CESifo WORKING PAPERS

6961
2018

March 2018

Refugee Resettlement, Redistribution and Growth

Leonid V. Azarnert

CESifo

Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de
Editors: Clemens Fuest, Oliver Falck, Jasmin Gröschl
www.cesifo-group.org/wp

An electronic version of the paper may be downloaded
· from the SSRN website: www.SSRN.com
· from the RePEc website: www.RePEc.org
· from the CESifo website: www.CESifo-group.org/wp

CESifo *Working Paper No. 6961*
Category 6: Fiscal Policy, Macroeconomics and Growth

Refugee Resettlement, Redistribution and Growth

Abstract

This paper studies the effect of refugee resettlement on human capital accumulation. The analysis is performed in a growth model with endogenous fertility. I show how refugee resettlement from a more advanced and wealthier economy to a less advanced and less wealthy economy combined with income transfers is Pareto-improving for indigenous populations in both countries. I also derive conditions for the proposed resettlement policy to stimulate human capital accumulation and hence economic growth in both economies.

JEL-Codes: D300, F220, J100, O100.

Keywords: refugee resettlement, fertility, human capital, growth.

Leonid V. Azarnert
Department of Economics and Business Administration
Ariel University
Israel – Ariel, 40700
Leonid.Azarnert@gmail.com

I thank Arye L Hillman and Martin Paldam for their suggestions. I also thank participants at the 31st annual conference of the European Society for Population Economics (Glasgow 2017), the 1st Ariel Conference on the Political Economy of the Public Policy (Ariel 2017) and the 8th international conference ‘The Future of Europe’ (Bucharest 2017) for their comments.

1. Introduction

During the past 2 decades, more than six million people have applied for asylum in the European Union. In 2015, these figures rose dramatically and it is broadly believed that millions of asylum seekers will find their way to Europe in the nearest future.[1] Challenges posed by the volume of refugee flows have triggered an extended discussion and the current European asylum policy has widely been criticized as ineffective and, to a certain extent, unfair.

In the face of the refugee crises, numerous voices have advocated resettlement as a solution. Several scholars appeal to the concept of solidarity and burden-sharing and suggest a further harmonization of national asylum policies and more centralization (see, for example, Hatton, 2015 where further references can be found). Others, in contrast, have recommended paying more attention to market-based mechanisms.

A market-based solution in the context of refugee resettlement was initially proposed by researchers in the field of international law. Schuck (1997) and Hathaway and Neve (1997) were the first to discuss a system of bilateral negotiations over tradable refugee resettlement. In the system proposed by Hathaway and Neve (1997), poorer states would agree to host refugees, while richer states would agree to finance the costs of refugee protection incurred by the host states. Schuck (1997) proposed a similar system in which states would first agree to quotas, based on national wealth or other criteria, for the number of refugees each is obligated to protect. Next, the participating states would be able to trade their quotas by paying others to fulfill their obligations. Bubb et al. (2011) supplemented this system of bilateral exchange with a screening device to separate refugees from economic migrants. Subsequently, Fernandez-Huertas Moraga and Rapoport (2014) proposed a multilateral system of tradable immigration quotas with a main application to the resettlement of long-standing refugees. In Fernandez-Huertas Moraga and Rapoport (2015), they applied this idea to relocation of refugees and asylum seekers in the context of the European Union. These authors emphasized that, since

[1] In 2015, more than 1.6 million people applied for asylum in the OECD countries and about a million additional asylum seekers were registered in the first eight months of 2016. The costs of hosting refugees in the OECD countries are substantial. Thus, for example, Germany, which in 2015 took in as many as 900,000 asylum seekers, spent on their hosting in that year 16 billion Euros (0.5% of GDP). Sweden, which

admission of refugees and asylum seekers is costly and the costs vary across countries, from the point of view of receiving countries, efficiency gains could be achieved if refugees and asylum seekers were to be hosted where it is cheapest to host them.

This paper expands the literature on tradable refugee resettlement in the direction of human capital accumulation and growth. The analysis is performed in a growth model with endogenous fertility in the tradition of Galor and Tsiddon (1997) building on Azarnert (2010a), where the effect of free education on fertility, private educational investment, and human capital accumulation was considered.[2] I show how refugee resettlement from a more advanced and wealthier country to a less advanced and less wealthy country, combined with financial transfers, increases utility of indigenous populations and stimulates human capital accumulation in both economies.[3]

The basic idea of this paper is as follows. Suppose that for some exogenous (humanitarian) reason the government of the wealthier economy is willing to provide asylum to a certain number of refugees.[4] If on average refugees are less skilled than the indigenous population, their arrival reduces the average level of human capital in the hosting economy, which reduces the rate of return on investment in human capital for the children's generation through a global or atmospheric externality. This in turn generates an incentive for the agents in the wealthier economy to finance income transfers to the agents in the less wealthy economy to make it worthwhile for them to host the resettled refugees in their own country. I propose a particular redistribution scheme and derive conditions for refugee resettlement combined with income transfers to increase utility of the local individuals in both economies. That is, there is Pareto improvement.

If transfers are financed by taxes levied on labor income of the agents in the wealthier economy and distributed in the form of subsidies to labor income of the agents

---

took in 163,000 asylum seekers in 2015 (the highest per capita ratio ever registered in the OECD at 1.6% of total population) spent 6 billion Euros (1.35% of GDP).

[2] For a survey of the literature on endogenous fertility and growth see Galor (2012).

[3] In Azarnert (2010b) I show how the influences of unskilled immigration, differential fertility between immigrants and the local indigenous population, and the incentives for investment in human capital combine to predict the decline of the West In Azarnert (2010c) I demonstrate that the intensity of the struggle against immigration can be inversely related to the levels of fertility in the host countries. Cf. also Azarnert (2014).

[4] The existence of an exogenously given mass of identical refugees is a standard assumption in the literature on refugee resettlement (e.g. Facchini et al. (2006) and Fernandez-Huertas Moraga and Rapoport (2015)). Cf. also Hatton (2015) where further references can be found.

in the less wealthy economy, income redistribution affects the agents' optimization with respect to the quantity and quality of their offspring. Taxation of labor income increases fertility and reduces per-child human capital investment of parents in the more developed, wealthier economy, thereby reducing the resulting per-capita human capital levels in this economy in the next period. In contrast, subsidies reduce fertility and increase parental investment in per-child human capital in the less wealthy economy, hence increasing the resulting per-capita human capital levels in this economy in the next period.

The effect of the relocation of refugees on human capital accumulation is twofold: First, resettlement affects the shares of the relatively low-skilled offspring of the current period refugees in the society, reducing it in the wealthier economy and increasing it in the less wealthy economy. Second, through its effect on the average societal level of human capital in the current period (via the global human capital externality), resettlement contributes to a further increase in the average level of human capital in the wealthier economy in the next period, while reducing the next period's average level of human capital in the receiving economy.

I derive the exact conditions for the proposed resettlement policy to increase the average society-wide levels of human capital in both economies in the next period, thereby encouraging economic growth. Moreover, through transmission of human capital between successive generations the effect of the resettlement will evolve further from one generation to the next. The analysis thus suggests that current policies of asylum provision and refugee resettlement will have long lasting consequences for human capital accumulation and hence economic growth in the future.

Of course, a reduction in the average level of human capital in the host economy is not the major reason for an adverse effect of immigration from less developed countries on the local population in advanced economies. A more extensive list of the reasons includes, for instance, traditional economic reasons, such as a fiscal burden of immigration and labor market and welfare considerations, natives' perception that immigration gives rise to delinquency and social insecurity, and non-economic reasons, such as cultural differences and changes in the general nature of the community. See Hillman (1994), Hillman and Weiss (1999), Bauer et al. (2000), O'Rourke and Sinnott (2006), Dustmann and Preston (2006, 2007), Miguet (2008), Facchini and Mayda (2008),

and Card et al. (2012), among many others. Predictably, it has been found that across European countries non-Western and, particularly Muslim immigrants, induce threat perceptions in the host society (e.g. Schneider, 2008; Green et al., 2010; Hjern and Nagayoshi, 2011),[5] and that immigrants of a different race/ethnicity to the native population appear to be perceived as being more likely to benefit from public funds than immigrants of the same race/ethnicity as the native population (Bridges and Mateut, 2014).

Focusing on the economic aspects of immigration, the empirical evidence has decisively demonstrated that immigrants are over-represented among welfare beneficiaries. Thus, for example, in Germany and Sweden, the proportion of immigrants among income support recipients has exceeded their share in the total population since at least 1980.[6] In Denmark, during the 1990s, an increase in non-Western immigration was associated with a sharp increase in the amount of net transfers from indigenous Danes to the public sector.[7] In his survey of the literature on immigration and welfare state, Nannestad (2007) summarizes the evidence as concluding that immigration was disadvantageous for the indigenous population and beneficial for immigrants. In Europe, a considerable part of immigrant minorities do not participate in the labor market and among those who are formally in the labor force, unemployment is much higher than that among the indigenous population. The evidence also indicates that European-born

[5] As to the popular concepts of multiculturalism and cultural enrichment, Gorinas (2014) notes that, for instance, in Denmark, the 2008 European Values Survey reveals that one of the biggest concerns associated with immigration is the undermining of the majority culture, and only 6% of the Danish population wishes that immigrants keep their customs and traditions.

[6] For example, in 1996, the share of minority immigrants among income support recipients in Germany was 25.8%, while their share in the total population was less than 10%. In Western Germany, between 1991 and 1996 an increase in the number of minority immigrants was associated with an increase in real expenditures on income support by 141% (Riphahn, 2004). It is also noteworthy that since 1994 these statistics exclude expenditures on asylum seekers. Ethnic German immigrants from Eastern Europe are considered in these statistics as German nationals. Similarly, in Sweden, an increase in the share of immigrants in the population from 7.6% to 10.8% between 1983 and 1996 was associated with an increase in real expenditure on social assistance by 170%, while by the mid-1990s immigrants accounted to nearly half of the country's expenditure on social assistance, up from less than one quarter of total expenditures in the early 1980s (Hansen and Lofstrom, 2009).

[7] Net transfers from indigenous Danes to the public sector in Dkr (1997 prices) per person increased from 14,900 in 1991 to 24,500 in 1998 (Nannestad, 2004, table 2). The first estimate of the fiscal impact of immigration in Denmark published in December 1997 shows that the net cost of non-Western immigrants amounted to 11.3 billion Dkr in 1995 (Nannestad, 2007, note 27). The ministry of finance has calculated that in 2016 the net cost of immigrants and their descendants was 28 billion Danish kroner, which amounted

descendants of non-white immigrants have much lower employment and earnings and exhibit very high welfare dependency, relative to comparable natives.[8] Studies looking at the difference between refugees and economic immigrants generally conclude that refugees have significantly worse labor market outcomes (e.g. Yu et al., 2007; Aydemir, 2007; Wilkinson, 2008; Connor, 2010; Ott, 2013).

Researchers have also presented evidence that immigration has an impact on crime, in particular, property crimes and robbery (Bianchi et al., 2012; Spenkuch, 2014), and that asylum seekers are likely to have higher net returns to criminal activity than economic migrants (Bell et al., 2013). Muslim immigration has been associated with an increased threat of terrorist attacks (Europol, 2017).[9] It has also been shown that immigration pushes up housing rents (Saiz, 2007), and that minority immigration causes the indigenous population to opt out of public schools for private education (Betts and Fairlie, 2003; Rangvid, 2010; Gerdes, 2013), and relocate from immigrant-dense districts to other areas (Saiz and Wachter, 2011; Accetturo et al., 2014 and references therein).

For any reason that causes local agents to incur the costs associated with immigration from the less developed world, the effect is the same. This paper is about effects, not reasons.

Advanced countries have implemented refugee resettlement to cheaper destinations on several occasions. Thus, for example, in response to the 1994 exodus from Cuba, the United States persuaded Panama and several islands in the region to accept

---

to about 1.5% of GDP. Using a computable general equilibrium model for Denmark, Schou (2006) shows that general immigration would worsen the Danish fiscal sustainability problem.

[8] Nannestad (2004) reports that in Denmark more than 50% of nonwestern immigrants and their descendants were outside the labor force in 2001. The most striking are the figures for Somalis and Palestinians, for whom labor market participation rates were 14 and 26 percent respectively. During 1985 – 2001, among immigrants and their Danish-born descendants, unemployment was at least 3 times greater than that among indigenous Danes. Similarly, Algan et al. (2010) report that in France, Germany and the UK, employment rates of second-generation, European-born immigrants of non-European ancestry were significantly lower than the employment rates of the indigenous populations in these countries. For most groups of non-European immigrants, the employment rates of the second-generation male immigrants were lower than the employment rates of the first-generation male immigrants. See also Blume and Verner (2007) on Denmark, Hansen and Lofstrom (2009) and Andren and Andren (2013) on Sweden, Bratsberg et al. (2014) on Norway, Wunder and Riphahn (2014) and Riphahn and Wunder (2016) on Germany, and Pellizzari (2013) on Italy. Preferences for consumption and leisure can be a consideration. On leisure and redistribution, see Hodler (2008).

[9] For example, Europol (2017) reports that in 2016 in its member states 142 victims were killed in terrorist attacks and 379 people were injured. Nearly all reported fatalities (135 out of 142) and most of casualties were the result of jihadist attacks. As Europol experts conclude (p. 61), it is undisputable that some terrorists have entered the EU posing as refugees.

9000 refugees, albeit only on a temporary basis. Under its Pacific Solution, begun in 2001 and terminated in 2008, Australia transferred refugee-claimants to Papua New Guinea and Nauru for processing. The stated goal of the new Regional Resettlement Arrangement between Australia and Papua New Guinea (known as PNG Solution) that was announced on 19 July 2013 has been to resettle all legitimate refugees that reach Australia in Papua New Guinea. In November 2015, an agreement was reached between the EU and Turkey to step up cooperation in managing migration flows and provide 3 billion Euros of additional humanitarian assistance to Turkey to support Syrian refugees. Previous agreements on migration-related issues with Libya also allowed European countries to significantly reduce the influx of illegal migrants and asylum seekers from Africa.[10]

There can be a concern that resettlement from rich Western democracies to poorer countries with less advanced welfare systems will be utility-reducing for the refugees. We therefore encounter the issue of the refugees' legal rights. It should be noted that, according to the 1951 Convention Relating to the Status of Refugees (189 U.N.T.S. 137 [July 28, 1951]), refugees are entitled only to basic protection from persecution, not residence in the society of their choice. Transferring refugee-claimants to poorer safe countries would help separate genuine refugees trying to escape atrocities in their home countries from welfare migrants who are attracted by welfare payments in the West.

2. The Basic Structure of the Model

Consider an overlapping-generations economy, in which activity extends over an infinite discrete time. In every period the economy produces a single homogenous good using a constant-returns-to-scale technology with human capital as the only input. In each generation, agents live for two periods: childhood and adulthood. During childhood, individuals acquire human capital. During adulthood, they work, become parents and bring up their offspring. As parents, adult individuals allocate a positive fraction of their time to feeding and raising their children and invest in the education of their children.

[10] An informal bilateral agreement between the United States and Australia, under which each transfers a small number of refugees who apply for asylum in one country to the other for resettlement also has the goal to deter asylum seekers by sending them to a country that is far away and with which they have fewer cultural links (Bubb et al., 2010).

Suppose a world that consists of three entities: the most advanced, high-income economy denoted by A, the less advanced, middle-income economy denoted by B and the least advanced, low-income economy denoted by C. For some exogenous reason, in the most advanced, high-income economy A wages and the average level of human capital are higher than those in the less advanced, middle-income economy B. In turn, in economy B wages and the average level of human capital are higher than those in the least advanced, low-income economy C.

In the following sections I present and analyze the effect of the refugee-type migration of relatively low-skilled individuals from the least advanced, poor economy C on the dynamics of human capital accumulation in the more advanced economies A and B. The analysis abstracts from the source economy C that is kept "outside the model".[11]

2.1. Migration and Redistribution

Suppose that in period t for some exogenous (humanitarian) reason the absentee government of the wealthiest economy A is willing to provide asylum for a certain number of refugees from the least advanced, poor economy C. Suppose that the refugees amount to an exogenously given fraction R of the sending economy's working-age population.[12] Also suppose that on average the refugees are less skilled than the indigenous populations in the more advanced economies A and B. These refugees can all be absorbed in the wealthiest economy A. Alternatively, a fraction $\alpha \in]0,1]$ of them can be resettled to the middle-income economy B. In the latter case, the population in economy B should be compensated for the in-migration-driven negative externality.

To specify the redistribution scheme, the following is assumed:

A1. In period t there is one common tax at rate τ_t levied on the labor income of any individual in economy A.

[11] Trivially, if refugees are drawn randomly from the general population in the sources economy C, their out-migration will have no effect on the evolution of the human capital levels in that economy. If, however, the refugees are positively/negatively selected, their out-migration will decrease/ increase human capital accumulation in the source economy.

[12] This is a standard assumption in the migration literature that typically supposes that all agents in the less advanced economy would want to migrate to the more advanced world, but that only a certain fraction of them are allowed to do so. See, for example, Docquier and Rapoport (2012) for references.

A2. The proceeds are distributed proportionally to the labor income of any individual in economy B at rate s_t.

The exact condition for the balanced budget is shown below in Section 2.7.

To specify the pattern of migration, suppose that young individuals from the poor economy C seek for refuge in the very beginning of the second period of life. If the refugees are resettled to economy B, their migration to economy A is prohibited. The admitted refugees work, become parents, bring up and educate their offspring at the host economy.

2.2. The formation of human capital

In any period t, an adult individual born in economy i ($i = A, B, C$) is characterized by a skill level h_t that is distributed according to the cumulative density function $F_t^i(\cdot)$ over the strictly positive support $[h_t^{i,\min}, h_t^{i,\max}]$. It is assumed throughout that in period t, the average level of human capital in the most advanced economy A is higher than that in the less advanced economy B, which, in turn, is higher than the average level of human capital in the least advanced economy C; $\bar{h}_t^A > \bar{h}_t^B > \bar{h}_t^C$.

In each period of life individuals are endowed with one unit of time. In the first period, children devote their entire time for the acquisition of human capital. The acquired human capital increases if their time investment is supplemented with real resources invested in their education.

The human capital level of a child, who becomes an adult in period $t+1$, depends on the parental real expenditure on the child's education, e_t, and on the average level of human capital of all adult individuals residing in economy i in period *t*, which is defined as $\bar{h}_t^i = \int h_t dF_t^i(h^i)$, $i = A, B, C$, according to the human capital production function or learning technology described by

$$h_{t+1} = \Theta(e_t, \bar{h}_t^i). \qquad (1)$$

This learning technology captures an external spillover effect that arises from the average society's level of human capital, $\bar{h}_t$. Such formulation is consistent with the so-called global or atmospheric externality, which implies that an increase in the average

level of human capital in the society as a whole increases the rate of return on investment in human capital for the children's generation. First introduced by Tamura (1991), the assumption that the average level of human capital in society is an input in the production of human capital for each individual became common in the literature. This externality has been utilized, for example, by Tamura (1996), Galor and Tsiddon (1997), Morand (1999), Viaene and Zilcha (2002), de la Croix and Doepke (2003), Azarnert (2008, 2010a), among many others. A particular form of human capital production function is specified below in equation (8).

Since economy C is "outside the model", in the next sections I consider only individuals who were born or admitted as refugees in economies A and B. Therefore, there are three types of individuals in the model: (1) a, individuals born in the wealthiest economy A, (2) b, individuals born in the less wealthy economy B, (3) r, individuals born in the poor economy C, who were accepted as refugees either in economy A or B.

2.3. The optimization of parents

Agents of any type derive utility from their own consumption in adulthood and from the total future income of their children.[13] The utility function of an individual of any type $j = a, b, r$ born at time $t-1$ is therefore

$$U_t^j = (1-\beta)\log C_t^j + \beta \log(I_{t+1}^{N,j}), \tag{2}$$

where C_t^j is an individual's own consumption, $I_{t+1}^{N,j}$ is the future income of that individual's offspring and $\beta \in (0,1)$ captures the relative weight given to children.

In every period *t*, adult individuals are endowed with one unit of time. Adults allocate their time between childbearing and labor force participation. In either economy, the cost of feeding and raising children is measured in terms of work time (i.e. net labor income) foregone at δ per child. The cost of acquiring human capital is measured in units of the wage per efficiency unit of labor in that economy, w^i. The wage per efficiency unit of labor, w^i, is fixed over time, as follows from, for instance, the assumption of a CRS technology with a single factor of production.

[13] The model abstracts from child mortality. For an analysis of child mortality in the context of educational investment see, for example, Azarnert (2006) and references therein.

To maximize utility, an adult of any type j simultaneously chooses a current consumption, C_t^j, the number of children, N_t^j, and invests e_t^j units of w^i in each child's education subject to the following budget constraint:

$$C_t^j + w^i(\delta h_t(1+k_t^j)+e_t^j)N_t^j \le w^i h_t(1+k_t^j). \quad (3)$$

The right-hand side of equation (3) represents an adult's income, which is allocated between consumption and the total cost of rearing children. Given the redistribution scheme, as defined in Section 2.1, $k_t^a = \tau_t \le 0$ in the case of an individual born in economy A, $k_t^b = s_t \ge 0$ in the case of an individual born in economy B, and $k_t^r = 0$ for a refugee.

The total future income of the individual's offspring is:

$$I_{t+1}^{N,j} = N_t^j h_{t+1} w^i. \quad (4)$$

2.4. Quantity - quality tradeoff

From optimization, an adult's consumption is

$$C_t^j = (1-\beta)h_t w^i(1+k_t^j). \quad (5)$$

That is, a fraction $1-\beta$ of an adult's net full income is devoted to consumption and hence a fraction β is devoted to childrearing.

In order to allocate resources between children's quantity and quality, an adult makes two simultaneous decisions. First, he decides how much consumption to forego during his adulthood to rear a family. Second, he decides what amount of resources to invest in the education of his children to increase their skill level.

For an individual of any type in the case of a non-corner solution, the standard condition of setting the marginal rate of substitution between quality and quantity equal to the price implies that

$$\frac{h_{t+1}}{N_t^j} - \frac{\delta h_t(1+k_t^j)+e_t^j}{N_t^j/\left(dh_{t+1}/de_t^j\right)} = 0 \quad \text{if} \quad e_t^j > 0, \quad (6)$$

where h_{t+1}/N_t is the marginal rate of substitution between quality and quantity, $w^i(\delta h_t(1+k_t^j)+e_t^j)$ is the cost of an additional child for a given level of parental

investment in the child's education and $w^i N_t^j / [dh_{t+1} / de_t^j]$ is the marginal cost of children's quality (human capital) for a given number of children.

From equation (6), optimization with respect to child's quality thus implies that

$$h_{t+1} = \left(\delta h_t (1 + k_t^j) + e_t^j\right) \frac{dh_{t+1}}{de_t^j}. \qquad (7)$$

The next subsection discusses the solution for the parents' optimization problem for a particular form of the human capital production function.

2.5. Choice of fertility and investment in education

To characterize optimal choices of fertility and investment in education, suppose that in either economy all children born in this economy have access to the same technology of human capital production:

$$h_{t+1} = (\mu + e_t^j)^\gamma \bar{h}_t^i, \text{ where } 0 < \gamma < 1, \ 0 < \mu < 1, \text{ where } i = A, B \text{ and } j = a, b, r. \qquad (8)$$

This learning technology implies that children of the refugees from economy C born in the host economy become similar to the indigenous population of that economy.

Given (8), the optimal choice of investment in the children's education of an individual of any type in either economy is[14]

$$e_t^j = \frac{\gamma \delta h_t (1 + k_t^j) - \mu}{1 - \gamma}, \qquad (9)$$

so that, according to (9),

$$h_{t+1} = \left(\frac{\gamma}{1 - \gamma} (\delta h_t (1 + k_t^j) - \mu) \right)^\gamma \bar{h}_t^i. \qquad (10)$$

Given the amount of resources allocated to children's education, the desired fertility of an individual j ($j = a, b, r$) is

$$N_t^j = \frac{\beta(1 - \gamma)}{\delta - \dfrac{\mu}{(1 + k_t^j) h_t}}. \qquad (11)$$

[14] An assumption that $h_t^{i,\min} > \mu / \gamma\delta$ ensures that all parents invest in the education of their children.

Equation (9) shows that the optimal choice of investment in the offspring's education and hence the children's human capital levels (Eq. 10) is positively related to the parent's human capital, although parental human capital does not enter the learning technology directly. Equation (11) displays the traditional negative relationship between the parental level of human capital and the choice of fertility.

Furthermore, from equations (9) to (11) it is also clear that, for any $k_t^a = \tau_t \leq 0$, taxation increases fertility and reduces per-child human capital investment of the indigenous population in economy A. In contrast, for any $k_t^b = s \geq 0$, subsidies given to agents in economy B, increase quality and reduce quantity of their offspring. Similarly, redistribution reduces adults' own consumption in economy A and increases consumption in economy B (Eq. 5).

2.6. Refugee resettlement, redistribution and utility

By construction in this model, the wages and the average levels of human capital in the more advanced economies A and B are higher than those in the least advanced economy C; $w^A > w^B > w^C$ and $\bar{h}_t^A > \bar{h}_t^B > \bar{h}_t^C$. Therefore, migration always increases utility of the refugees through an increase in their own consumption (Eq. 5) and the levels of human capital of their offspring (Eq. 10), although the increase in the utility is lower if they are resettled to economy B.

At the same time, since the refugees are on average less skilled than the indigenous agents in economies A and B, $\bar{h}_t^r < \bar{h}_t^B < \bar{h}_t^A$, their arrival always reduces the average level of human capital in the economy where the refugees are hosted. As a consequence, as follows from the property of the human capital production function (8) with respect to the average level of human capital in the society, the decline in the average level of human capital in the economy where the refugees are accepted will be associated with a reduction in the individual levels of human capital of the offspring of the indigenous agents in this economy. Hence, the resulting reduction in the parental levels of utility generates an incentive for the agents in the wealthiest economy A to finance transfers to the agents in the less wealthy economy B to make it worthwhile for them to admit the resettled refugees.

Therefore, with the redistribution scheme, as specified above in Section 2.1, the utility levels of the agents in economy A in the case with taxation and the refugee resettlement ($U_t^{a,RR,\tau_t>0}$) are higher than their utility in the corresponding case when the refugees are absorbed in their own country and without taxation ($U_t^{a,NR,\tau_t=0}$) if the rate of tax, τ_t, is lower than[15]

$$\tilde{\tau}_t = 1 - \left(\left(\frac{\delta h_t (1-\tilde{\tau}_t) - \mu}{\delta h_t - \mu} \right)^{1-\gamma} \frac{\bar{h}_t^{A,RR}}{\bar{h}_t^{A,NR}} \right)^{-\beta}, \tag{12}$$

where $\bar{h}_t^{A,RR}$ refers to the average level of human capital in economy A in period t in the case of the refugee resettlement, while $\bar{h}_t^{A,NR}$ refers to the average level of human capital in the case when the refugees are hosted in economy A, correspondingly.

Similarly, the utility levels of the agents in economy B in the case with the subsidy and the refugee resettlement in their own country ($U_t^{b,RR,s_t>0}$) are higher than their utility in the corresponding case when the refugees are not resettled and there are no subsidies ($U_t^{b,NR,s_t=0}$) if the rate of the subsidy, s_t, is higher than[16]

$$\tilde{s}_t = \left(\left(\frac{\delta h_t - \mu}{\delta h_t (1+\tilde{s}_t) - \mu} \right)^{1-\gamma} \frac{\bar{h}_t^{B,NR}}{\bar{h}_t^{B,RR}} \right)^{\beta} - 1, \tag{13}$$

where $\bar{h}_t^{B,RR}$ refers to the average level of human capital in economy B in period t when the refugees are resettled in this economy, while $\bar{h}_t^{B,NR}$ represents the average level of human capital in economy B, without refugee resettlement.

---

[15] To derive this rate of tax, note that $U_t^{a,RR,\tau_t>0} > U_t^{a,NR,\tau_t=0}$ if the following condition holds:

$$(1-\beta)\log((1-\beta)w^A h_t(1-\tau_t)) + \beta \log\left(\frac{\beta(1-\gamma)}{\delta - (\mu/(1-\tau_t)h_t)} \left(\frac{\gamma}{1-\gamma}(\delta h_t(1-\tau_t)-\mu)\right)^{\gamma} \bar{h}_t^{A,RR} w^A \right)$$

$$> (1-\beta)\log((1-\beta)w^A h_t) + \beta \log\left(\frac{\beta(1-\gamma)}{\delta - (\mu/h_t)} \left(\frac{\gamma}{1-\gamma}(\delta h_t - \mu)\right)^{\gamma} \bar{h}_t^{A,NR} w^A \right).$$

[16] To derive this rate of the subsidy, note that $U_t^{b,RR,s_t>0} > U_t^{b,NR,s_t=0}$ if the following condition holds:

$$(1-\beta)\log((1-\beta)w^B h_t(1+s_t)) + \beta \log\left(\frac{\beta(1-\gamma)}{\delta - (\mu/(1+s_t)h_t)} \left(\frac{\gamma}{1-\gamma}(\delta h_t(1+s_t)-\mu)\right)^{\gamma} \bar{h}_t^{B,RR} w^B \right)$$

If these conditions do not hold, i.e., inequalities (12) and (13) are reversed, the agents in economies A and B can be worse off with redistribution and refugee resettlement.

2.7. Refugee resettlement and human capital accumulation

This section analyzes the dynamic behavior of the society's average level of human capital. To characterize the effect of asylum migration and refugee resettlement on the inter-temporal evolution of human capital, I examine the effect of migration in period t on the average level of human capital in the next period, in which migration is impossible.

In the analysis I suppose that the fraction of individuals who are better off with redistribution and resettlement of a certain fraction $\alpha \in]0,1]$ of the refugees in either economy is high enough and therefore the resettlement is politically feasible.[17] I also suppose that the redistribution budget is balanced, which implies that the amount of resources collected in economy A equals to the amount of resources distributed in economy B:

$$\int \tau_t N_{t-1} h_t dF_{t-1}^A(h^A) w^A = \int s_t N_{t-1} h_t dF_{t-1}^B(h^B) w^B \ . \tag{14}$$

The average human capital level in period $t+1$ is defined as

$$\bar{h}_{t+1} \equiv \int h_{t+1} dF_{t+1}(h) = \int N_{t+1} h_{t+1} dF_t(h) \Big/ \int N_{t+1} dF_t(h). \tag{15}$$

Given the number of the refugees as supposed in Section 2.1 and the number of children and the levels of human capital investment among the three types of agents as determined in Section 2.5, the average human capital level in economy A in period $t+1$ in the case of resettlement of a fraction α of the refugees is

$$\bar{h}_{t+1}^{A,RR} = \left(\frac{\gamma}{1-\gamma}\right)^{\gamma} \left[\bar{h}_t^{A,RR} \left(\int (1-\tau_t) h_t (\delta h_t (1-\tau_t) - \mu)^{\gamma-1} dF_t^A \right.\right.$$

$$> (1-\beta)\log((1-\beta) w^B h_t) + \beta \log\left(\frac{\beta(1-\gamma)}{\delta - (\mu/h_t)} \left(\frac{\gamma}{1-\gamma}(\delta h_t - \mu)\right)^{\gamma} \bar{h}_t^{B,NR} w^B \right).$$

[17] The case when refugees with the lowest levels of human capital below a certain threshold are resettled follows trivially using the same intuition.

$$+(1-\alpha)R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C)\Bigg]\Bigg/ \tag{16}$$

$$\left[\int(\delta-(\mu/(1-\tau_t)h_t))^{-1}dF_t^A+(1-\alpha)R\int(\delta-(\mu/h_t))^{-1}dF_t^C\right],$$

while the average level of human capital in the case when all refugees are settled in economy A is correspondingly

$$\bar{h}_{t+1}^{A,NR}=\left(\frac{\gamma}{1-\gamma}\right)^{\gamma}\left[\bar{h}_t^{A,NR}(\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^A+R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C)\right]\Bigg/$$

$$\left[\int(\delta-(\mu/h_t))^{-1}dF_t^A+R\int(\delta-(\mu/h_t))^{-1}dF_t^C\right]. \tag{17}$$

Similarly, the average level of human capital in economy B in period $t+1$ with refugee resettlement and income transfers is

$$\bar{h}_{t+1}^{B,RR}=\left(\frac{\gamma}{1-\gamma}\right)^{\gamma}\left[\bar{h}_t^{B,RR}(\int(1+s_t)h_t(\delta h_t(1+s_t)-\mu)^{\gamma-1}dF_t^B\right.$$

$$\left.+\alpha R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C)\right]\Bigg/ \tag{18}$$

$$\left[\int(\delta-(\mu/(1+s_t)h_t))^{-1}dF_t^B+\alpha R\int(\delta-(\mu/h_t))^{-1}dF_t^C\right],$$

while the corresponding average level of human capital in the absence of resettlement and income transfers is

$$\bar{h}_{t+1}^{B,NR}=\left(\frac{\gamma}{1-\gamma}\right)^{\gamma}\bar{h}_t^{B,NR}\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^B\Big/\int(\delta h_t-\mu)^{-1}dF_t^B\,. \tag{19}$$

As shown previously, taxation of labor income increases fertility and reduces per-child human capital investment in the indigenous population in economy A, thereby reducing the resulting per-capita human capital levels in this economy in the next period. At the same time, the effect of the resettlement of the refugees is twofold: First, through the reduction in the total number of the offspring of the current period refugees, it reduces the share of the relatively low-skilled agents in economy A in the next period. Second, it is also associated with an increase in the average level of human capital in the society in the current period, which increases the rate of return on investment in human capital for the entire children's generation, thus further contributing to an increase in the average level of human capital in economy A in the next period. The net effect is thus uncertain. Comparing the levels of human capital in the case of resettlement ($\bar{h}_{t+1}^{A,RR}$) to that in the absence of resettlement ($\bar{h}_{t+1}^{A,NR}$), as shown above in equations (16) and (17), allows us to determine precisely whether resettlement of a fraction of the refugees outside the country coupled with taxation of the labor income of the local agents in period t in economy A increases or decrease the average level of human capital in the next period. Thus, if $\bar{h}_{t+1}^{A,RR} > \bar{h}_{t+1}^{A,NR}$, refugee resettlement increases this economy's level of human capital. In contrast, if $\bar{h}_{t+1}^{A,RR} < \bar{h}_{t+1}^{A,NR}$, the average level of human capital in this economy would be higher if all refugees are accepted in this economy.

For economy B, the effect of redistribution and refugee resettlement is the opposite. Thus, on the one hand, subsidies to the local agents' labor income reduce their optimal fertility and increase investment in per-child human capital hence increasing the resulting per-capita human capital levels in the indigenous population in this economy in the next period. On the other hand, the arrival of the low-skilled refugees increases the share of the relatively low-skilled agents in the next period and reduces the society's average level of human capital in the current period both reducing the average level of human capital in the coming period. Comparing the levels of human capital in the case of resettlement ($\bar{h}_{t+1}^{B,RR}$) to that in the absence of resettlement ($\bar{h}_{t+1}^{B,NR}$), as shown above in equations (18) and (19), allows us to determine precisely whether resettlement of a fraction of the refugees in this country coupled with the subsidies to the labor income of

the local agents in period t in economy B increases or decreases the average level of human capital in period $t+1$.

As a consequence, if for a given α, $\bar{h}_{t+1}^{A,RR} > \bar{h}_{t+1}^{A,NR}$ and $\bar{h}_{t+1}^{B,RR} > \bar{h}_{t+1}^{B,NR}$, resettlement of the fraction α of the refugees from the most advanced, wealthiest economy A to the less advanced and less wealthy economy B will stimulate human capital accumulation in both economies. The exact condition for α that guarantees $\bar{h}_{t+1}^{A,RR} > \bar{h}_{t+1}^{A,NR}$ and $\bar{h}_{t+1}^{B,RR} > \bar{h}_{t+1}^{B,NR}$ are established in Appendix. Moreover, as follows from the property of the learning technology (8) with respect to the average level of human capital in the society, the effect of the resettlement on human capital levels in each of the economies will evolve further from one generation to the next.

5. Conclusion

In view of the large and growing number of asylum seekers who find their way to developed countries, numerous voices have advocated resettlement as a possible solution. This paper expands the literature on tradable refugee resettlement in the direction of human capital accumulation and growth. The analysis is performed in a growth model with endogenous fertility. I have proposed a particular redistribution scheme and show that refugee resettlement from a more advanced and wealthier economy to a less advanced and less wealthy economy combined with income transfers can give rise to conditions in which utility of the indigenous populations in both countries increases. I have also derived the exact conditions for the proposed resettlement policy to stimulate human capital accumulation and hence economic growth in both economies.

Appendix. *Conditions for* α *that guarantees* $\bar{h}_{t+1}^{A,RR} > \bar{h}_{t+1}^{A,NR}$ *and* $\bar{h}_{t+1}^{B,RR} > \bar{h}_{t+1}^{B,NR}$

From equations (16) and (17), $\bar{h}_{t+1}^{A,RR} > \bar{h}_{t+1}^{A,NR}$ if

$$\alpha > \alpha^A = 1 - \left[\left(\int (1-\tau_t) h_t (\delta h_t (1-\tau_t) - \mu)^{\gamma-1} dF_t^A \right) \left(\int (\delta - (\mu/h_t))^{-1} dF_t^A \right. \right.$$

$$+R\int(\delta-(\mu/h_t))^{-1}dF_t^C)-(\bar{h}_t^{A,NR}/\bar{h}_t^{A,RR})\int(\delta-(\mu/(1-\tau_t)h_t))^{-1}dF_t^A$$

$$(\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^A+R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C)\Bigg]\Bigg/ \tag{A1}$$

$$(\bar{h}_t^{A,NR}/\bar{h}_t^{A,RR})R\int(\delta-(\mu/h_t)^{-1}dF_t^C(\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^A+R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C)$$

$$-R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C(\int(\delta-(\mu/h_t))^{-1}dF_t^A+R\int(\delta-(\mu/h_t))^{-1}dF_t^C))\Bigg].$$

Similarly, from equations (18) and (19), $\bar{h}_{t+1}^{B,NR}>\bar{h}_{t+1}^{B,NR}$ if

$$\alpha<\alpha^B=\Bigg[\int(1+s_t)h_t(\delta h_t(1+s_t)-\mu)^{\gamma-1}dF_t^B\int(\delta h_t-\mu)^{-1}dF_t^B$$

$$-(\bar{h}_t^{B,NR}/\bar{h}_t^{B,RR})\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^B\int(\delta-(\mu/(1+s_t)h_t))^{-1}dF_t^B\Bigg]\Bigg/ \tag{A2}$$

$$\Bigg[(\bar{h}_t^{B,NR}/\bar{h}_t^{B,RR})R\int(\delta-(\mu/h_t))^{-1}dF_t^C\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^B$$

$$-R\int h_t(\delta h_t-\mu)^{\gamma-1}dF_t^C\int(\delta h_t-\mu)^{-1}dF_t^B\Bigg].$$

Therefore, $\bar{h}_{t+1}^{A,RR}>\bar{h}_{t+1}^{A,NR}$ and $\bar{h}_{t+1}^{B,RR}>\bar{h}_{t+1}^{B,NR}\ \ \forall\,\alpha\in(\alpha^A,\alpha^B)$.

References

Accetturo, A., Maneresi, F., Mocetti, S., Olivieri, E., 2014. Don't stay to close to me: the urban impact of immigration. *Regional Science and Urban Economics* 45, 45–56.

Algan, Y., Dustmann, C., Glitz, A., Manning, A., 2010. The economic situation of the first and second-generation immigrants in France, Germany and the United Kingdom. *Economic Journal* 120, F4 – F30.

Andren, T., Andren D., 2013. Never give up? The persistence of welfare participation in Sweden. *IZA Journal European Labor Studies* 2, 1–21.

Aydemir, A., 2011. Immigrant selection and the short-term labor market outcomes by visa category. *Journal of Population Economics* 24, 451–475.

Azarnert, L.V., 2006. Child mortality, fertility and human capital accumulation. *Journal of Population Economics* 19, 285–297.

Azarnert, L.V., 2008. Foreign aid, fertility and human capital accumulation. *Economica* 75, 766–781.

Azarnert, L.V., 2010a. Free education, fertility and human capital accumulation. *Journal of Population Economics* 23, 449–468.

Azarnert, L.V., 2010b. Immigration, fertility, and human capital: a model of economic decline of the West. *European Journal of Political Economy* 26, 431–440.

Azarnert, L.V., 2010c. Après nous le déluge: fertility and the intensity of struggle against immigration. *Journal of Population Economics* 23, 1339–1349.

Azarnert, L.V., 2014. Integrated public education, fertility and human capital. *Education Economics* 22, 166–180.

Bell, B., Fasani, F., Muchin, S., 2013. Crime and immigration: evidence from large immigration waves. *Review of Economics and Statistics* 95, 1278–1290.

Betts JR, Fairlie RW (2003) Does immigration induce "Native Flight" from public schools into private schools? *Journal of Public Economics* 87, 987–1012.

Bianchi, M., Buonanno, P., Pinotti, P., 2012. Do immigrants cause crime? *Journal of European Economic Association* 10, 1318–1347.

Blume, K., Verner, M., 2007. Welfare dependency among Danish immigrants. *European Journal of Political Economy* 23, 453–471.

Bratsberg, B., Raaum, O. Roed, K., 2014. Immigrants, labour market performance and social insurance. *Economic Journal* 124, F644–F683.

Bridges, S., Mateut, S., 2014. Should they stay or should they go? Attitudes toward immigration in Europe. *Scottish Journal of Political Economy* 61, 397–429.

Bubb, R., Kremer M., Levine, D.I., 2011. The economics of international refugee law. *Journal of Legal Studies* 40, 367–404.

Card, D., Dustmann, C., Preston, I., 2012. Immigration, wages, and compositional amenities. *Journal of the European Economic Association* 10, 78–119.

Connor, P., 2010. Explaining the refugee gap: economic outcomes of refugees versus other immigrants. *Journal of Refugee Studies* 23, 377–397.

de la Croix D, Doepke M (2003) Inequality and growth: why differential fertility matters. *American Economic Review* 93, 1091–1113

Docquier, F., Rapoport, H., 2012. Globalization, brain drain and development. *Journal of Economic Literature* 50, 681–730.

Dustmann, C., Preston, I., 2006. Is immigration good or bad for the economy? Analysis of attitudinal responses. *Research in Labor Economics* 24, 3–34.

Dustmann, C., Preston, I., 2007. Racial and economic factors in attitudes to immigration. *The B.E. Journal of Economic Analysis & Policy* 7: Iss. 1(Advances), Article 62.

Europol (2017) *European Union Terrorism Situation and Trend Report 2017*. Europol: European Union Agency for Law Enforcement Cooperation.

Facchini, G., Lorz, O., Willmann, G., 2006. Asylum seekers in Europe: the warm glow or hot potato. *Journal of Population Economics* 19, 411–430.

Facchini, G., Mayda, A.M., 2008. From individual attitudes towards migrants to migration policy outcomes: theory and evidence. *Economic Policy* 56, 651–713.

Fernandez-Huertas Morga, J., Rapoport, H., 2014. Tradable immigration quotas. *Journal of Public Economics* 115, 94–108.

Fernandez-Huertas Morga, J., Rapoport, H., 2015. Tradable refugee-admission quotas and EU asylum policy. *CESifo Economic Studies* 61, 638–672.

Galor, O., 2012. The demographic transition: causes and consequences. *Cleometrica* 6, 1–28.

Galor, O., Tsiddon, D., 1997. The distribution of human capital and economic growth. *Journal of Economic Growth* 2, 93–124.

Gerdes, C., 2013. Does immigration induce “native flight” from public schools? Evidence from a large-scale voucher program. *Annals of Regional Science* 50, 645–666.

Gorinas, C., 2014. Ethnic identity, majority norms, and the native-immigrant employment gap. *Journal of Population Economics* 27, 225–250.

Green, E.G.T., Fasel, N., Sarrasin, O., 2010. The more the merrier? The effect of type of cultural diversity on exclusionary immigration attitudes in Switzerland. *International Journal of Conflict and Violence* 4, 177–190.

Hansen, J.D., 2003. Immigration and income distribution in welfare states. *European Journal of Political Economy* 19, 735-746.

Hansen, J., Lofstrom, M., 2009. The dynamics of immigrant welfare and labor market behavior. *Journal of Population Economics* 22, 941–970.

Hathaway, J.C., Neve, R.A., 1997. Making international refugee law relevant again: a proposal for collectivized and solution-oriented protection. *Harvard Human Rights Journal* 10, 115–211.

Hatton, T.J., 2015. Asylum policy in the EU: the case for deeper integration. *CESifo Economic Studies* 61, 605–637.

Hansen, J., Lofstrom, M., 2009. The dynamics of immigrant welfare and labor market behavior. *Journal of Population Economics* 22, 941–970.

Hillman, A.L., 1994. The political economy of migration policy. In Siebert, H., (Ed.), *Migration: A Challenge for Europe*, J.C.B. Mohr Paul Siebeck, Tübingen, pp. 263 – 282.

Hillman, A.L., Weiss, A., 1999. Beyond international factor movements: Cultural preferences, endogenous policies, and the migration of people, an overview. In: de Melo, J., Faini, R., Zimmermann, K., (Eds.), *Migration: The Controversies and the Evidence.* Cambridge University Press, Cambridge UK, pp. 76–91.

Hjern, M., Nagayoshi, K., 2011. The composition of the minority population as a threat: can real economic and cultural threats explain xenophobia? *International Sociology* 26, 815–843.

Holdler, R., 2008. Leisure and redistribution. *European Journal of Political Economy* 24, 354-363.

Miguet, F., 2008. Voting about immigration policy: What does the Swiss experience tell us? *European Journal of Political Economy* 24, 628–641.

Morand, O.F., 1999. Endogenous fertility, income distribution, and growth. *Journal of Economic Growth* 4, 331–349.

Nannestad, P., 2004. Immigration as a challenge to the Danish welfare state? *European Journal of Political Economy* 20, 755–767.

Nannestad, P., 2007. Immigration and welfare states: A survey of 15 years of research. *European Journal of Political Economy* 23, 512–532.

Nannestad, P., 2009. Unproductive immigrants: A socially optimal policy for rational egalitarians. *European Journal of Political Economy* 25, 562–566.

O'Rourke, K.H., Sinnott, R., 2006. The determinants of individual attitudes toward immigration. *European Journal of Political Economy* 22, 838–861.

Ott, E., 2013. The labor market integration of resettled refugees. Evaluation Report 2013/6, United Nation High Commissioner for Refugees Policy Development and Evaluation Services, New York, NY.

Pellizzari, M., 2013. The use of welfare by migrants in Italy. *International Journal of Manpower* 34, 155–166.

Rangvid, B.S., 2010. School choice, universal vouchers and Native Flight from local schools. *European Sociological Review* 26, 319–335.

Riphahn, R., 2004. Immigrant participation in social assistance programs: evidence from German guestworker. *Applied Economics Quarterly* 50, 329–362.

Riphahn R.T., Wunder, C., 2016. State dependence in welfare receipt: transitions before and after a reform. *Empirical Economics* 50, 1303–1329.

Saiz, A., 2007. Immigration and housing rents in American cities. *Journal of Urban Economics* 61, 345–371.

Saiz, A., Wachter, S., 2011. Immigration and the Neighborhood. *American Economic Journal: Economic Policy* 3, 169–188.

Schneider, S.L. 2008. Anti-immigrant attitudes in Europe: outgroup size and perceived ethnic threat. *European Sociological Review* 24, 53–67.

Schou, P., 2006. Immigration, integration and fiscal sustainability. *Journal of Population Economics* 19, 671–689.

Schuck, P.H., 1997. Refugee burden-sharing: a modest proposal. *Yale Journal of International Law* 22, 243–297.

Spenkuch, J.L., 2014. Understanding the impact of immigration on crime. *American Law and Economics Review* 16, 177–219.

Tamura, R., 1991. Income convergence in an endogenous growth model. *Journal of Political Economy* 99, 522–540.

Tamura, R., 1996. From decay to growth: a demographic transition to economic growth. *Journal of Economic Dynamics and Control* 20, 1237–1261.

Viaene, J.M., Zilcha, I., 2002. Capital market integration, growth and income distribution. *European Economic Review* 46, 301–327.

Wilkinson, L., 2008. Labor market transition of immigrant-born, refugee-born, and Canadian-born youth. *Canadian Review of Sociology* 45, 151–176.

Wunder, C., Riphahn, R.T., 2014. The dynamics of welfare entry and exit among natives and immigrants. *Oxford Economic Papers* 66, 580–604.

Yu, S., Ouellette, E., Warmington, A., 2007. Refugee integration in Canada: a survey of empirical evidence and existing services. *Refuge* 24, 17–34.