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MIGRATION IN OECD COUNTRIES: LABOUR MARKET IMPACT AND INTEGRATION ISSUES

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ABSTRACT/RESUMÉ

Migration in OECD countries: labour market impact and integration issues

Immigration pressures are increasing in most OECD countries. This paper investigates the consequences of immigration for natives' labour market outcomes, as well as issues linked to immigrants' integration in the host country labour market. Changes in the share of immigrants in the labour force may have a distributive impact on natives' wages, and a temporary impact on unemployment. However, labour market integration of immigrants (as well as integration of second-generation immigrants - both in terms of educational attainments and of labour market outcomes) remains the main challenge facing host economies. In both cases, product and labour market policies have a significant role to play in easing the economy's adjustment to immigration.

JEL codes : E24, J31, J61, J64, L43

Keywords: immigration; unemployment; employment; wages; integration; product market regulation; labour market policy.

Les migrations dans les pays de l'OCDE : Impact sur le marché du travail et intégration

Les pays de l'OCDE connaissent une période de forte croissance des pressions migratoires. Cet article s'interroge sur les conséquences de ce phénomène d'une part sur le marché du travail domestique, d'autre part sur les trajectoires d'intégration propres aux immigrés dans les pays d'accueil. Des changements dans la proportion d'immigrés dans la force de travail peuvent avoir un impact distributif sur les salaires des natifs et un impact temporaire sur leur taux de chômage. Cependant, l'intégration des immigrés sur le marché du travail (de même que l'intégration des immigrés de seconde génération, aussi bien sur le plan de la réussite scolaire que sur celui de la performance sur le marché du travail) demeure l'enjeu principal auquel se doivent de faire face les économies d'accueil. Dans les deux cas, la régulation des marchés de produits et la politique du marché du travail ont un rôle important à jouer afin de favoriser les ajustements économiques associés à l'immigration.

Codes JEL : E24, J31, J61, J64, L43

Mots-clé: immigration; chômage; emploi; salaire; intégration; régulation des marchés de produits; politique du marché du travail.

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MIGRATION IN OECD COUNTRIES: LABOUR MARKET IMPACT AND INTEGRATION ISSUES

by

Sébastien Jean, Orsetta Causa, Miguel Jimenez and Isabelle Wanner¹

1. Introduction

1. Patterns of international migration have changed substantially in recent years. Immigration pressures are increasing in most OECD countries, with some countries experiencing unprecedented waves of immigration and others tightening their entry policies. In a number of countries, the nature of immigration itself has changed markedly, be it in terms of motivation, expected duration of stay or legality. Migration flows are likely to continue at a sustained pace in the coming decades, due to widening demographic imbalances between developing and OECD countries, coupled with diminishing transport and information costs, in the context of persistent income disparities across regions.

2. As one of the main channels of interdependency among economies, immigration is a longstanding concern for policy makers, and has been alternately considered as a challenge or an opportunity for the host economy, with multi-faceted consequences. Special chapters devoted to immigration in 11 OECD Economic Surveys shed light on a number of these issues. Two topics emerged as first-order priorities in the context of OECD economies:²

- The increasing share of immigrants in the labour force, especially of unskilled individuals, raises concerns about the consequences for labour market outcomes of natives.
- The labour market integration of immigrants is problematic in comparison to natives in numerous OECD countries, as illustrated by either lower wages or lower employment rates. In a longer-term perspective, the question of integration does not only concern immigrants, but also their children, the so-called “second-generation immigrants”, in particular through their educational attainments and labour market outcomes.

This paper looks at both these issues, providing a summary of recent findings as well as new empirical evidence.

3. Once the trends and issues underlying the focus of this paper have been illustrated (Section 2), Section 3 focuses on the labour market impact of immigration. The available evidence is surveyed, and a new empirical analysis of the unemployment impact of immigration (and its link with product and labour-market policies) is proposed. The labour market integration of immigrants is investigated in Section 4. The empirical analysis studies integration outcomes across a number of OECD countries and relates them to

1. All authors were working with the OECD when the paper was being written. They are especially grateful to Giuseppe Nicoletti, Mike Feiner, Jorgen Elmeskov, Irene Sinha and Florian Pelgrin for their help and comments, as well as several OECD colleagues for comments. The views expressed in this paper do not reflect the position of the OECD.

2. A number of other policy issues were also identified in the OECD surveys but their implications were less clear in terms of policy lessons and recommendations.

labour market policies. Section 5 discusses how well second-generation immigrants fare in comparison to natives, both in terms of education and labour market outcomes.

2. Migration trends and issues

4. OECD (2006a) estimates gross inflows of long-term immigrants in 17 OECD countries at nearly 2.6 million people in 2004 (0.32% of their total population).³ Migration backgrounds and policies are diverse (see Box 1) but net immigration flows contribute significantly to population growth in most OECD countries, in many cases overtaking natural population increases in recent years. Around 2000, the stock of immigrants amounted to 84 million in OECD countries (including almost 35 million in the United States), representing approximately 7.5% of the total OECD population.

5. The composition of these international migration flows has changed considerably in the past decades, notably in terms of country of origin, demographic characteristics and motivation. The 1980s and 1990s were notably characterised by the diversification of host and sending countries, spurred by political events like the end of communism in Central and Eastern Europe and the former Soviet Union, and the opening up of China. The 1990s also witnessed a surge in flows of asylum seekers and refugees as a result of several regional conflicts (in particular in former Yugoslavia).

Box 1. Migration backgrounds in OECD countries

Four main groups of countries are usually distinguished in the OECD, based on their migration background (see e.g. Bauer *et al.* 2000, or OECD, 2006b):

- *Traditional settlement countries* (Australia, Canada, New Zealand and the United States) are nations essentially built as a result of immigration, and continue to admit significant numbers of newcomers for permanent residence. While Australia, Canada, and New Zealand carry out selective migration policies, the United States' immigration is essentially family-based.

- *European states with post-war labour recruitment* (Austria, Denmark, Germany, Luxembourg, Norway, Sweden and Switzerland) experienced significant immigration flows in the 1960s and 1970s when they actively recruited foreign workers to compensate for labour shortages. Their "guest worker" programmes were based on the idea that immigrants would stay only temporarily in the host country. This did not prove to be the case for most of them, and these countries today have sizeable immigrant populations. Within this group, the Nordic countries have been putting stronger emphasis on humanitarian immigration since the 1970s.

- In *other Northern European states* (Belgium, France, the Netherlands and the United Kingdom), most immigrants (in the 1960s and the 1970s, in particular) came from former colonies. As such, they often already spoke the host country's language.

- *New immigration countries* (Ireland, Italy, Greece, Portugal and Spain) have only recently begun to experience net inflows of migrants. Although numerical limitations have been set to the number of labour market immigrants allowed every year in Greece, Italy and Spain, this policy is difficult to put into practice: most immigrants entered illegally (or, most often, overstayed their tourist visas), although many have become legal workers after regularisation processes, which have been relatively frequent and wide-ranging in these countries.

3. While immigrants are usually defined as persons born abroad with foreign nationality at birth, the statistical measurement of immigration flows is not harmonised across countries. The main difficulty is that some countries count many shorter term entries and others only permanent immigrants. The OECD figures are the result of an effort to harmonise the raw data. Non-harmonised inflow statistics amount to 1.2 million people for 10 other OECD countries (0.51% of their total population). Although these data are not purely comparable, this leads to the indicative total figure of 3.8 million immigrants arriving in 27 OECD countries in 2004, or 0.36% of their population. The three member countries not covered by this figure are Greece, Iceland and Mexico (see OECD, 2006a, p. 30).

6. From an economic point of view, the skill composition of migration flows is of particular relevance. A significant trend over the past decade, common to most OECD countries, is the increasing share of tertiary-educated immigrants; their share among active immigrants who arrived over the previous ten years increased by more than ten percentage points in France, Ireland, Belgium and Luxembourg, and doubled in the United Kingdom (from 25 to 50%). As a result, the share of immigrants in the high-skilled working-age population was higher in 2004 than in the early 1990s in most OECD countries (Figure 1, Panel A). In several OECD countries, the share of tertiary-educated is now higher among recent immigrants participating in the labour market than among natives.

[Figure 1. Share of migrants in high- and low-skilled working-age population]

7. In parallel, a large and frequently growing share of immigrants is unskilled. In Southern Europe, recent migration flows have been dominated by immigrants attracted by favourable employment opportunities in low-skilled occupations, in particular in agriculture (Spain), construction (Portugal, Greece, Spain) or small-size manufacturing firms (Italy). In these countries previous immigrant waves tended to be smaller but more heavily focused on higher-skilled migrants. A similar finding is valid for Germany, where ethnic German migrants make up the bulk of the recently-arrived foreign born; while the early waves of ethnic Germans were rather skilled, more recent ones have tended to be less qualified and also less proficient in German. In France, the share of low-skilled workers among recent immigrants is also high. In the United States, the question of the decline in the “quality” of new immigrants has been the subject of strong debate, fuelled by evidence showing the decline in the earnings of immigrants, compared to natives.⁴ As a consequence of this high and often-increasing representation of unskilled among immigrants, the share of immigrants in the unskilled working-age population increased in most OECD countries during the past decade, sometimes substantially (as in the United States, in particular – see Figure 1, Panel B).

8. In many OECD countries, the distribution of educational attainments among immigrants has thus been increasingly U-shaped, with an over-representation of both highly-skilled and unskilled persons. While the former reflects the increasing mobility of high-skilled workers (generally facilitated or encouraged by migration policies), the latter is driven by both economic and family reunification motives, and it is the main cause for concerns on labour market outcomes among natives, a topic addressed in the next section. The significant inflows of unskilled workers also explain why labour market integration of immigrants is increasingly seen as a challenge in numerous OECD countries. Integration *per se* is an important objective, but the stakes are broader: while the fiscal impact of immigration appears to be generally small and often positive in OECD countries, recent studies suggest that it depends crucially on the labour market integration of immigrants; when immigrants fail to integrate, the cost for public finances may be large, in particular in countries where unemployment and welfare benefits are generous (Box 2).

4. See, among many others, Borjas (1985, 1995 and 1999), LaLonde and Topel (1991), Chiswick (1986) or Jaso *et al.* (1998).

Box 2. The fiscal impact of immigration

Beyond the short-run fiscal impact of immigrants, resulting from the difference between migrants' tax payments and related public spending, a more comprehensive approach would assess the net present value of the fiscal impact of immigrants over their entire lifetime (possibly including the fiscal impact of future descendants). This latter approach requires anticipating future developments, a questionable exercise by nature. While the present structure by age at immigration matters in the short term, the fiscal impact of immigration in the long term depends on the age of arrival in the host country. The net present value of the lifetime fiscal impact of immigrants is likely to be greatest for those arriving in the first half of their working life (when their initial education no longer needs to be financed, but most of their social contributions are still to come), in particular, if they are near their peak wage (so that their peak contributions are not too strongly discounted). The skill level of immigrants also matters, since it conditions their labour market outcomes (participation, unemployment, wages), as well as their reliance on social benefits.

The possible contribution of immigration to the financing of pension systems has been specifically debated. In a long-term perspective, the consequences of immigration for the viability of "pay-as-you-go" pension schemes depend upon the actuarial profile of the system. Even though the transitory effects of immigration may last for a significant period (positive, temporary impacts on the financing of the "pay-as-you-go" pension system are mentioned in OECD Economic Surveys for Czech Republic, Spain and Greece), these effects are likely to remain limited. Migration flows required to address demographic imbalances that make many pension systems unsustainable would be unrealistically large (see also United Nations, 2000; Holzmann, 2005).

While numerous studies (many of them surveyed in the OECD Economic Surveys) find that the net short-run impact of the *average* immigrant on budget balances is small, and often positive, significant cross-country differences emerge. From a review of estimates for different countries, Coleman and Rowthorn (2004) conclude that the annual fiscal impact of the stock of immigrants is usually below +/- 0.5% of GDP. The balance seems clearly positive (although low) in settlement countries, where immigrants tend to be more skilled and enjoy higher employment rates than natives (see e.g. Ablett, 1999, and Access Economics, 2002, on Australia; Akbari, 1995 on Canada). In recent immigration countries, the short-term impact of immigration is also found to be positive, due to the overrepresentation of persons of working age among immigrants and to their relative high employment rates (see e.g. Aparicio and Tornos, 2000, for Spain, and Giovanni *et al.* 2004, for Italy). The long-term impact has also been estimated to be positive, but such assessments are necessarily tentative where mass immigration is recent (see Moscarola, 2001, for Italy and Collado *et al.* 2004, for Spain). For the United States, Storesletten (2000) estimates a positive net present value for the average current immigrant over his/her lifetime, whereas Auerbach and Oreopoulos (2000) estimate a range of balances that go from a positive to a negative, depending on underlying assumptions (regarding, in particular, defence expenditures and how the fiscal burden is shared across generations). In Northern European countries, however, immigrants (in particular those from developing countries) are estimated to generate significant fiscal costs (see Roodenburg *et al.* 2003, for the Netherlands; Pederson, 2002, and Schou, 2005, for Denmark and Storesletten, 2003, for Sweden; for Germany, however, Bonin *et al.* (2000) estimate the fiscal impact of immigration to be positive).

Different demographic structures of immigration explain part of these cross-country differences, given the sharp heterogeneity of the fiscal impacts across individuals. For the United States, for instance, Storesletten (2000) estimates that an infant immigrant would cost public finances almost four times annual GNP *per capita*, conditional on being low-skilled during his/her entire life, while a 40-44-year-old high-skilled immigrant would yield a gain worth seven times annual GNP *per capita*.

But the key driver of these different fiscal impacts is an immigrant's integration in the host labour market. This is especially true in countries with generous welfare and unemployment benefits. In Sweden, a one percentage point increase in immigrants' participation rate is estimated to raise the average net present value of an immigrant's lifetime fiscal contribution by 14% of annual GNP *per capita* (Storesletten, 2003). The weak labour force participation among immigrants in Northern Europe is, thus, the main factor driving the estimated negative fiscal impact of immigration: immigrants from developing countries often exhibit employment rates 10 to 20 percentage points lower than those of natives. This raises concerns not only about the current fiscal burden, but also about its future evolution if immigrants' integration does not improve.

3. The labour market impact of immigration

9. Do immigrants "take jobs away" from native workers in OECD countries, or lower their wages? Despite the numerous attempts to address this question, the answer remains controversial. Not only does the assessment for single countries vary widely (as exemplified by the US case), but also labour market adjustment to immigration seems to differ across countries, thus raising questions about the role of country-specific factors, such as product and labour market policy settings, in shaping the labour market impact of immigration. This section discusses the existing literature on the impact of immigration on

wages, and presents the results of new OECD estimates on the unemployment impact of immigration in a dynamic context (presented in detail in Jean and Jiménez, 2007), with an emphasis on the role of structural policies.

3.1 *How and why should immigration influence the labour market?*

10. Textbook models suggest that the first-order effect of immigration is to lower real wages in the economy, to the extent that the labour demand curve is downward-sloping. This generates a welfare gain for natives, as well as distributional consequences with native workers' losses more than balanced by capital owners' income gains (see *e.g.* Borjas, 1999). If, for a variety of reasons there are barriers to the downward adjustment of wages, immigration may result instead in higher unemployment. Wage adjustment should finally occur, however, except in the case where it is hampered by a legally binding minimum wage.

11. Higher returns to capital stimulate investment and firm creation. In the medium term, this leads capital per worker and the number of firms to adjust. Wages (and/or unemployment) and the return to capital should then return to their original levels. If immigration flows are anticipated by economic agents (for instance, because they are stable over time) or if the capital stock brought by the average immigrant is close to that of the average native (which is not usually the case), the capital/labour ratio may not change in the first place or may return very rapidly to its original level.

12. Additional welfare gains may stem from skill-mix differences between immigrants and natives, by allowing complementarities between workers to be exploited. In a small open economy context, the Rybczynski theorem states that immigration should influence the trade specialisation of the economy, not relative factor prices. Other than across US states, however, available evidence suggests that such an effect accounts for only a small part of the adjustment at the country level (Hanson and Slaughter, 1999; Gandal *et al.* 2004). In practice, the differences in skills between immigrants and natives influence relative wages among workers in the host economy. The magnitude of the impact on relative wages depends on the changes in the relative supply of different categories of workers, and on the degree of substitutability among them. If relative wages do not adjust, immigration may also influence the distribution of unemployment rates by skill category.

13. A number of factors make the impact of immigration even more complex. Because immigrants may differ from natives by their behaviour, their presence potentially “greases the wheels” of the labour market: their more responsive location choices help arbitrate away differences in economic opportunities across geographic areas, thus improving global labour market efficiency, as reflected in lower equilibrium unemployment (Borjas, 2001); their often lower reservation wage⁵ in many cases helps accommodate labour force shortages in specific occupations (see, *e.g.* OECD Economic Surveys on the Czech Republic, Greece or Spain). More generally, it cannot be excluded that immigrants influence the equilibrium rate of unemployment, since their specificities in terms of characteristics and behaviour may influence wage setting mechanisms (as a result, for instance, of their different reservation wage or skill mix *vis à vis* those of natives), as well as price-setting mechanisms (at least during the transition period following an immigration shock). Finally, immigrants may generate externalities, in particular when they are highly skilled. For these reasons, the size of the labour market impact of immigration and its persistence remains to a large extent an empirical issue.

5. This is not a general rule, but immigrants are likely to have a lower reservation wage than natives as soon as they enjoy limited labour market opportunities, while facing specific constraints, *i.e.*, limited eligibility for welfare and unemployment benefits.

3.2 Available evidence

14. Almost all studies of the labour market impact of immigration are country-specific. The results reviewed in the OECD Economic Surveys do not allow to draw general and clear-cut conclusions, partly because approaches differ across studies.⁶

15. The traditional approach to measuring the impact of immigration on local labour markets, pioneered by Grossman (1982), has exploited the spatial dimension of the data. It assesses whether relative labour market developments across geographical areas are linked to relative changes in immigration (measured, for instance, by the share of immigrants in the labour force). Following this approach, a large number of papers (many of them focused on the United States) have found a small and often insignificant effect of immigration on labour market outcomes. This is attested by meta-analyses:⁷ Longhi *et al.* (2005) report that across a number of studies using this cross-regional approach, the average estimated impact of a one percentage point increase in the share of immigrants in the labour force is to lower wages by only 0.12%, while Longhi *et al.* (2006) calculate that the average estimated impact on natives' employment is a negligible -0.02%. The estimated negative impact tends to be larger in European countries than in the United States (-0.03% on average across studies, compared to less than -0.01%), larger on earlier immigrants than on natives (-0.05% vs. -0.02%), and stronger on low-skilled than on high-skilled workers (-0.04% for low-skilled only). The impact is also weaker on average when estimated for small geographical areas rather than for larger ones. No differential impact across gender is found for wages, but the average estimated impact on employment is more negative for female than for male workers.

16. Statistical inferences based on differences across geographical areas face two major methodological hurdles. *First*, immigration is endogenous to wages and employment, because new immigrants are attracted by thriving labour markets. This positive impact of wages or employment on immigration may bias towards zero the estimated impact of immigration on wages or employment. The meta-analysis by Longhi *et al.* (2006) indeed concludes that those studies attempting to correct for endogeneity in employment equations (using an instrumental variables approach) find a larger negative impact than those that do not. *Second*, natives may respond to competition from immigrants by moving their labour force or capital to other areas, until returns to capital and labour are again equalised across areas. In this case, an inter-regional comparison of labour market outcomes may not accurately show the impact of immigration, which would be diluted throughout a larger area.

17. Borjas (2003a) overcame these two obstacles by basing the assessment on the comparison across labour market segments, defined by levels of education and experience at the country-wide level. This approach ensures that estimates are not biased by endogeneity, as long as cross-segment differences in immigration flows are not driven by cross-segment differences in wage growth. This assumption seems appropriate if we consider that most immigrants have beforehand only approximate information about the detailed (by education and experience level) labour market conditions of their country of destination, even

6. In some of the surveyed countries there are no available analyses of the labour market impact of immigration (Belgium, Denmark, New Zealand), whereas in others results from empirical analyses are contradictory (Italy) or are considered to be largely affected by the lack of account of illegal immigration (Spain). In Australia and Canada the effect is considered to be small on both unemployment and wages, and blurred by other changes brought about by immigration (i.e., higher savings or housing investment by immigrants themselves). In new immigration countries (Czech Republic, Spain), the lack of measurable impact is partly due to the fact that immigrant labour is complementary to native labour, as immigrants take up vacancies that locals do not want to fill (at least in some sectors).

7. A meta-analysis studies a set of results on a given question, in order to characterise the average assessment arising from this set of results, and how it varies according to scope, assumptions and techniques.

if they know which geographic areas enjoy favourable business cycle conditions;⁸ and even when informed precisely, immigrants are likely to choose their destination based on cross-country relative wages rather than cross-segment relative wages. Borjas finds robust evidence of a downward impact of immigration on wages of natives with similar characteristics. He estimates that a 1% increase in labour supply in a given labour market segment reduces wages by 0.3 to 0.4%, an impact substantially higher than found in earlier empirical studies. Applying the same method to Mexico and Canada delivers similar results (Aydemir and Borjas, 2005).⁹ Borjas (2005) shows, in addition, that at the sub-national geographical level (census division, state or metropolitan area), higher foreign immigration in one area consistently results in lower immigration of natives from other areas, and in higher emigration of natives towards another area in the United States. By varying the geographical level of analysis, he confirms that these movements by natives attenuate significantly the impact of immigration, by an estimated 40% at the state level, and 60% at the metropolitan area level. Although challenged by Card (2005) based on indirect evidence,¹⁰ these findings constitute a consistent and robust assessment of the impact of immigration on wages in North America.

18. However, Borjas' estimates only reflect a short-term impact, since it is assumed that the capital stock remains constant. Moreover, as noted by Ottaviano and Peri (2005), Borjas' results concern specifically the impact of immigration of workers with given education and experience on the relative wages of natives with similar characteristics. This specific impact may differ substantially from that on average wages: immigrants are in close competition (*i.e.* highly substitutable) with natives of comparable education and experience, but competition with natives differing more by their personal characteristics is less direct. Assuming an endogenous adjustment of the capital stock (*i.e.* implicitly, in the medium term), they find that complementarity effects dominate at the aggregate level and estimate that immigration generates "a large positive effect on the average wages of US-born workers". In the United States, immigration thus seems to have a significant negative impact on relative wages in the short-term, at the expense of natives most in competition with immigrants, but possibly a positive effect on average in the medium term.

19. Macroeconomic studies of the impact on employment are more scarce than those on wages. Skill-level approaches applied to Germany (Bonin, 2005) and to Spain (Carrasco *et al.* 2006) did not identify any significant impact on natives' employment. Among case studies of immigration shocks, cross-regional approaches have generally been preferred (see in particular Altonji and Card, 1991; Hunt, 1992; and Carrington and Lima, 1996). Cohen-Goldner and Paserman (2004) is an exception, however, since it studies the massive migration from the former Soviet Union to Israel in the 1990s (representing an 18% increase in Israel's population in a decade) through a skill-level approach. The authors find a significant effect on wages, vanishing after four to seven years, but no effect on employment. Hercowitz and Yashiv (2002) study the same migration episode based on quarterly, macro-economic data. Given the political source of this migration episode, endogeneity of labour market outcomes is unlikely to blur estimates in this case. They emphasise the dynamic pattern of the impact, arguing that immigrants integrate more

8. Earlier immigrants are frequently a good source of information.

9. However, finding the same elasticities does not mean that the impact on wage inequality is the same. Since immigrants in Canada are mostly high-skilled, the relative wages of highly-skilled workers are lowered, thus reducing wage inequality. The opposite effect is found in the United States, where the unskilled workers are over-represented among migrants. In Mexico, emigration of mostly middle-wage workers benefits the "stayers" belonging to this category.

10. Card argues that natives' mobility and output-mix changes are unimportant, while immigrants' absorption mainly occurs within industry. He also observes that the wages of lower-skilled relative to medium-skilled workers have not changed over time, despite the fact that the relative supplies of both types of workers have shifted due to immigration. Although these findings are not easily reconciled with Borjas' findings, they do not refute them. Still, they suggest that the importance of natives' mobility remains limited, and that the global impact of immigration on wages should not be overstated.

quickly into the product market than the labour market, thus quickly boosting labour demand, but only progressively so labour supply. Their estimates, based on simultaneous equations of native employment and of the relative price of domestic goods, confirm this prior. They point to a sizeable and significant negative impact of immigration on natives' employment, though delayed and temporary. Beyond the usual question of the permanent impact of immigration, these results suggest that the (un)employment impact of immigration may well be transitory.

3.3 *The role of policies on the product and labour market*

20. All these studies suggest that immigration may well have an impact on natives' (un)employment, at least in some cases, but results vary widely across countries and approaches. Beyond differences linked to methodological choices, cross-country differences in policy settings likely result in different adjustments to immigration. It is striking, for instance, that virtually no employment effect is found in the United States, while the same is not true in Europe; conversely, the impact on relative wages seems to be higher in the United States than in European countries.

21. Angrist and Kugler (2003) have investigated how policies may influence the labour market impact of immigration within the European Union. They argue, based on a stylised model, that "institutions such as firing costs, high replacement rates, rigid wages and business entry costs may ultimately aggravate the negative impact of immigration on equilibrium native employment". They study the long-term impact of the stock of immigrants on equilibrium unemployment among natives and find some empirical evidence that institutions do matter (entry barriers in particular), although the results are often insignificant, in particular when country-specific time trends are included.

22. Because immigration is a labour supply shock, any policy that modifies the slope of the labour demand and supply curves (or of the wage- and price-setting schedules) may change its impact on labour market outcomes. Under imperfect labour market adjustment, a policy change that increases the responsiveness of wages to unemployment (e.g. a reduction in the average replacement rate) can, for instance, lower the unemployment impact of immigration. Higher wage responsiveness of labour demand (as would result from increased competition in product markets) is also likely to limit the impact on unemployment.

23. The influence of policy is also linked to the differences between immigrants and natives, both in terms of their personal characteristics and behaviour. Because many immigrants arrive from less-developed countries, their human capital and productivity level are often lower than those of natives. In those cases, immigrants are likely to be priced out of the market by excessively high minimum wages. Moreover, and except in specific cases such as employer-nominated immigration, immigrants are not incumbent in the labour market upon arrival in the host country, and they subsequently remain overrepresented among outsiders, at least for several years (see below). As such, they are unlikely to benefit from employment protection legislation (EPL), at least during the first years following migration. To the extent that EPL protects incumbent workers (mainly natives) against competition from outsiders, including most immigrants, it should be expected to reduce the employment impact of immigration on natives, at least in the short run.

24. In a dynamic context, policies may affect the impact of immigration through different channels. For instance, strict EPL is likely to make the substitution of immigrant for native workers more costly during the first years following immigrants' entry (because of the firing costs associated to native incumbent workers), thus limiting the impact of immigration on native employment. However, at a later stage EPL may boost immigrant employment, precisely because they are less likely to be covered by the relevant legislation, making their overall labour cost comparatively lower. Similarly, immigrants are less

likely to be eligible for unemployment benefits, at least during the initial years following immigration. A higher replacement rate of unemployment benefit is, therefore, likely to widen the difference in reservation wages between natives and immigrants, thus potentially increasing the relative impact on native unemployment. In the longer run, however, this effect should vanish. In addition, given the role played by firm creation in labour market adjustments, it is likely that anti-competitive regulations would slow down the increase in immigrants' participation in the product market, thus potentially lengthening the unemployment impact of immigration.

25. Finally, as already mentioned, the different behaviour of immigrants may also help to "grease the wheels" of the labour market. By removing bottlenecks, the willingness of immigrants to accept jobs not filled by natives may foster growth and create other complementary jobs. Their higher responsiveness (for instance, in terms of locational choices) may also result in improved resource allocation with positive aggregate income effects. Such impacts are closely linked to the policy setting, just as the usefulness of the "grease" depends upon the initial state of the "wheel".

3.4 *A cross-country reassessment of the impact of immigration on unemployment*

26. Existing studies thus suggest that the employment impact of immigration is relatively small, although three concerns surround this conclusion: many of these studies are based on cross-regional analyses, potentially biased by the migration-induced mobility of natives; most studies focus on the permanent impact of immigration, but do not investigate its transitory impact; and, except in one study, the role of policies is not accounted for.

27. These issues are jointly addressed in Jean and Jiménez (2007), where the empirical analysis across eighteen OECD countries exploits the international and skill level dimension of the data, accounting for the dynamic profile of the impact, and for the role of product and labour market policies.¹¹ The focus is on the impact of immigration on native males' unemployment.¹² A disaggregated level in which each national labour market is divided into eighteen segments (corresponding to six-year categories of experience¹³ crossed by three levels of educational attainment) is used alongside an aggregate analysis. The time profile of the impact of immigration is estimated through an "impulse response" specification, including, separately, annual changes of immigration over the previous five years. The analysis is performed using Labour Force Survey data for the United States, New Zealand, Australia and fifteen European countries, over the period 1984-2003 for the aggregate analysis, and 1992-2003 for the disaggregated analysis.

28. Only *changes* in immigration are found to have an influence on natives' unemployment, and their impact is temporary. The estimated impact is significant but very weak at the disaggregated level; it is more substantial at the aggregate level (Figure 2). In both cases, however, the impact of immigration on natives' unemployment is insignificant after three years: no significant, permanent impact of the *level* of the share of immigrants in the labour force is found on natives' unemployment. The estimated initial responses must be compounded by the persistence of unemployment shocks, measured through an auto-regressive term. This implies that the real impact on unemployment is felt after the initial three years, to an extent that depends crucially on the general persistence of unemployment shocks in the economy. Stronger

11. Due to data limitations, similar analysis cannot be conducted for wages.

12. An alternative is to study employment rates. This does not make a big difference (except for the sign of the results), since immigration does not influence men's participation rate very much.

13. Here experience is assumed to be equivalent in both origin and host countries, although in practice entrepreneurs in the host country do not always fully recognise experience accumulated before entry.

results at the aggregate level presumably reflect the fact that immigrant workers do not only compete with native workers in the same segment. This is all the more true given the widespread over-qualification among immigrants (Dumont and Monso, 2007). After a few years, this stronger effect on aggregate may be compensated by the positive cross-segment effects mentioned above (“grease in the wheels”, lower equilibrium unemployment, positive externalities), which are only accounted for in the aggregate analysis. It is also noteworthy that the aggregate impact is less and hardly significant during the first year. This tends to confirm Hercowitz and Yashiv’s (2002) finding that the employment impact of immigration is delayed, presumably reflecting the progressive entry of immigrants in the labour market.

[Figure 2. Estimated direct impact of a permanent 1% increase in the share of immigrants in the labour force on natives’ unemployment (with 95% confidence bands)]

29. Including interactions with policy variables does not significantly modify the estimated direct impact of immigration at the disaggregated level. Interactions with product market regulation and the replacement rate of unemployment benefits are generally insignificant. However, EPL is found to influence the impact of immigration: it lowers this impact at first, reflecting a protective effect of EPL, whereas the impact is found to be increased in subsequent periods. Thus, the increase in the relative cost (and/or the slower adjustment to market conditions) of native workers *vis-à-vis* immigrants induced by higher EPL more than balances its initial protective effect.

30. A similar pattern is found for the interaction with EPL at the *aggregate level*: the protective role dominates in the first year following immigration changes (lowering the impact on unemployment), while firing costs strengthen the upward impact of immigration on unemployment in the medium-term. In line with Duval *et al.* (2007), these results suggest an ambiguous effect of EPL, whereby the initial dampening of the immigration shock provided by employment protection comes at the cost of higher persistence of the unemployment consequences of the shock in subsequent years.

31. A higher replacement rate of unemployment benefits, although insignificant in the first two years, is also found to increase the impact of immigration three to four years after entry. In both cases, these effects likely reflect the relative increased cost of native labour implied by such policies.

32. At the aggregate level, however, the most robust interaction is found for product market regulation, which significantly magnifies the unemployment impact of immigration between one and five years after entry: the unemployment impact is thus both stronger and more durable when product market regulation creates a barrier to entry in (otherwise) competitive markets. The role of firm creation (and adjustment of product supply in general) does not show up at the disaggregated level, because it affects fairly equally all labour segments, but it is important at the aggregate level where costs and barriers to business start-ups impinge on immigrants’ employment. The estimated persistence of unemployment shocks is also found to be slightly higher under relatively stringent product market regulation.

33. Beyond these regression results, the influence of framework conditions can be put in a more general context. Hence, these findings are consistent with the empirically-based recommendations in the *OECD Jobs Strategy* (see e.g. Bassanini and Duval, 2006). Enhancing the adaptability of the labour and product markets to shocks should help limit their impact while bringing back quickly the labour market to a new equilibrium. Such logic should apply to immigration as well as to other types of shocks.

3.5.1 *The role of selective migration policies*

34. Migration policies may also play an important role in shaping the impact of immigration through their influence on immigrants’ skill mix. In particular, increasing immigrants’ average skill level may alleviate the concerns about the consequences of immigration for native, unskilled workers. The effects of

these policies cannot be easily captured in empirical analysis, but scattered evidence (including from OECD Economic Surveys) provides useful clues.

35. Settlement countries other than the United States are an example in that respect, because they have been applying selective immigration policies for a significant period. In fact, they tend to have a higher proportion of their immigrant population with a tertiary degree. In 2001, according to census data this was the case, for instance, in Canada and Australia, where 38% and 43% respectively of immigrants held a tertiary degree and 54% and 45% of resident PhD holders were born overseas. New Zealand is in a comparable situation. According to OECD Economic Surveys, the emphasis on skilled immigration has been successful in delivering positive fiscal and labour market outcomes, with immigrants integrating rapidly in host economies.

36. However, there are limits to selective immigration policies (OECD, 2006a). In the first place, countries are constrained by multilateral commitments (*e.g.* areas with free movement of labour; multinational staff mobility) and humanitarian commitments (including family reunion). Moreover, in many countries, illegal immigration accounts for a significant share of inflows. Host countries therefore often have little discretionary control over flows of the corresponding categories of migration, which can be substantial. For instance, according to OECD (2006a), in 2003 discretionary inflows accounted for as little as 26% of total inflows of permanent legal immigrants in Italy, 17% in France, 6% in Switzerland and 5% in Sweden. Countries where non-discretionary immigration flows account for the bulk of immigration are not in a position to apply any selection to a significant part of their immigration, unless they choose to increase substantially the number of immigrants accepted. In any case, carrying out a selective migration policy does not mean fully controlling for migrants' skills: in Australia, Canada and New Zealand, selection only applies directly to 20 to 25% of the inflow of permanent legal immigrants, and to approximately half the inflow when accompanying family members (who also tend to have relatively high skill levels) are taken into account, in addition to principal applicants. Besides, immigration policies have no direct control over re-emigration.

37. Secondly, the management of effective selective migration policies is costly; this implies putting in place effective budgetary planning and management, as well as complex administrative structures (see Liebig, 2007b, on Australia). The identification of appropriate selection criteria and the assessment of candidates are not necessarily easy tasks and, in some cases, have not met with expected outcomes. In recent years, selection systems in settlement countries have tended to evolve from stressing job- or sector-specific skills to requiring more global skills, especially language skills which make workers adaptable to different areas or sectors. There is also a tendency to use more temporary permits (*vis-à-vis* permanent permits provided in the traditional system), in part to address temporary labour shortages, but also to allow for some on-the-spot selection of those workers who integrate better in the local labour market before providing them with a settlement permit. OECD Economic Surveys recommended pursuing this adaptation as it adds flexibility to the selection process and to local labour markets.¹⁴

38. Selective policies are not the only way to influence the skill-mix of immigration; relying on employers to identify the workers and requisite skills is another possibility. Immigrants selected by employers on the basis of their short-term needs may not have the required skills to integrate the labour market in the long-run.¹⁵ However, such a policy may lead to highly-skilled immigration when local policies and framework conditions tend to render the country especially attractive for skilled workers, as illustrated by the cases of the United Kingdom, Ireland and, to some extent, the United States.

14. It could be argued that regularization processes in South European countries implicitly apply a similar selection process through the labour market, since usually regularization is conditional on having a job.

15. There is also a risk of moral hazard if employers do not face the costs induced by selection errors.

39. Numerical limitations are another way to influence the size and composition of immigration flows. In countries under review where they were in place, the OECD Economic Surveys considered that such limitations were often inflexible and failed to meet the real needs of local labour markets. The definition and implementation of numerical limitations seem to be slow, costly and relatively rigid. The OECD recommended that job-, geographic- or sector-specific work permits or numerical limitations be avoided. If selection is pursued, governments should rather favour broad skills and abilities, with immigrants self-selecting themselves in the most appropriate areas of local labour markets.

4. Labour market integration of immigrants

40. This section focuses on immigrants' labour market integration, narrowly defined as convergence of migrants' wages or (un)employment rates towards those of natives. Although integration encompasses a variety of social and cultural aspects, its labour market dimension is of special importance because it largely conditions other aspects of integration and is a key determinant of its broader economic consequences.

4.1 Evidence on labour market integration

41. As illustrated in Figure 3 (Panel A), the unemployment rate among immigrants is higher than among natives in virtually all OECD countries.¹⁶ The difference is sizeable in most cases, and immigrants' unemployment rates are more than twice as high as those for natives in several countries.

[Figure 3. Unemployment among non-EU/non-English speaking immigrants and among natives in OECD countries in 2003]

42. The crude preliminary evidence given in Figure 3 (Panel B) suggests that differences from natives in terms of personal characteristics (*e.g.* education, age, gender, experience, and sector of activity) are not the only explanation for these gaps: when computed for low-educated males only, unemployment rates are still significantly higher among immigrants than natives. Following the analytical framework developed in Chiswick (1978), it is common practice to control for a wider range of different observable characteristics at the individual level when comparing the labour market outcomes of immigrants and natives. The usual procedure is to estimate separately for males and females an equation modelling labour market outcomes (wage, probability of either being active or employed) at the individual level as a function of, *inter alia*, marital status, educational attainment, labour market experience, area of residence and sector of activity, as well as immigrant-specific variables such as immigration status (possibly by region of origin), duration of stay in the country, language spoken at home, etc. The impact of these migrant-specific variables indicates to what extent being an immigrant influences individual labour market outcomes.

43. Studies using this approach have provided abundant evidence that in many OECD countries immigrants display *ceteris paribus* less favourable labour market outcomes than natives. Most of these studies focus on a single country and cover wages and/or (un)employment probabilities. Wage differences in the United States have been the object of numerous in-depth analyses; a number of studies have also

16. The focus here is on non-EU immigrants in European countries and on immigrants from non-English speaking countries in the United States and New Zealand.

been devoted to other settlement countries, notably Canada and Australia.¹⁷ Comparisons for European countries are fewer.¹⁸ The main findings can be summarised as follows:

- Immigrants at arrival in a new country face a number of handicaps and constraints, notably related to language proficiency, cultural and social norms, social capital, quality of education, skills transferability and legal constraints.
- When compared to similar natives, immigrants generally face a significant earnings gap (for instance, the estimated wage difference in the United States averages -20% across different studies).¹⁹
- Especially in European countries, immigrants generally exhibit a higher risk of unemployment than comparable natives. However, situations differ across countries. High relative unemployment rates in France (Meurs *et al.*, 2005), for instance, contrast with relatively quick employment integration of recently-arrived immigrants in Spain (Amuedo and de la Rica, 2006).²⁰
- Because they have decided to migrate, immigrants -- at least as far as economic migrants are concerned -- are likely to represent a particularly motivated and ambitious part of the origin-country population (Chiswick, 1999). A further selection of immigrants results from the subsequent decision of some of them to migrate back to their country of origin ("return migration"). These selections can significantly affect immigrants' observed and unobserved characteristics.
- Immigrants' integration depends heavily on motivation and status. In particular, asylum seekers and refugees exhibit significantly lower employment rates than other immigrants even several years after immigration (see *e.g.* Liebig, 2007a; or Constant and Zimmermann, 2005). This may result from the fact that they represent a specific part of the origin-country population, from the trauma endured by some of them, or merely from different legal constraints.²¹ The implicit difference in time horizons across migration categories also affects subsequent human capital investments and wage assimilation (Cortes, 2004).

17. Among others, on the US: Borjas, (1985, 1995), La Londe and Topel, (1992), and Duleep and Doowhan (2002); on Australia: Chiswick *et al.* (2005); on Canada: Hum and Simpson (2001) and Renaud and Cayn, (2006).

18. Most studies focus on country-specific cases. A number of them have been devoted to the case of Ethnic Germans and Guest workers in Germany (see Bauer and Zimmermann, 1997, Schmidt, 1997). Other examples include: for Germany, Constant and Massey (2003, 2005) and Liebig (2007a); for Sweden, Barth and Bratsberg (2004), Edin *et al.* (2000) and Lemaître (2007); for the United Kingdom, Dustmann and Fabbri (2005), and Frijtesr *et al.* (2005)); for France, Meurs *et al.* (2006); for Spain, (Amuedo-Dorantes *et al.* (2006)); for Denmark and Sweden, Blume *et al.* (2003); for Denmark and Germany, Constant and Zimmermann (2004). For a comprehensive review on Europe, see Zimmermann and Constant (2004).

19. Examples leading to this conclusion and involving different techniques include Borjas (1994) and Schawn (2005).

20. See also the OECD Economic Surveys of Spain (OECD, 2003a), which emphasises that most immigrants are not eligible for unemployment or welfare benefits, as many of them are found among labour market "outsiders" (as illustrated, for instance, through their over-representation among fixed-term contract workers), and in many cases are undocumented.

21. For instance, asylum seekers are usually not allowed to work while their application is being processed.

44. One crucial dimension of immigrants' integration, which has been abundantly debated in the literature, concerns the dynamics of assimilation; in other words, the process by which immigrants' labour market outcomes converge toward those of natives. The main findings in that respect are the following:

- Assimilation involves the acquisition of human capital that is specific to the host country, notably language skills,²² as well as the accumulation of "social capital", including the process of learning local norms and customs. Indeed, a number of non-economic factors (such as culture or networks) affect the extent and speed of assimilation.²³ Country of origin also matters, through culture, skills' transferability, as well as self-selection determinants (Borjas, 1987).
- Based on cross-section data, assimilation cannot be disentangled from differences in immigrants' unobservable characteristics across cohorts (the so-called "cohort effects"). Cohort effects have been found to be important for a number of countries, and most often have had a worsening impact on the quality of the immigrants' labour force over time.²⁴ Furthermore, these differences are not random; they are linked to the migration policy, as well as the wealth and inequality of the country of origin relative to the host country.
- Immigrants' wages tend to catch-up to those of natives over time, but do not necessarily equalise fully.
- To the extent that participation in the host country's labour market is a key factor of integration (Lemaître, 2007; Liebig, 2007a), assimilation may also vary across cohorts depending on the labour market conditions at the time of entry in the country (for a recent analysis on Sweden, see Aslund and Rooth, 2003). Times have changed in this respect. Immigrants in the 1950s and 1960s used to find a job easily and rapidly (in some cases through guest-worker programmes) in the context of labour shortages in labour-intensive industries; this has not been the case over the past two decades. Hence, labour market outcomes of immigrants who arrived long ago are likely to be overly optimistic predictors of future outcomes for more recent arrivals.

45. A striking feature emerging from available empirical studies of immigrants' integration is the wide disparity of estimates, not only across countries, but also for a given country. This is largely due to cross-study differences in terms of data, methodologies, and periods (cohorts) analysed. Such heterogeneity -- and limited comparability -- makes it difficult to draw general conclusions from country-specific econometric analyses. By contrast, cross-country studies based on harmonised data can help identify some of these determinants.

22. Studies on the importance of language include Chiswick and Miller (1995, 1998), Lazear (1995), Berman *et al.* (2003). See Kahn (2004) for an original study based on the International Adult Literacy Survey (IALS) cross-section data.

23. For example, Gregory and Meng (2005) show that there is a wage premium for intermarried (exogamous) immigrants, that does not appear to be a reward for unobservable characteristics. Bauer and Zimmermann (1997) show that ethnic networks are very useful for successful integration into the German labour market.

24. For the United States, see Borjas (1985, 1994 and 1995). See Baker and Benjamin (1994) for Canada.

4.2 *Explaining cross-country differences in the labour market integration of immigrants*

46. The few existing integration studies covering several European countries (Peracchi and de Palo, 2006; Buchel and Frick, 2003;²⁵ and Adsera and Chiswick, 2004) do not analyse the determinants of cross-country differences in the labour market integration of immigrants. The estimations in Causa and Jean (2007), carried out for a number of OECD countries based on comparable data and methodologies, fill this gap. Standard, individual-level equations, where the dependent variable is either the probability of being active or employed, or the hourly wage rate, are estimated using the same specification for each country. The raw data are drawn for each country from longitudinal household surveys over part of the 1994-2003 period. In each case, the estimations are carried out for data covering both natives and immigrants (assumed to be those individuals born abroad), and aim at assessing the influence of immigration background on labour market outcomes.

47. In order to control for systematic integration differences related to immigrants' country of origin, two categories of immigrants are considered: for European countries, those born within and outside the EU-15 area; for Australia, Canada and the United States and those born in or outside an OECD English-speaking country. In each case, cultural proximity (as well as specific legal treatment in the EU case) justifies such distinction. In practice, the analysis focuses on non-European immigrants (or immigrants whose country of origin is not an OECD English-speaking country), based on the premise that those individuals are the most likely to suffer from weak labour market integration.²⁶ Length of stay in the host country is also taken into account by distinguishing immigrants who have spent more or less than 15 years in the country,²⁷ except for the United States due to data limitations.

4.2.1 *Estimation results by country*

48. Estimates confirm that differences in labour market performance between immigrants and comparable natives were widespread among OECD countries over the 1994-2003 period. Results in the case of European countries have to be interpreted with care, in particular for recently-arrived immigrants, because of the limited representation of this category in the European Community Household Panel (ECHP) sample. Nevertheless, where comparisons are possible, the results are consistent with country studies, except otherwise mentioned.

49. Although the relatively small number of countries studied does not allow establishing any general cross-country relationship, different typical outcomes emerge from an overview of the results for men with less than 15 years of residence in the host country (Figure 4). Insignificant employment gaps among actives, together with substantial estimated wage gaps (above 15%) in the United States,²⁸ Italy and

25. Buchel and Frick (2003) do not control for human capital differences across natives and immigrants. Their results are thus descriptive in nature. Observed differences could be explained by differences in terms of skills distribution, both across countries and across natives and immigrants.

26. EU-15 (respectively, OECD English-speaking) immigrants are in almost all cases either statistically undistinguishable from comparable natives, or better performers.

27. Immigrants that have spent one year or less in the country are excluded from the analysis because it is not possible to control for the representativeness of the sample on that specific category. This is problematic because outcomes for newcomers are known to differ strongly from those of other immigrants, in particular in terms of employment rates.

28. Results for the United States actually do not refer specifically to immigrants with less than 15 years of residence in the country.

Spain,²⁹ contrast with small or insignificant wage gaps alongside substantial employment gaps found in Denmark and Germany, and to a lesser extent in Finland. Intermediate gaps in both wages and employment are found in Australia (around 10%), while a moderate employment gap coexists with a substantial wage gap (20 to 25%) in Canada and Austria. Finally, France stands out as an outlier, featuring both high wage and employment gaps.³⁰

[Figure 4. Employment gap versus wage gap for immigrants with less than 15 years residency (men, non-EU or non-English speaking OECD immigrants only)]

50. Results not reported here suggest that differences between immigrant and native men are less marked in terms of the probability of being active in the labour market. This is consistent with the stylised fact that activity is generally high among immigrant men. By contrast, differences in activity are often significant between immigrant and native women, as a result of both the predominance of family reunification reasons among women's migration motives as well as cultural differences.³¹ This activity gap of recently-arrived immigrant females with regard to natives is especially marked in Belgium, Canada, Italy, Germany and Australia. A significant wage gap for this category of immigrants is also found in Canada, Austria and Finland (see Causa and Jean, 2007).

51. Differences between natives and non-EU or non-OECD English-speaking countries' immigrants are markedly lower for those with more than 15 years of residence in the host country (Figure 5). Although the use of panel data should limit the influence of differences in unobservable personal characteristics across immigrant cohorts, lower estimated gaps for early arrivals may reflect both cohort and assimilation effects. Differences with natives are particularly small in terms of wages, with significant (although moderate) gaps found only in Belgium (for men only) and Canada (for both men and women).³² By contrast, significant gaps in male employment probabilities persist in Europe (except in the Mediterranean countries), although smaller than among recently-arrived immigrants: the employment probability among immigrants with more than 15 years of residence is lower than that among natives by around 5% in Germany and Austria, by more than 10% in France and Belgium, and by 18% in Denmark. The fact that employment itself is a factor of integration may explain why employment gaps are more persistent than wage gaps.

[Figure 5. Employment gap versus wage gap for immigrants with more than 15 years residency (men, non-EU or non-English speaking OECD immigrants only)]

52. The persistent employment gap common to Northern Europe (with the only exception of Finland), coupled with the cross-country differences in wage-employment gaps identified for

29. It is noteworthy that no employment gap is found in the three Mediterranean countries (Italy, Spain and Portugal). This finding may be partly linked to the high activity rate of undocumented immigrants, some of which are covered by the household data used here. However, the actual coverage of illegal migrants is unknown and probably low.

30. Finding a high wage gap in France may come as a surprise given the relative compression of the wage distribution in that country, in particular among low wages. However, this result only holds for recent immigrants here, while the wage gap is not significant anymore for immigrants in the country for more than 15 years (see below). As mentioned in the next section, Aeberhardt and Pouget (2006) suggest in addition that second-generation immigrants perform as well as natives in terms of wages, at least for comparable occupations.

31. Fernandez and Fogli (2005) show how persistent the cultural influence of the country of origin is in shaping labour market participation behaviour, especially among women.

32. A significant positive wage gap is found for Germany. The explanation of this surprising result is unclear, but may be related to the under-representation of foreigners in the German sample.

recently-arrived immigrants, suggests that factors other than individual characteristics may be influencing immigrants' labour market performance. In particular, the potential role of labour market policies in shaping the differences in labour market outcomes between immigrants and natives deserves examination.

4.2.2 *The role of labour market policies*

53. From a policy point of view, it is important to know whether labour market policies that are known to affect overall employment and wage outcomes also matter for immigrants' integration. As mentioned earlier, immigrants are in many cases over-represented among low-skilled workers. They face specific constraints, notably imperfect language command and, more generally, weak local human capital; moreover, it is not unusual for them to have limited access to welfare and unemployment benefits upon arrival. These constraints are likely to lower their reservation wage below that of natives. As mentioned above, their location choices also tend to be more responsive to labour market conditions -- and thus possibly to cross-country policy differences -- at least as far as new immigrants are concerned (Borjas, 2001).

54. Given immigrants' specificities, labour market policies do not necessarily affect them in the same way as natives. The focus here is on three sets of policies: income support to the unemployed, employment protection legislation and labour income taxation. The possible relationships between the first two policies and labour market outcomes of immigrants are illustrated in Figure 6, where the employment gap between immigrant and native men is plotted against indicators of, the average replacement rate of unemployment benefits and EPL for regular contracts, respectively.³³ While the scatter diagrams are not conclusive for EPL (the relationship is only weakly significant for low-skilled young men, in Panel B), an upward-sloping relationship is found between the immigrant-to-natives employment gap and the average replacement rate of unemployment benefits.

[Figure 6. Immigrant-to-native gap in employment rate and policy variables]

55. In order to investigate more rigorously these possible policy influences, Causa and Jean (2007) carry out an econometric analysis pooling the country-specific data sets used in their country-by-country estimations. While data for all countries and periods are stacked to increase variability and degrees of freedom, the coefficients of observable characteristics other than the immigration background are still assumed to be country-specific. The immigration background itself is modelled both through an effect that is constant across countries and time, and through an interaction with policy variables. These interaction terms thus measure how policy variables influence the immigrant-to-native differences in labour market outcomes.

56. Table 1 summarises the results of these estimations, by showing the sign of those policy interactions found to be significantly different from zero at standard confidence levels (90% or higher).³⁴ The minus sign in the first row, for instance, means that the employment probability of immigrant men, in comparison to otherwise similar native men, tends to be lower when the net average replacement rate of unemployment benefits is higher; in short, higher replacement rates are more detrimental to immigrant

33. Labour force survey data are used for this purpose (allowing better representativeness and wider country coverage than the household panel data used in econometric analysis), and each country is represented at both the beginning and end of the period for which the data are available (generally, 1992 to 2003).

34. Causa and Jean (2007) also estimated the impact of statutory or conventional minimum wages. The results are not reported here because the limited coverage of such data across OECD countries makes the corresponding estimates less reliable.

male employment than to native male employment. The interpretation of the other entries in the table is similar.

[Table 1. Estimated interactions between policies and immigrants' labour market outcomes, relative to comparable natives]

57. Two main tentative interpretations emerge from these estimation results. First, some labour market policies affecting employment levels (see Bassanini and Duval, 2006) may have a “magnification effect” on immigrants. That is, these policies have the same qualitative impact on immigrants’ and natives’ labour market outcomes, but the magnitude of this effect is significantly higher for immigrants. Such interpretation applies to the results found for the replacement rate and duration of unemployment benefits, in terms of the employment probability of male immigrants, the activity probability of female immigrants and their relative wages. The same result applies to the impact of the tax wedge on the activity and wage gaps of female immigrants. Such magnification is likely to reflect the overrepresentation of immigrants among low-productivity workers, whose labour market performance is generally more strongly affected by these policies.

58. Second, the employment protection on regular contracts *relative* to temporary contracts is used to assess the consequences of labour market dualism for immigrants. This measure was used in OECD (2004b) as an indicator of the incentive for employers to hire with temporary contracts, because easing their regulation would increase the incentive to hire on temporary contracts to a larger extent when permanent contracts are more regulated in addition. Bassanini and Duval (2006) have shown that partial reform of the labour market -- lowering protection for temporary jobs, but leaving permanent contracts untouched -- encourages temporary job traps and labour markets dualism. A higher relative protection of regular contracts is found to significantly increase the probability of women’s activity and men’s employment for immigrants, while depressing female immigrants’ wages, relative to comparable natives. These results suggest that immigrants are overrepresented among temporary jobs, and more generally among labour market outsiders.³⁵ A legislation favouring the development of temporary -- rather than regular-contract jobs would, therefore, disproportionately boost immigrants’ employment in precarious jobs; meanwhile, the negative impact found on wages suggest that these jobs tend to offer relatively low pay. Consistent with this interpretation, Causa and Jean (2007) show that, *ceteris paribus*, being an immigrant significantly increases the probability for an employee to hold a “fixed- or short-term contract” or “casual work with no contract”.

59. Although caution should be exercised in interpreting these findings, they suggest that in a number of OECD countries immigrants’ labour market vulnerability may be reinforced by specific institutional settings: immigrants’ labour market outcomes seem to be particularly sensitive to policies that are not employment-friendly or generate labour market dualism.

4.2.3 *The role of policies entailing a specific treatment for immigrants*

60. Despite their constraints and limitations (as discussed in Section 3), many aspects of migration policy may influence the labour market integration of immigrants. To the extent that migration policy affects the level of education of new immigrants, it may increase their employment probability and average

35. On a related note, Reitz and Verma (2004) show that immigrants are less unionised than natives in Canada.

wage.³⁶ Migration policy might also influence the nature of migration (in terms of motivation), which in turn bears consequences in terms of integration, as outlined above.

61. The economic situation of migrants may also be directly influenced by the host country's policies entailing a specific treatment for immigrants, reflecting either restrictions in migrants' rights or targeted measures:

- As already mentioned, migrants are frequently faced with restrictions in access to unemployment or welfare benefits or to the labour market (see, *e.g.* Fix and Laglagaron, 2002). In many cases these restrictions have been prompted by the fear that generous welfare benefits would act as magnets to immigrants, thus attracting persons more likely to become benefit recipients (Borjas, 1999). Such restrictions may help to control public spending and also lower immigrants' reservation wages, thus accelerating their labour market integration. However, the importance of this "welfare magnet" effect has not been proved,³⁷ and the limited access to medical care may entail public health risks.³⁸ Economic pressure may also make job searching more difficult for immigrants, thereby fostering the development of illegal work and the risk of over-qualification.
- A number of OECD countries carry out specific policies to ease the labour market integration of immigrants. In recent years, many countries have reshuffled -- or merely put in place -- their integration policies, with emphasis in most cases on language courses, job-oriented initiatives, and anti-discrimination measures (OECD, 2006a). The few empirical evaluations of language training suggest that its impact is clearly positive for newly-arrived immigrants (in particular at the very beginning of their stay), but diminishes significantly over time. There may be a trade-off in cases where formal language training partly keeps people out of the labour market, since early labour market experience has a strong positive influence on employment probability (see Liebig, 2007b, on Australia; and Lemaître, 2007, on Sweden).
- Labour market measures targeting immigrants may also be considered part of these integration policies. For example, a gradually diminishing wage subsidy for newly-hired immigrants was proposed in Denmark as part of an integration policy involving other accompanying measures, such as "in-the-workplace" language and job-specific training. The effectiveness of such measures has not yet been checked, but they are costly to apply, therefore requiring a rapid "phase out" (Roseveare and Jorgensen, 2004). In addition, targeting unskilled, newly-arrived immigrants is disputable, to the extent that other groups (for instance, unskilled second-generation immigrants, or some ethnic minorities) often display comparable difficulties in integrating the labour market.

36. Empirical studies suggest the existence of differences in returns to education between immigrants and natives. Consistent with the findings by Chiswick and Miller (2005), unreported estimates made by the authors suggest that the returns to education are generally slightly lower among immigrants than among natives.

37. For instance, Kaushal (2005) finds no such effect when studying the location across states in the United States, as a result of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which denied non-citizens who arrived in the United States after August 1996 access to means-tested federal benefits for the first five years (with exceptions subsequently introduced, as well as substitutive benefits offered by some states).

38. Borjas (2003b) shows that the immigrants most likely to be adversely affected by the welfare restrictions implied by PRWORA measures significantly increased their labour supply, thereby raising the probability of being covered by employer-sponsored insurance. Still, Cacari Stone (2004) finds that the new Medicaid restrictions associated to the PRWORA have exacerbated the pre-existing barriers in accessing health care for immigrants, resulting in diminished health outcomes for immigrants.

- Affirmative action and positive discrimination policies are another part of the specific measures aimed at improving immigrants' integration. Economic assessments of affirmative action programmes in the United States suggest that they can redistribute employment and higher education to the benefit of women and ethnic minorities, although to a limited extent, without entailing obvious efficiency costs (Holzer and Neumark, 2000). Little information is available for European countries.

5. Second-generation immigrants

62. As already mentioned, immigrants are likely to suffer durably from handicaps in terms of language command, social capital or imperfect recognition of foreign education and experience. However, this should not be the case of their children born in the host country. A key challenge, in a longer-term perspective, is to see these so-called "second-generation immigrants" performing in the same way as comparable natives. Education and labour market outcomes are the main measurable criteria of success.

5.1 *Immigrants and their children in the host country's educational system*

63. The recent PISA report entitled *Where Immigrant Students Succeed* (OECD, 2006b)³⁹ shows that in most OECD countries there are considerable performance gaps between second-generation immigrant and native students (Figure 7). In Belgium, Denmark, and Germany, the disparity in mathematics⁴⁰ is particularly high. Only in Australia and Canada do second-generation immigrant students perform, on average, like natives. However, catching up is taking place in most countries and second-generation immigrant students tend to have better results than first-generation, significantly so in Sweden and Switzerland. Germany, Denmark and New Zealand are the only exceptions in this respect, with lower scores for second-generation than first-generation immigrant students.⁴¹

[Figure 7: Differences in mathematics performance between native students and immigrant students]

64. In a number of (mostly non-settlement) OECD countries, the socio-economic status of parents explains to a large extent the relatively poor performance of immigrant students, particularly in Germany, and the United States, where the link between results and parental status is strong (Entorf and Minoui, 2004). In countries where the majority of immigrants have a poor socio-economic background, as for instance in the case of Germany, the likely consequence of such a high socio-economic gradient is that immigrants are trapped by lack of social mobility.

65. Even after accounting for disparities in socioeconomic background, gaps in cognitive abilities of immigrants and natives persist and differ substantially across countries (Figure 8). While country rankings

39. This sub-section is mainly based on this report, which covers 17 countries with significant migrant populations, among which the following OECD countries: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Luxembourg, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States.

40. The PISA dataset also covers reading performance. The conclusions based on the latter indicator are similar to those obtained from the mathematics score; however, the report mainly focuses on the mathematics performance index when assessing the explanatory power of socioeconomic and demographic characteristics. Reading was a minor domain in the report and Mathematics is arguably less subject to measurement error arising from cross-country differences in questionnaire implementation.

41. This may result from cohort effects, but this assumption cannot be tested on cross-section data.

are similar to those obtained without any control for socioeconomic status, there are noteworthy differences:⁴² for the United States and Sweden, the “corrected” gap becomes statistically insignificant. For Australia and Canada, where second-generation immigrants often come from higher socio-economic background than natives, the gap remains statistically nil. For other countries, the gaps remain sizeable and significant, especially in Germany, Denmark and Belgium.

[Figure 8. Differences in mathematics performance between native and second-generation immigrant students before and after accounting for parental education and occupational status]

66. Speaking a language at home other than the language of instruction may partly explain the unfavourable results of immigrant students in most countries (Schmidt, 2001). This is confirmed by evidence from both PISA 2000 and PISA 2003.⁴³ These results suggest that more attention needs to be paid to improving literacy skills for students with a foreign language background, notably through targeted policies of language acquisition. This is corroborated by the fact that in some countries where immigrant students perform comparatively well after accounting for differences in socioeconomic background (Australia, Canada and Sweden) there exists a longstanding, clearly defined, language support policy.

67. Jointly controlling for parents’ socio-economic background and language spoken at home substantially lowers the estimated performance gap.⁴⁴ Differences remain significant though for second-generation immigrants, particularly in Austria, Belgium, Denmark, France, the Netherlands, and Switzerland. A noticeable decrease occurs in the case of Germany with respect to results not controlling for the language spoken at home, pointing to difficulties of children with a migration background learning German.⁴⁵ Linguistic complications in the host country’s education system may also perpetuate the skill divide between immigrants and nationals into the next generation, as has been suggested in the OECD Economic Surveys of Luxemburg (OECD, 2006c). However, in that case targeted measures seem to have been successful, particularly in helping immigrants from poor socio-economic backgrounds cope with a complex linguistic system.⁴⁶

42. The result that there is a performance gap between natives and immigrants at school in France is not fully consistent with past studies for France (see Caille and Vallet, 1999). Using 1989 microeconomic data, they show that, after controlling for socio-economic background, the probability to succeed at Baccalauréat is higher for immigrants than natives. These conflicting results might reflect worsening educational outcomes during the 1990s or differences between the lower (“collège”) and the upper (“lycée”) secondary system, although the role of differences in survey methodologies cannot be dismissed.

43. The analysis shows that in almost all OECD countries the performance disadvantage is larger for immigrant students who do not speak the language of assessment at home. In the United States, no significant gap is found for second-generation students who speak the language of assessment at home, while the gap for those who do not speak the language at home is at OECD’s average.

44. Note that the report summarised here does not take into account the role of exogamous marriage in association with children’s outcomes. Second-generation immigrants are defined as students whose parents are both foreign-born. This definition is likely to provide a “worse-case” estimate of second-generation outcomes.

45. This finding is consistent with studies based on German individual survey data, which emphasised the educational gap between second-generation immigrants and natives, even after controlling for socio-economic characteristics (Riphahn, 2003), and the importance of ethnicity and the size of ethnic networks in predicting educational choices and outcomes (Gang and Zimmermann, 1999).

46. Measures taken in Luxemburg include pre-school courses for children with an immigrant background, extra help for immigrant children to follow the primary school curriculum and to learn German, as well as intensive language courses and more flexibility on language requirements. An empirical analysis shows that the effects of socioeconomic background and immigrant status on the PISA score for Luxemburger

68. Segregation phenomena may further disadvantage immigrant students' outcomes. Although PISA data suggest that the distribution of immigrant students across schools does not account for cross-country variation in performance gaps, it also shows that within countries, immigrants are overrepresented in socio-economically disadvantaged schools. The differences between student groups are significant in a number of OECD countries, in particular Belgium, Denmark, France, Germany, and the Netherlands. Although such contextual effects remain a controversial issue (e.g. Portes and Hao, 2004; Ruesch, 1998; Westerbeeck, 1999; Coradi Vellacott *et al.*, 2003; Stanat, 2006), immigrants' clustering in schools is particularly marked in several countries and most probably hampers social mobility.⁴⁷ Policies targeting schools in disadvantaged areas may help to alleviate the perverse effect on immigrant students of this uneven geographical distribution. However, the efficiency of these targeted measures remains a subject of debate (see e.g. Benabou *et al.*, 2005, for a discussion on the French *Zones d'Education Prioritaires*).

69. One outstanding policy issue concerns the potential impact of the schooling system. Educational researchers argue that the system of early differentiation by skill level has a negative impact on the school performance of children who have language and social deficits, a high proportion of which are found in families with a migration background. Early selection may not provide these children with the necessary basic skills before they are separated into different school tracks (Dustmann, 2004; Hanushek and Wossman, 2005). Recent work by Entorf and Lauk (2006) tests the hypothesis that early tracking reinforces segregation by analysing peer effects. Using PISA data, the authors consider social interaction within and between groups of natives and migrants. Results show that both native-to-native and migrant-to-migrant peer effects are much higher in ability-differencing school systems (represented in the data set by a group consisting of Austria and Germany) than corresponding effects in comprehensive Scandinavian schools. Thus, non-comprehensive school systems seem to magnify the prevailing educational inequality between second-generation students with a low parental socioeconomic background and those coming from native higher-income families.

70. Except in a few cases -- mostly among countries of settlement -- these findings provide a bleak picture of results of first- and second-generation immigrants in the host country's educational system. This picture is hardly the result of a lack of interest or personal investment by migrant families; on the contrary, PISA results (OECD, 2006b) show that, on average, immigrants display greater ambition for their children's education than natives (see also Silberman, 2004, as well as Caille *et al.*, 1999, for France). Neither does it come from children's own learning abilities: the PISA dataset shows that immigrant students are motivated learners and have positive attitudes towards school. Beyond language support, further efforts may thus be needed to improve the effectiveness of education systems in immigration countries.

5.2 *Second-generation immigrants in the labour market*

71. Second generation immigrants' outcomes in the labour market depend not only on the impact of a migration background on individual paths *per se*, but also on the degree of social mobility within a given host country. In line with educational outcomes, second-generation immigrants' integration appears to be rather advanced in settlement countries' labour markets (other than the United States) in terms of wages or employment, as well as occupational status. The rather high socio-economic profile of immigrants in these countries is certainly a factor facilitating successful integration, but the outcome still appears favourable

children are not significantly different from their average across a number of OECD countries, in spite of the trilingual education system.

47. The phenomena of clustering and segregation were raised in the OECD Economic Surveys for a number of countries (Spain and Denmark in particular).

even accounting for this factor.⁴⁸ In the United States, Card (2005) provides suggestive and indirect cross-section evidence of relatively good outcomes for post-1965 immigrants.⁴⁹ Such an optimistic picture is nuanced by Borjas (2006); using repeated cross-section data, he shows that immigrant households convergence to natives' incomes is slower than would be implied by looking at inter-generational wage differentials in a single cross-section. Despite significant economic catching-up between the first and second generations, Borjas finds, on average that about half the wage differential between any two ethnic groups of immigrants in a given generation persists in subsequent generations.

72. Empirical evidence concerning second-generation immigrants' economic outcomes for European countries is scarce, mainly because of data limitations. Hammarstedt and Palme (2006) report that second-generation immigrants in Sweden not only converge in average earnings with the native comparison group, but also reverse their parents' earnings disadvantage to an earnings advantage. However, less successful groups, primarily originating from developing countries, are found to become even less successful in the second generation. In France, second-generation immigrants with African ethnic backgrounds are found to be disproportionately vulnerable to unemployment and precariousness (Meurs *et al.*, 2005),⁵⁰ whereas Aeberhardt and Pouget (2006) show that, once controlled for socio-professional category, tenure, and type of contract, second-generation immigrant wages do not differ significantly from those of natives.⁵¹ In Germany, Fertig and Schmidt (2001) show that the sectoral distribution and unemployment rate of second-generation immigrants resemble much more those of native Germans than could be observed for the first generation, although this does not control for individual characteristics.⁵² In sum, this limited and heterogeneous evidence suggests that while second-generation immigrants are well integrated in a number of European labour markets, significant problems subsist for certain countries of origin.

6. Conclusion

73. Drawing on both country experiences and cross-country analysis, two main sets of conclusions can be reached covering, on the one hand, labour market and integration outcomes, and on the other, the role of policies in shaping these outcomes.

6.1 Labour market and integration outcomes

- Immigration influences relative wages for individual categories of workers, depending in particular on the skill mix of immigrants. At the aggregate level, however, pressures on real

48. See *e.g.*, Boyd and Grieco (1998) and Aydemir *et al.* (2006) for Canada; Liebig (2007b), Khoo *et al.* (2002), Lee and Miller (2002) for Australia.

49. Card examines the differences in education or earnings levels of children relative to their parents across the origin countries of parents. He finds that there is no evidence that second-generation immigrants education outcomes regress towards the mean more slowly than for other children, and that the fitted line for the second-generation group overpredicts the outcomes for natives. These results are not based upon longitudinal data, and do not account for individual controls (socio-economic characteristics, state).

50. Even controlling for individual characteristics, the odds ratio of unemployment among actives for a second-generation Algerian immigrant men is higher than two.

51. As the authors note, however, second-generation immigrants may still differ from natives in terms of socio-professional category or type of contract.

52. The microeconomic estimates also show that, conditional on observable individual characteristics and contrary to public perception, the risk of being dependent on social assistance payments is not higher for second-generation immigrants than for natives.

wages are limited and vanish after a few years. In terms of unemployment, immigration of workers of given skill and experience categories do not have much impact on the relative unemployment rate of natives with similar skills and experience. At the aggregate level, an increase in the share of immigrants in the labour force increases unemployment of natives, but this impact is temporary and vanishes between four and nine years after the shock. Beyond this transitory period, the level of the share of immigrants in the labour force does not influence significantly natives' unemployment.

- The labour market integration of immigrants remains a challenge. In all OECD countries studied, for given individual characteristics immigrants under-perform natives in terms of wages, unemployment, or both. The gap decreases over time as immigrants assimilate to natives, but typically persists even after a long period of stay – especially as far as unemployment is concerned. Because labour market experience in the host country is an important channel of integration, the often low employment rate among recently-arrived immigrants does not bode well for their future labour market assimilation, and extrapolating past trends may be overly optimistic for many countries.
- Even for comparable individual characteristics, immigrant employees are more likely than the native-born to hold temporary contracts, especially when their arrival in the host country is relatively recent.
- Except in a few settlement countries, immigrant students perform significantly worse than the native-born in OECD countries. This also holds, although to a lesser extent, for those children of immigrants born in the country -- the so-called “second-generation immigrants”. Some catching-up in performance is taking place between one generation and the next, albeit at a slow pace. Migration background-based inequalities are, thus, likely to persist for a long time.

6.2 *The role of policies*

74. While the evidence on the labour market impact of immigration and the comparative economic performance of immigrants is reasonably well-established and robust, conclusions about the role of migration and other policies in shaping these outcomes cover relatively new ground and are less robust. OECD countries' experiences in dealing with migration are heterogeneous, and few data are available to assess the effect of policies.⁵³ Nevertheless, some tentative conclusions arise around three main domains:

6.2.1 *The definition and application of effective migration policies*

75. Migration policies, by affecting the types of migrants that enter the country, influence the labour market impact of immigration. They also have an impact on future integration outcomes because immigrants' integration depends strongly on their characteristics, notably in terms of skills, status, immigration motive and country of origin. However, the evidence surveyed in this paper suggests that there are limits to this impact: non-discretionary immigration flows are substantial (*e.g.* family reunification, humanitarian, and illegal); selective immigration policies are difficult to design and manage, and their outcomes do not always meet expectations.

53. This problem is especially acute for undocumented immigrants, whose role and specificities are necessarily overlooked to a large extent in quantitative cross-country analyses such as the ones carried out here.

6.2.2 *The design of specific integration policies*

76. Policies targeting immigrants' integration are applied by a number of countries. They often focus on language or education support, with some evidence that they encourage integration, though their impact is difficult to gauge quantitatively. Migrant-specific labour market policies are also implemented in some cases, directly influencing immigrants' wages and employability. Targeting unskilled, newly-arrived immigrants is questionable though, since other groups may face comparable difficulties in integrating into the labour market. However, information about these policies is scattered, and more specific analysis would be needed in order to assess their effectiveness in fostering labour market integration of immigrants.

77. Concerning the education of first- and second-generation immigrant students, more attention needs to be paid to improving literacy skills for students with a foreign language background, notably through targeted policies of language acquisition. Education policies should also consider the risk that early selection would exacerbate the disadvantages faced by students with an immigration background.

6.2.3 *The interaction of the broader domestic policy environment with immigration outcomes*

78. The empirical analysis reported in this paper suggests that general labour market policies can influence the labour market impact of immigration. Protection of incumbent workers through employment protection legislation may limit the impact of immigration on natives with characteristics similar to immigrants, but it does not affect significantly the aggregate impact of immigration, which remains transitory irrespective of the policy environment. Excessively strict legislation does, however, slow down significantly the transition by increasing the persistence of the initial increase in unemployment. Meanwhile, both the size of this increase and the length of the adjustment to it appear to be magnified by anti-competitive regulations in product markets that hinder the creation of new firms.

79. Empirical findings also suggest that reform of the labour market in general may be helpful in accommodating problems specific to migrants through two main channels: the impact on immigrants of policies that are not employment-friendly for certain groups of workers (like high unemployment benefit replacement rates) is qualitatively the same as on natives, but it is magnified; and immigrants suffer disproportionately from labour market dualism.

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ANNEX. TABLE AND FIGURES

Table 1. Estimated interactions between policies and immigrants' labour market outcomes, relative to comparable natives

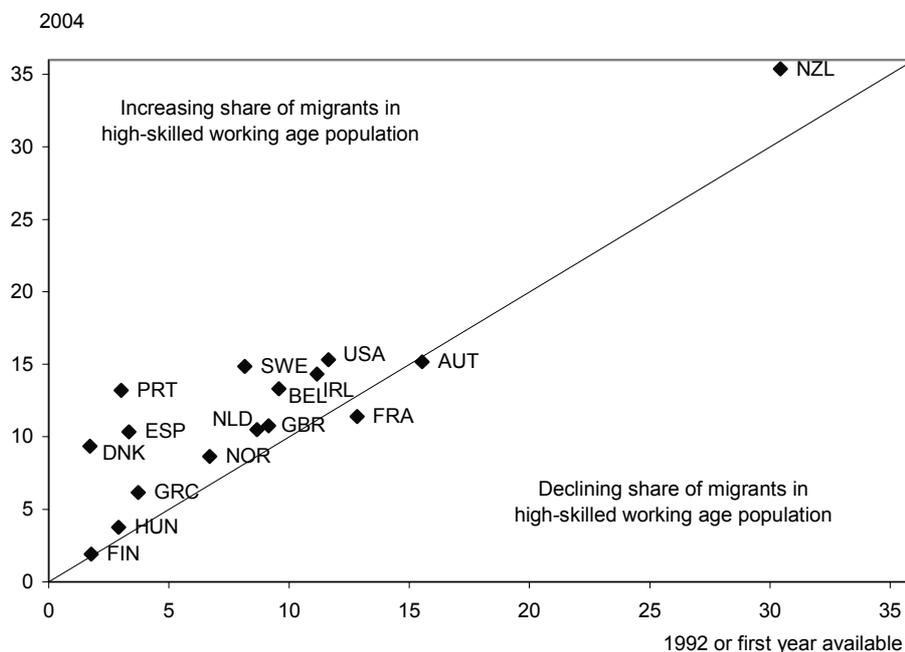
Policy <i>(in a univariate framework)</i>	Activity	Employment	Wage	Wage
	Women	Men	Women	Men
Net average replacement rate		–		+
Unemployment benefit duration	–	–	+	+
Tax wedge	–		+	
Employment protection: Regular employment minus temporary employment legislation	+	+	–	

Note: This table provides the sign of interaction effects between immigrant dummy and policy variables, when significant (see equation (4) in the text). The specification allows for a differential impact on immigrants that have been more or less than 15 years in the country. The sign provided in the table is given when at least one of the two interactions is found significant and, if both are, they are found of the same sign. Each cell is the outcome of one regression: policies enter the equation in an univariate framework. Detailed results are available in Annex 4.

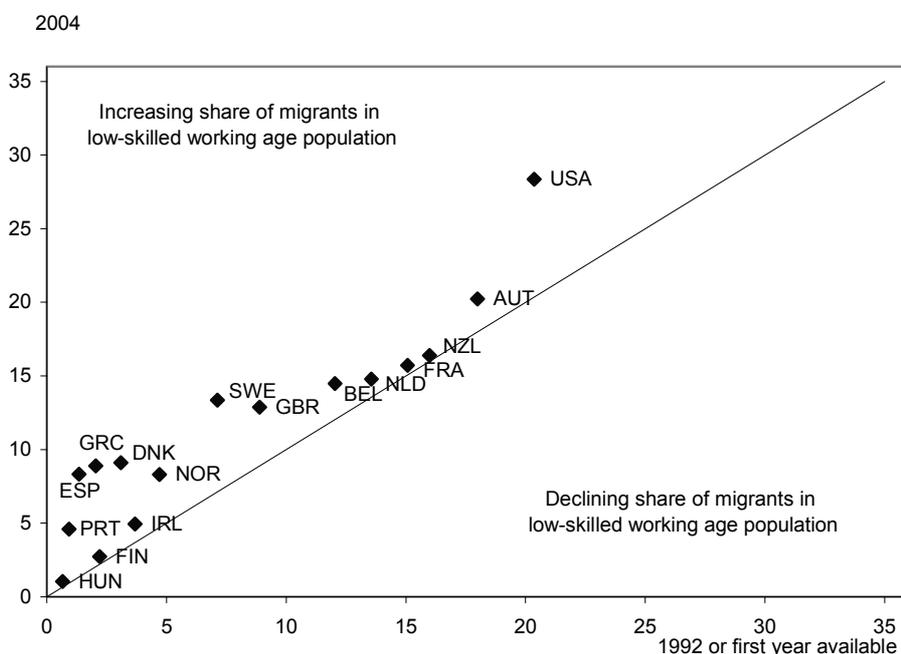
Source: Secretariat calculations based on OECD and Scruggs (2004) for policy variables and ECHP for microeconomic data. Results for Australia were kindly provided by Hubert Strauss based on the HILDA database. United States not included due to data limitation on years since migration.

Figure 1. Share of migrants in high and low-skilled working age population

A. Share of migrants in high-skilled working age population



B. Share of migrants in low-skilled working age population

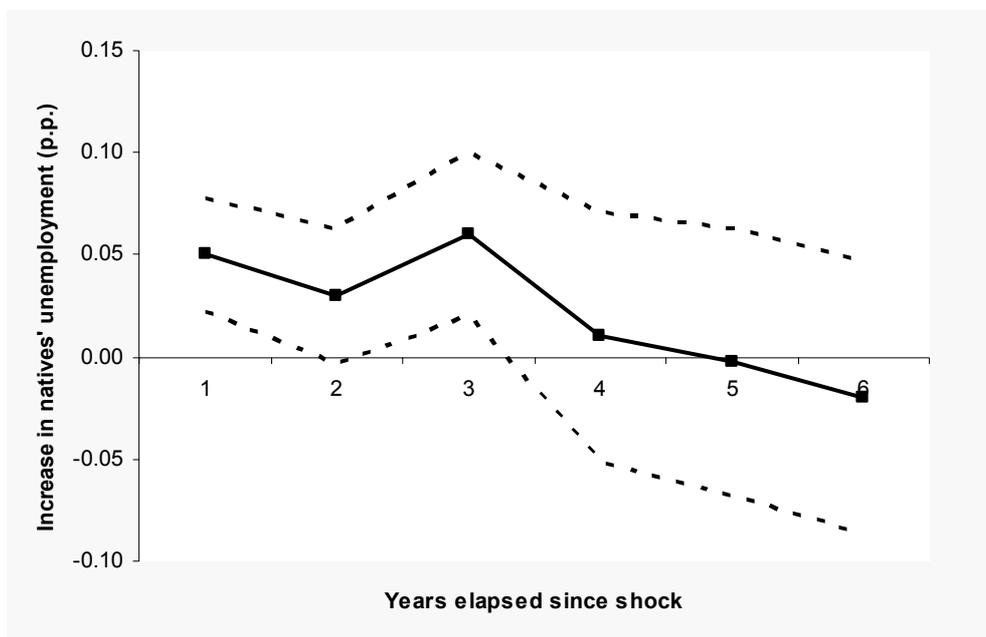


Note: Working age population is defined as people aged 16-64. The x axis refers to year 1992 except for Austria 1995, Finland 1996, France 1993, Hungary 1997, Netherlands 1996, Norway 1996, Sweden 1995, New Zealand 1997, United States 1994

Source: Secretariat calculations based on European Union Labour Force Survey; US Current Population Survey; NZ Income Survey, Household Labour Force Survey.

Figure 2. Estimated direct impact of a permanent 1% increase in the share of immigrants in the labour force on natives' unemployment (with 95% confidence bands)

Panel A. Disaggregated impact (on one skill cell with respect to others)



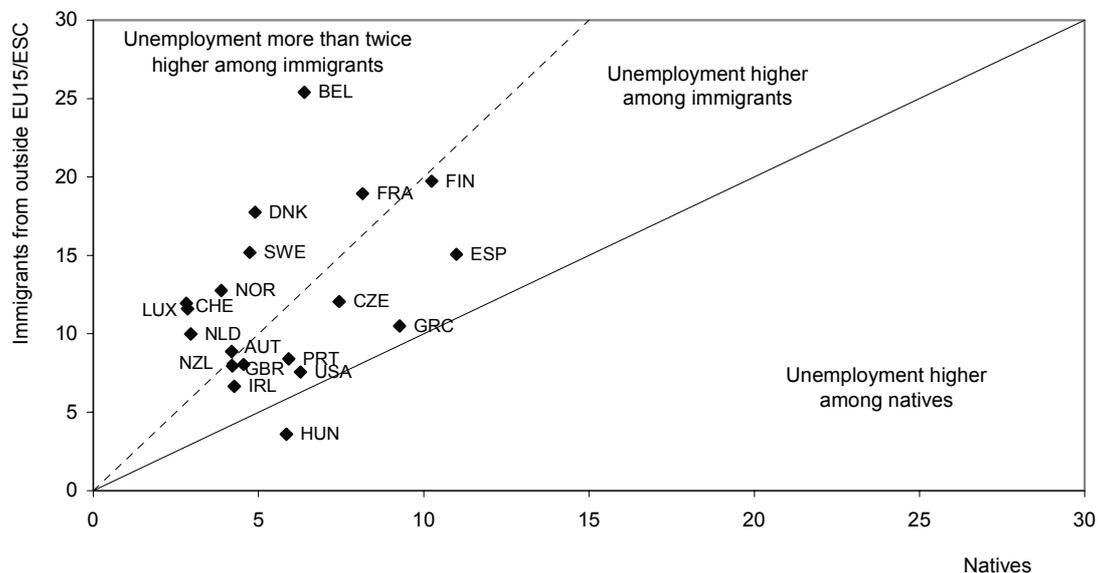
Panel B. Aggregate impact



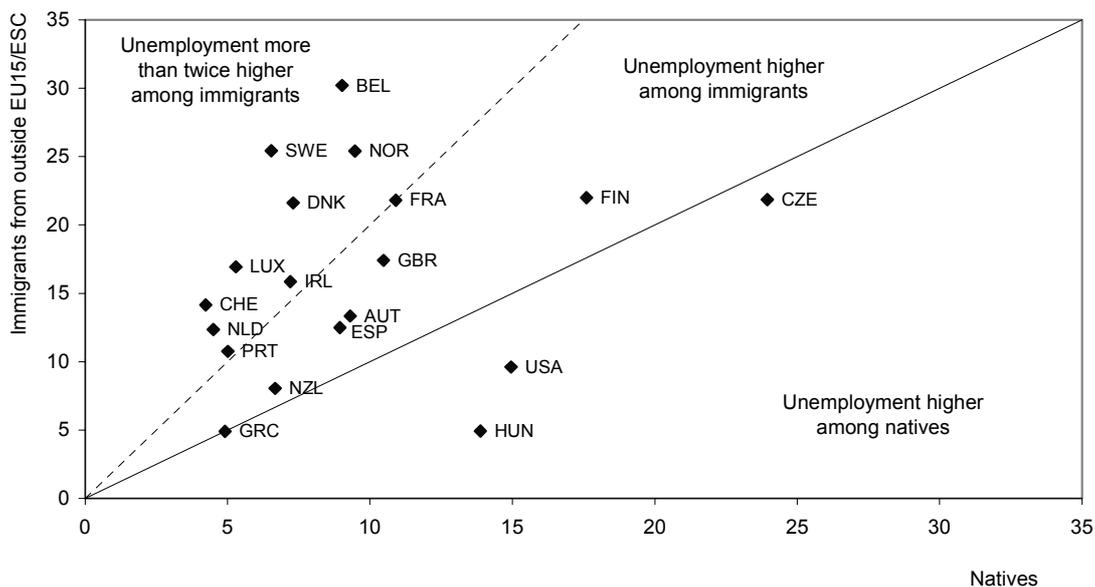
Source: Jimenez and Jean (2007), Figure 2.

Figure 3. Unemployment among non-EU/non-English speaking immigrants and among natives in OECD countries, in 2003

Panel A. Overall unemployment rate, percent



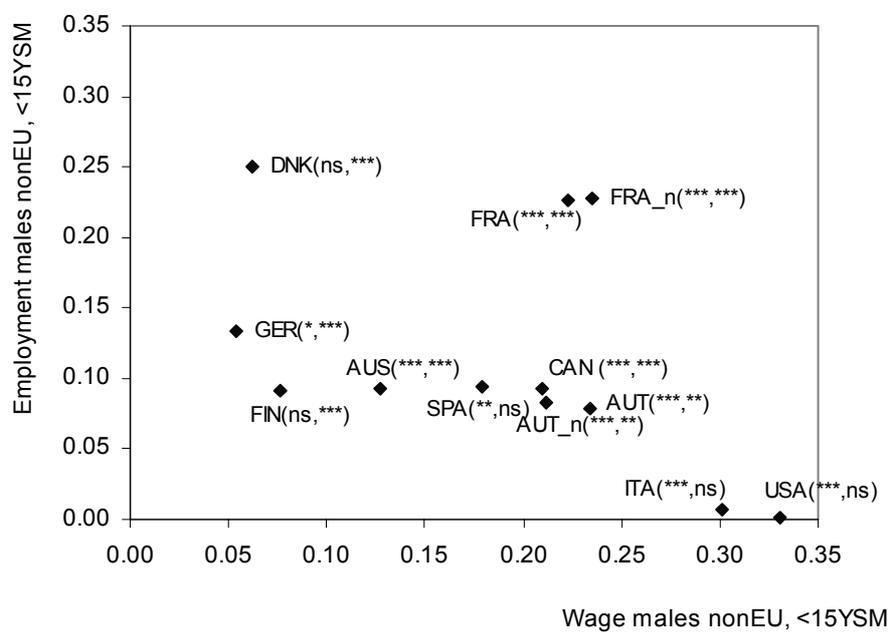
Panel B. Male low-skilled unemployment rate, percent



Note: Solid line: unemployment among immigrants equal to unemployment among natives. Dotted line: unemployment among immigrants twice as high as unemployment among natives. The figures only concern non-EU immigrants in European countries, and immigrants from non-English speaking countries in the United States and New Zealand.

Source: Secretariat calculations based on European Union Labour Force Survey; US Current Population Survey; NZ Income Survey, Household Labour Force Survey.

Figure 4. Employment gap versus wage gap for immigrants with less than 15 years residency (men, non-EU or non-English speaking OECD immigrants only)

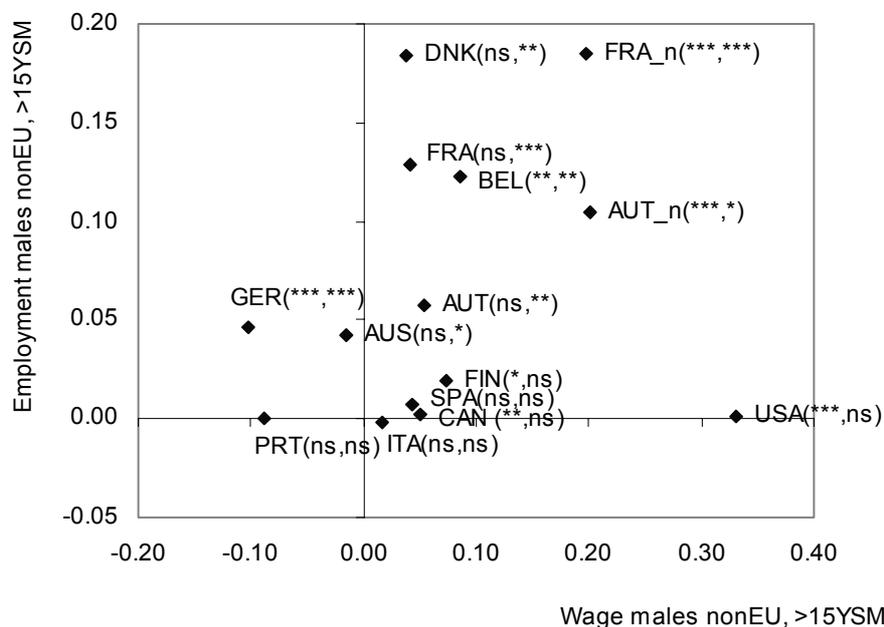


Note: "ns" refers to non significant, *significant at 10%; **significant at 5%; ***significant at 1%. (*, ns) means wage gap significant at 10% and unemployment gap ns.

Non-EU refers to individual not born in a EU15 country. "< 15YSM" means 15 years or less since migration. For the United States' estimates, year since migration could not be controlled for. For the United States and Australia, the category refers to individuals that were not born in an OECD English-speaking country. "_n" denotes estimation carried out with the nationality criterion, instead of country of birth, to identify immigrants.

Source: Secretariat calculations based on ECHP, PSID, SLID. Results for Australia were kindly provided by Hubert Strauss based on the HILDA database.

Figure 5. Employment gap among actives versus wage gap for immigrants with more than 15 years residency (men, non-EU or non-English speaking OECD immigrants only)



Note: "ns" refers to non significant, *significant at 10%; **significant at 5%; ***significant at 1%. (*, ns) means wage gap significant at 10% and unemployment gap ns. Non-EU refers to individual not born in a EU15 country. "> 15YSM" means more than 15 years since migration. For the United States' estimates, years since migration could not be controlled for. For the United States and Australia, the category refers to individuals that were not born in an OECD English-speaking country. "_n" denotes estimation carried out with the nationality criterion, instead of country of birth, to identify immigrants.

Source: Secretariat calculations based on ECHP, PSID, SLID. Results for Australia were kindly provided by Hubert Strauss based on the HILDA database.

Figure 6. Immigrant-to-native gap in employment rate and policy variables

A. Men

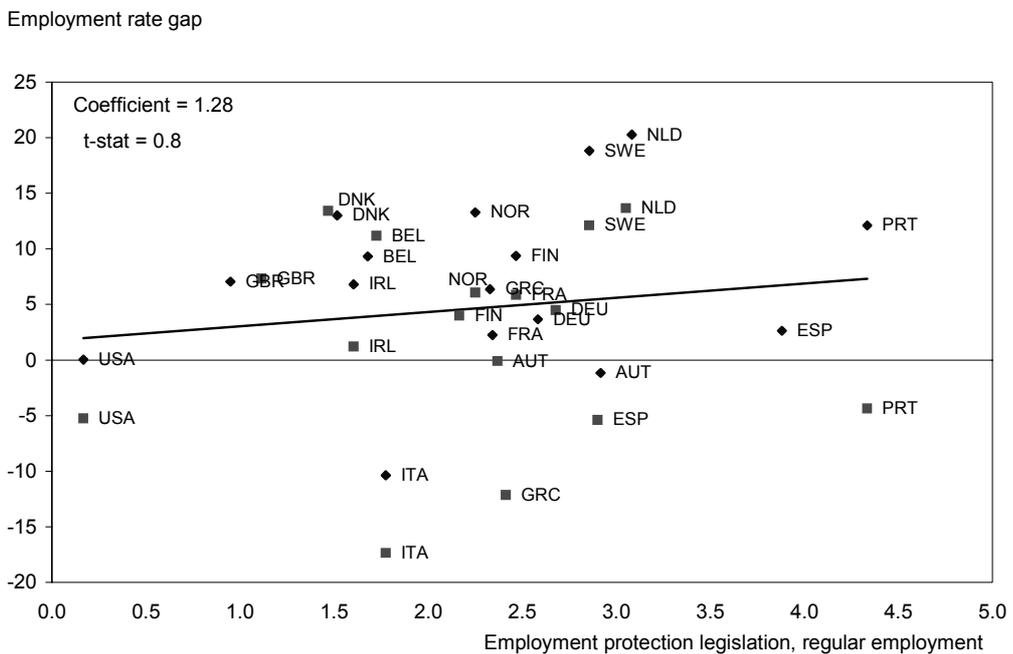
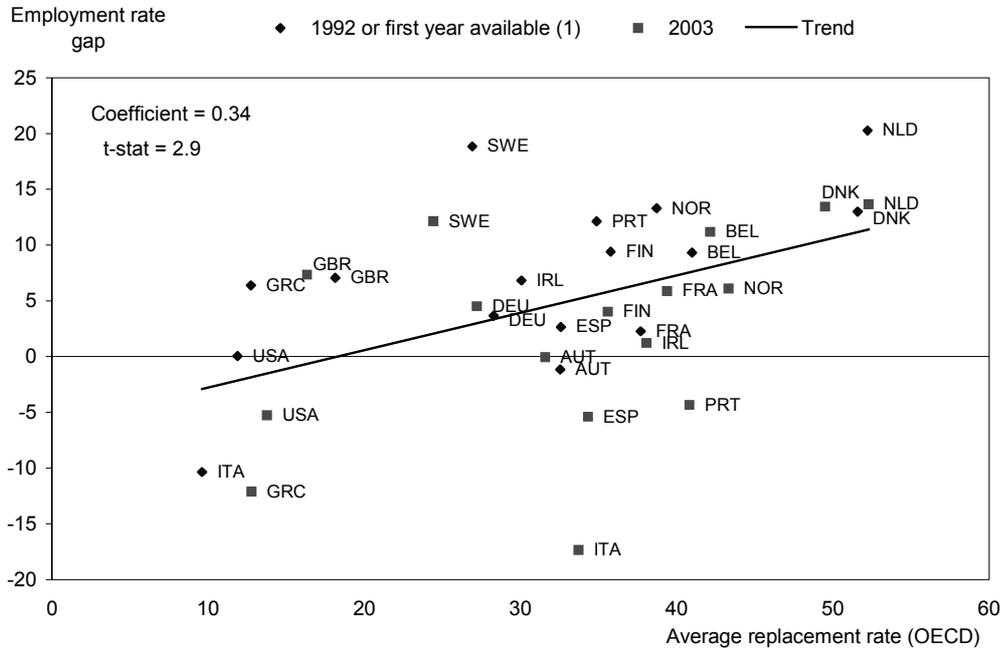
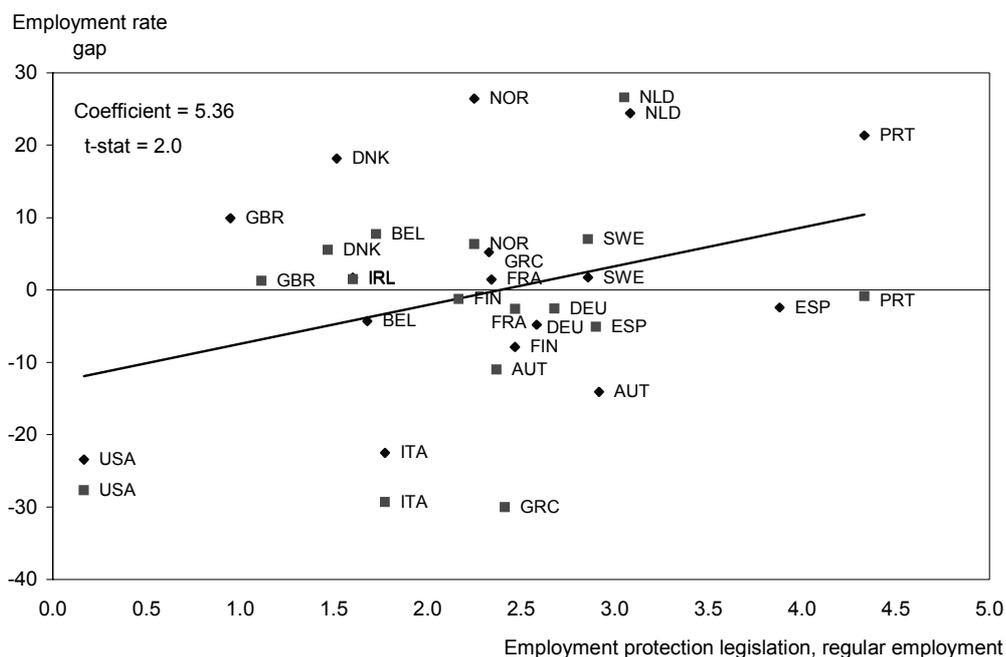
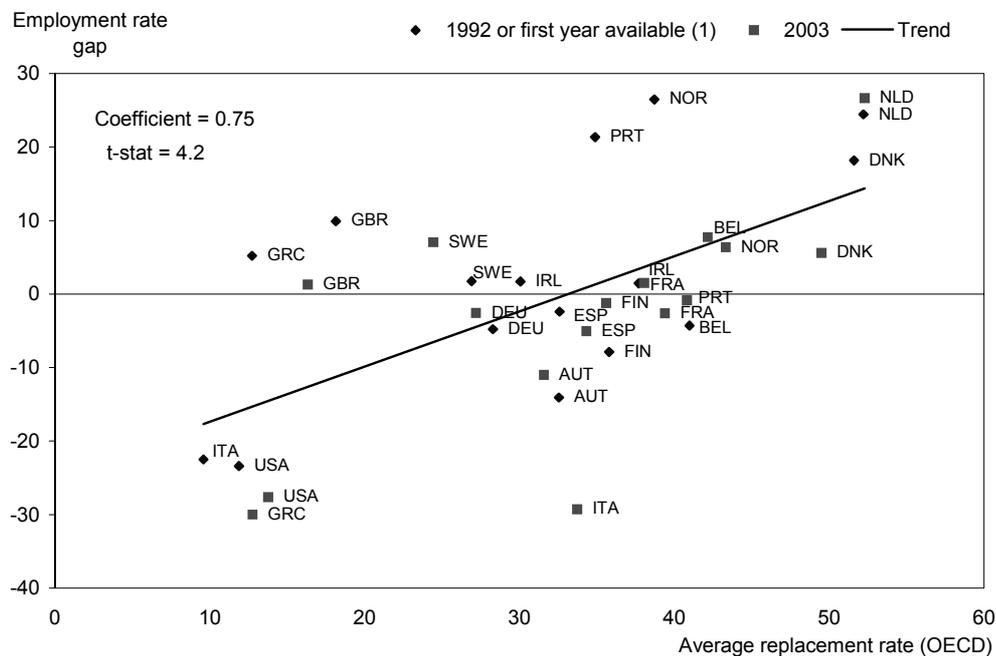


Figure 6. Immigrant-to-native gap in employment rate and policy variables (*contd.*)

B. Low-skilled young men

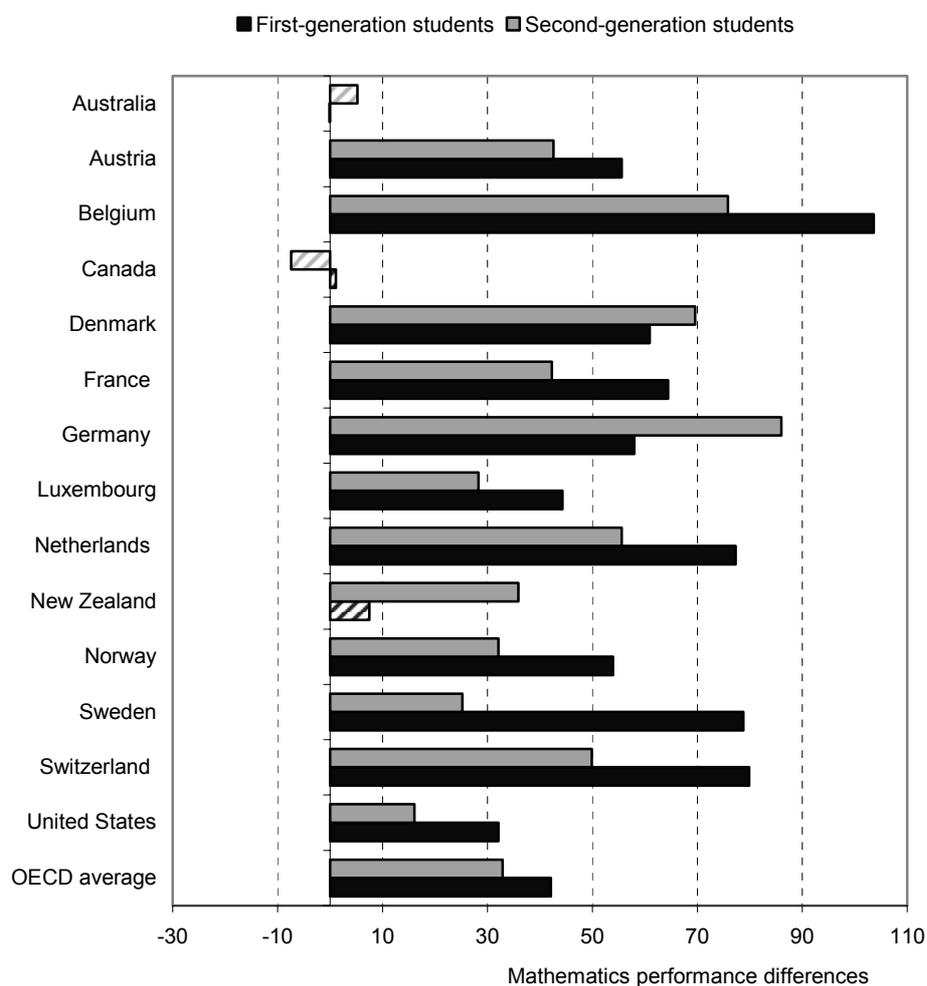


Note: The immigrant-to-native gap in employment rate is defined as (employment rate among natives – employment rate among immigrants), for men (panel A) and for young men (panel B), respectively. The policy variables (EPL and replacement rate) are computed as the country average for the whole labour market, absent well-suited data focusing on low-skilled young men.

1. 1993 for France; 1994 for United States; 1995 for Austria and Finland; 1996 for the Netherlands, Norway and Sweden.

Source: Secretariat calculations based on European Union Labour Force Survey; US Current Population Survey; NZ Income Survey, Household Labour Force Survey.

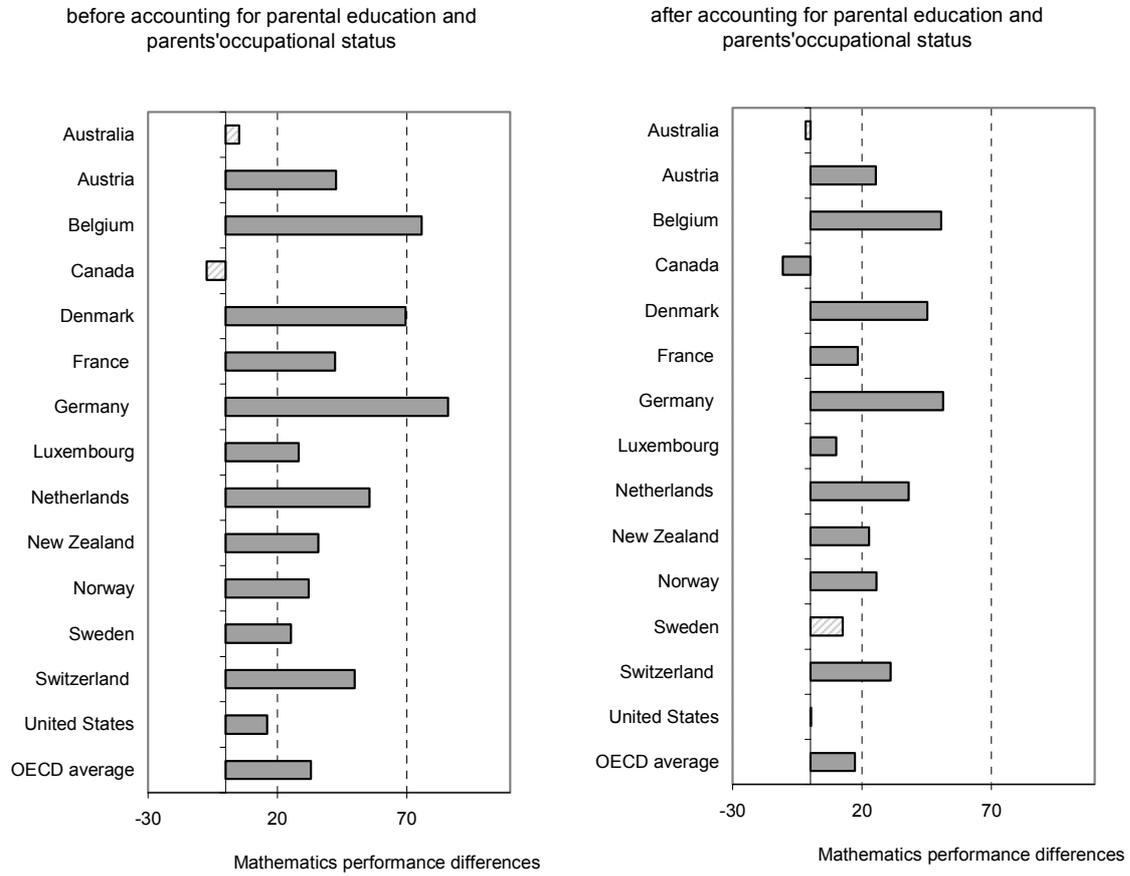
Figure 7. Differences in mathematics performance between native students and immigrant students



Note: Not statistically significant coefficients are marked with a light upward diagonal.

Source: OECD (2006b, Table 3.5), based on PISA 2003.

Figure 8. Differences in mathematics performance between native and second-generation immigrant students before and after accounting for parental education and occupational status



Note: Not statistically significant coefficients are marked with a light upward diagonal.

Source: OECD (2006b, Table 3.5), based on PISA 2003.

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