naturalization premiums in Denmark.

In order to interpret a naturalization premium in causal terms, a positive labor market outcome is regarded as a direct result of the act of naturalization and thus should be seen after the change in status. In this paper, individual fixed-effect regression models are applied using longitudinal register data from 1986 to 2001/2007. The study population consists of individuals who at their arrival in Denmark or Sweden were citizens in countries of Eastern Europe, Latin America, Africa, or Asia. The samples used contain only individuals who eventually become eligible for citizenship; in Sweden, this means that only those remaining in Sweden for at least four consecutive years are included. In the case of Denmark, the corresponding number of years was six until 2002, and eight thereafter.

In both Denmark and Sweden, naturalization premiums are found for individuals originating from African and Asian countries. Positive selection (more successful individuals in terms of income attainment disproportionately choose to naturalize), on the other hand, seems to be driving the advantages enjoyed by foreign born from Latin America and Eastern Europe in both Sweden and Denmark. The different results found across immigrant groups suggest that potential *signals* sent to employers matter more for groups marginalized in the labor market (from African or Asian countries). Naturalization could operate as a way to overcome discrimination, empirically shown to exist for Asian immigrants in Sweden (Carlsson & Rooth, 2007).

Citizenship acquisition in Denmark is associated with greater formal requirements, which in theory would mean that naturalization is associated with a higher value in Denmark than in Sweden. However, the results of the paper show no indication of this, since effects are consistent across countries. Thus, it appears questionable whether more stringent legislation leads to a greater naturalization premium and subsequently better integration of immigrants.

## **Paper 2. Cohabitation premiums in Denmark: income effects in immigrant–native partnerships**

This paper follows the theme of paper 1 as we once again study income trajectories of first generation immigrants. The focus is individual level income effects of immigrant-native cohabitation. Immigrants that are married to natives tend to do better in the labor market and earn higher incomes than immigrants that are married to other immigrants (Dribe & Lundh, 2008). This can indeed be explained by positive selection, which means that comparatively more successful immigrants, to a greater extent, marry natives. However, positive outcomes in the labor market can also be explained by direct effects of intermarriage. Economic and sociological



theory provides arguments for a causal positive effect of marriage on income in general and intermarriage on income in particular. One argument is that marriage leads to household specialization, which makes specialized households more efficient than single households (see Becker, 1985). Whereas specialization could not explain any intermarriage wage premium beyond the general marriage wage premium, *spillover effects* are of special importance in exogamous marriages. The native spouse usually has knowledge that the immigrant spouse lacks, regarding information about rules and customs, access to native networks, and not the least, support for host-country language acquisition (Benham, 1974; Furtado & Theodoropoulos, 2010). Another causal income effect of intermarriage is closely related to the labor market. Both marriage in general and intermarriage in particular can be regarded as positive signals sent to employers. Marriage signals commitment and responsibility and intermarriage signals intentions to invest and stay long-term in the host-country.

Findings in previous studies differ depending on context, immigrant groups, and methods. Several studies find strong positive effects (Furtado & Song, 2015; Meng, & Gregory, 2005), while others rather question an intermarriage premium (Nekby, 2010).

The main advantage with this paper is that unique data on cohabitation is applied, which enables us to study the event of actual household formation rather than solely the event of legal status change. As most couples in Denmark cohabit before marriage, this is a better definition if we assume that spillovers within households are the main drivers of intermarriage premiums.

The main empirical challenge of this paper is similar to the challenge in paper 1. The aim is to detect selection in finding an (intermarriage) premium. The empirical strategy is to use OLS with individual level fixed effects. With this strategy, all time invariant characteristics on the individual level cancel out. However, time invariant characteristics, such as host-country language acquisition, may still bias the results. To account for this, we apply distributed fixed effects (DFE) in order to obtain a time profile of the effects (following Dougherty, 2006; Dribe & Nystedt, 2015). This method does not cancel out time variant characteristics but the time profile provides a possibility to detect selection by analyzing income trajectories in relation to the timing of household formation. This paper uses Danish register data from 1981 until 2011. The data is unique since it contains information on cohabitation, which is ideal for the empirical strategy of this paper.

The results indicate that both living together with and being married to a native Dane have positive effects on immigrants' incomes. Results of this paper are, furthermore, in line with the findings in paper 1. For certain immigrant groups, cohabitation/intermarriage with a Dane is comparably beneficial in terms of income and here, a substantial intermarriage premium is found for immigrants originating

from low and middle income countries. While intermarriage premiums are also found for immigrants originating from high-income countries, premiums in exogamous relationships are not stronger than premiums in endogamous relationships as in the case of immigrants from low and middle income countries. One possible explanation for the results found is the spillover effect from native spouses who have access to native networks, country specific knowledge, and are a resource in terms of language skills. Having a native spouse can also (in the same manner as having a citizenship, as shown in paper 1) be an important signal to employers of commitment and an intention to stay long-term in Denmark. Positive signals to employers may be of significant importance for immigrants who experience limited prospects in the labor market. Immigrants from the Middle East, who generally have a more difficult situation in the Danish labor market (Husted et al, 2001), indeed benefit from exogamous cohabitation, as was found for marriages in Sweden (Dribe & Nystedt, 2014). Various mechanisms could explain this, such as larger linguistic distance, a lack of native networks, or discrimination.

### **Paper 3. The intergenerational effects of intermarriage**

Long-term consequences of intermarriage are to be found studying the outcomes of children with intermarried parents. Children with mixed parenthood (sometimes referred to as the 2.5 generation) are less likely to strongly identify with any particular group (Kalmijn, 2015) and thus, there is potential for reducing strong group identities in generations to come. Through the children, intermarriage connects families and social networks and leads to more ethnic contacts.

However, intermarriage can also affect child outcomes in more negative ways. Intermarriages are on average less stable than endogamous marriages and parental separation and conflict are shown to be negatively associated with child outcomes (Zhang & van Hook, 2009; Heaton, 2002; Bernardi & Radl, 2014). Another aspect frequently brought up in the literature on children with intermarried parents is the possibility that children of intermarriage are regarded as belonging to the minority group by the majority population, which could lead to the same stigma as experienced by certain immigrant groups or ethnic minorities. In American sociological literature, this is referred to as the *one drop rule* (Kalmijn, 2015).

This study adds to the existing literature by closely examining the long-term outcomes of intermarriage in terms of children's educational performance, studying grades from final examinations in class nine using rich Danish register data, where families are linked across generations. This study is the first study on educational outcomes of this particular group in Denmark and it contributes to migration literature by providing new insights into human capital formation in inter-ethnic

families. Furthermore, it explores the heterogeneity of the non-native parents considering the importance of parental country of origin.

Moreover, it is important to account for selection when studying outcomes of children of intermarriage as marriage formation cannot be treated as exogenous to educational achievements of the children from these marriages. Research on intermarriage has shown that several factors, both social and cultural determine the likelihood of entering an interethnic relationship for an individual. It is likely that both foreign-born and natives in interethnic relationships possess certain characteristics such as values, upbringing practices, and involvement—characteristics that may affect school achievement of their children. An important finding in the literature on intermarriage is that immigrants with higher education and socio-economic status are more likely to marry natives (Qian & Lichter, 2007; Van Tubergen & Maas, 2007) and in addition to this, there are well documented individual level income effects of intermarriage (Meng & Gregory, 2005; Dribe & Lundh, 2008); hence, studying the educational outcomes of children of intermarriage calls for an empirical strategy that account for this selection of the parents.

This paper applies cousin fixed effects comparing grades of two cousins where one cousin has one foreign-born and one native parent, whereas the other has two native, or two foreign-born parents. It is likely that both foreign-born and natives in interethnic relationships possess certain characteristics such as values, upbringing practices, and involvement—characteristics that may affect school achievement of their children. Sisters and brothers are more likely to share these features than two random individuals and thus cousin fixed effects are applied in the analysis. We assume that two cousins are more likely to share certain characteristics at the family level as their mothers and fathers shared family and neighborhood characteristics while growing up, and by applying cousin fixed effects, bias from unobserved parental family background cancel out.

The analysis is based on Danish administrative registers where the main outcome variables are final grades from nationally centralized final examinations in mathematics and Danish language in class 9. The grades of children from intermarriage are in the analysis compared to children with two native born parents (native Danes), and children born in Denmark with two immigrant parents (second generation immigrants).

The performance of children of intermarriage is expected to be more in line with the performance of native Danes, which is explained by a number of positive spillover effects from the native parent. Results confirm our expectations and show that the performance of children of intermarriage is in line with natives, and that second generation immigrants lag behind the other groups. The paper is further concerned with the region of origin of the non-native parent. According to theory, we can

expect that children with non-native parents originating from countries that have a closer cultural and geographical distance to Denmark, to a higher extent will perform more in line with native Danes. The analysis once again confirms our expectations, and we see that children with non-native parents originating from countries in Asia, Africa, and Latin America have substantially lower grades than children with non-native parents originating from Nordic or Western countries. Once cousin fixed effects are applied, negative effects remain for children with a non-native parent originating from Africa.

#### **Paper 4. The effect of supplementary mother-tongue education on grades in majority language: evidence from Denmark.**

Mother-tongue education can be seen as an important tool for minority children to gain or maintain proficiency in their mother-tongue. It will also uphold a cultural and social link to the country and culture of origin, and has, in addition, been deemed important for immigrant integration, as it is believed to help enhance proficiency in the receiving country language. Advocates of mother-tongue education in school thus highlight the importance of knowing one's mother-tongue for successful second language acquisition, as high proficiency in the mother-tongue will ease the learning of a second language. Others argue, on the other hand, that the focus in school should be on the majority language, and thereby, question the link between mother-tongue proficiency and the second language. This study makes use of a policy change in Denmark removing mother-tongue education for immigrant and second generation immigrant students in certain municipalities. The main political motivation of the reform was to increase immigrant integration by enhancing Danish proficiency.

There is very little quantitative evidence on the effects of supplementary mother-tongue education for first- and second generation immigrants. The aim of this paper is to make use of the variation in the implementation of the reform by comparing grades in Danish and mathematics of students in municipalities that removed mother-tongue training to grades of students in municipalities that kept this training. The outcome of interest is the same as in paper 3—final grades in standardized tests in Danish and mathematics.

The analysis shows negative effects of the removal of mother-tongue education for grades in Danish for boys, but not for girls. This finding was expected since girls tend to have more mother-tongue training in the household and do better than boys in both the mother-tongue and in the majority language. Boys are, in other words, more dependent on additional teaching and support in the mother-tongue in school.

This study also assesses effects of the removal of mother-tongue education on grades in mathematics (Barwell et. al 2007). There are a number of reasons for why

the removal should matter for these grades. First, multilingualism enhances general problem-solving ability, which is beneficial for mathematics. Second, mother-tongue teachers may be an additional help for students, explaining mathematics in the students' first language; and third, additional time spent in school may enhance the overall attainment. This paper finds negative effects on mathematics for removing mother-tongue education for both boys and girls. The analysis also finds differences between first and second generation immigrants. No effects are found for second generation immigrants for grades in Danish, whereas negative effects are found for first generation immigrants. This is according to expectations, as time of exposure to the majority language will matter for the outcome and the importance of mother-tongue training will thus differ between these groups.

Increasing the educational attainment for first and second generation immigrants is important since they fall behind in the Danish labor market. This is particularly true for individuals originating from countries other than countries of the EES and EU. The political aim of the policy reform introduced in 2002 was to increase the assimilation of these groups, and by removing mother-tongue training, immigrant children were believed to increase their proficiency in Danish, which would in turn increase labor market integration. This study shows that such positive effects of the reform are not found—rather the opposite; that the removal of mother-tongue training leads to lower grades in Danish for boys and in mathematics for boys in general, and boys and girls belonging to the second generation immigrants. Although the effects are modest, this study provides evidence that mother-tongue education matters for the educational achievement of children with a background in countries other than EU and the EES. If the motivation of Danish educational policies directed towards first and second generation immigrants is to enhance immigrant integration, the removal of mother-tongue education should be reconsidered.

## Conclusion

Immigration is a rather recent phenomenon in Denmark. Post war immigration was limited and consisted mainly of guest workers and migrants from neighboring countries. It was not until the 1980s that immigration really took off, mostly due to global unrest leading to an increasing number of refugees and family reunification migrants entering Denmark. This has resulted in first and second generation immigrants constituting a growing share of the Danish population, from around 3% in 1980 to more than 12% in 2016. The period of study in this thesis is covering this transformation of the Danish society and thereby contributes to our understanding of the integration of first- and second generation immigrants in Denmark.

The foreign born and their children are falling behind in terms of labor market participation and educational attainment, and even though the immigrant population is comparatively small, the immigration issue has caused a fierce and ongoing political debate. The relatively fast transformation of an ethnically homogenous to an ethnically diverse country is suggested as a reason for the political tension, but also the increasing dominance of non-Western immigrants in Denmark, combined with this group's increasingly vulnerable position in the Danish labor market. The political attention has resulted in the introduction of numerous policies in areas such as family reunification and citizenship.

This highlights the importance of considering multiple dimensions of immigrant integration in Denmark. While previous Danish migration literature primarily study individual level, or labor market related factors, this thesis adds to our understanding of different trajectories of immigrant integration in Denmark by studying policy and family related aspects. Immigrant families are important as they transmit norms, language, and behavior and provide social networks for individuals. The family is moreover essential in order to uphold cultural bonds to the country of origin, but can also be regarded as an important point of departure for the integration of immigrants into the Danish Society. In addition, contextual factors of the receiving country are of great relevance for individual outcomes, as different policies and regulations has the potential to either enhance or hinder immigrant integration.

The association between family composition and socio-economic outcomes of the individual is examined in this thesis by studying the effects of intermarriage. Theory and previous research indicate that intermarriage provides access to native networks and Danish language training for the immigrant spouse through the native spouse. Intermarriage moreover sends an important signal of (social) assimilation as it shows a commitment of the immigrant to the host county as well as an acculturation to the majority norms. By closely estimating income effects in relation to timing of household formation, this thesis shows that intermarriage is an engine of integration in Denmark. Comparably high intermarriage premiums are found for immigrants

who experience limited possibilities on the Danish labor market. Immigrants from high income countries also experience intermarriage premiums in Denmark but these premiums are not stronger than premiums in endogamous relationships. The positive effects of intermarriage are thus more valuable to individuals in more vulnerable positions in the Danish labor market and thereby intermarriage between natives and immigrants increases integration for these groups in particular.

For children, intermarriage moreover leads to positive outcomes as children of intermarriage are more likely than children with two foreign-born parents to identify with the majority culture, and as such they will have access to networks and reap the benefits from a variety of aspects that comes with having a native parent. As a result they will experience similar benefits as native children. Positive effects of intermarriage are found in this dissertation comparing the educational performance of children of intermarriage to children with two foreign born parents, also when taking school and family level characteristics into account. Comparing their outcomes to children with two native born parents, small differences are found. Differences between the 2.5 generation and native Danes are however more pronounced when the heterogeneous character of immigrants in Denmark is explored as group differences dependent on the region of origin of the non-native parent are studied. Children with a non-native parent originating from a country with a more distant cultural and geographical distance to Denmark have results that are more in line with those of the second generation immigrants. This may be related to stigmatization theory; that children with a parent that are more “distant” in the eyes of the majority group are subject to the same stigma as experienced by first and second generation immigrant children. They may furthermore experience stress when their self-identification is not mirrored by the majority population’s perception.

Family level factors are important for the inclusion of immigrants in the Danish society. Policy and legislation constitute other factors that can either stimulate or hinder immigrant integration. This thesis has shown that the socio-economic outcomes of the individual are affected by policy implemented by the Danish government. An educational reform with the aim of enhancing immigrant integration by increasing school children’s Danish language proficiency is studied. The assumption was that by removing supplementary mother-tongue education, the focus on learning the Danish language would be strengthened. The results, however, rather show negative effects of the reform, as the removal led to lower grades in Danish. In fact, the results support the argument that mother-tongue proficiency matters for second language acquisition.

The study also found important group differences as boys and girls, and also immigrants and second generation immigrants responded differently to the removal of mother-tongue education. Removing the mother tongue education had negative



effects for boys' grades in Danish. This may be explained by boys being in more need of additional mother tongue training in school, as girls has been shown to receive more training at home. The effects of the removal of mother tongue education is furthermore assessed studying grades in mathematics and negative effects are found also here, which is related to the enhancement of overall problem-solving ability through multilingual education. The mother tongue teacher may moreover be a valuable help in explaining mathematics in the student's mother tongue. The results from the study show that, although policy may be a valuable tool for governments in enhancing immigrant integration, it does not always work out as intended.

Immigrants can acquire Danish citizenship through the legal process of naturalization. This can be regarded as a steppingstone for the individual in the integration process. Consistent naturalization premiums are found in this dissertation but only for immigrants more marginalized in the Danish labor market (originating from Africa and Asia). Indeed, naturalization may open up for a previously unavailable pool of jobs, but as differences are found across immigrant groups, this is a less likely explanation to the premiums. Instead, it is more reasonable to expect that the naturalization premiums found, are explained by signaling mechanisms. For immigrants in a more marginalized position in the Danish society, naturalization may be of particular importance for labor market integration as it sends valuable signals of commitment to Denmark, including the intention to stay long term as well as an investment in necessary human capital. These positive signals transmitted through naturalization give the employer more information about the potential productivity of the employee (Liebig 2011). This is a means to overcome discrimination in the labor market and is not equally necessary for immigrants originating from countries that are less distant to Denmark in terms of culture and geography as these groups may be less affected by discrimination.

Common findings in all studies included in this dissertation are the large group differences in terms of results. This is a consistent finding in migration literature and not very surprising. For foreign born that originate from countries that are more culturally and geographically proximate to Denmark, naturalization and intermarriage are less important as an integration tool. These groups already tend to be economically and socially integrated in the Danish society and they are less in need of an additional boost from changing citizenship or marrying a Dane. Instead groups from more distant countries of origin are benefiting from intermarriage and naturalization. Group differences are moreover found when studying intergenerational effects of intermarriage. Children of intermarriage indeed tend to perform better in school than children belonging to the second generation of immigrants, and their performance is more in line with the performance of native Danes. But when taking parental heterogeneity into account differences emerge and children with a non-native parent originating from a country more culturally and



geographically distant from Denmark, tend have an educational performance more in line with the second generation of immigrants.

Policy is an important tool for the Danish government to increase the integration of groups marginalized in the Danish society. The studies consistently show the importance of intermarriage, naturalization and mother-tongue education for the socio-economic outcomes of first and second generation immigrant in Denmark- and that groups more marginalized in the Danish society are benefiting the most. Although it is difficult to design policies in order to increase the intermarriage between immigrants and natives, residential segregation imposes an unnecessary obstacle for interaction. The Danish government should thus actively aim for less segregation along ethnic lines. Furthermore, the study on naturalization has shown that the strict requirements on naturalization in Denmark do not lead to greater returns in the labor market as similar results were found for both Sweden and Denmark, despite substantial legislative differences. The removal of mother tongue education, on the other hand, is negatively associated with immigrants' educational achievement and should be reconsidered if the Danish policy aim is to decrease differences between natives and immigrants in terms of socio economic outcomes.

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