CESifo Working Papers
www.cesifo.org/wp

The Retirement of the Migrant Labor Force: Pension Portability and Beyond

Alain Jousten

CESifo Working Paper No. 3995
Category 3: Social Protection
November 2012

Presented at CESifo Venice Summer Institute, Workshop on
'Portability of Social Benefits: The Economics of a Critical Topic in Globalisation', July 2012

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

CESifo *Working Paper No. 3995*

The Retirement of the Migrant Labor Force: Pension Portability and Beyond

Abstract

The specificities of the workforce with a migrant background are often neglected in studies of retirement. Similarly, many studies of migration's impact on pensions often focus on aggregate outcomes – system sustainability or distributive characteristics. The present paper provides a fresh look at the nexus between these two literatures. It discusses the impact of the European social security coordination mechanisms on individual decision-making and on the functioning of social security systems – with a focus on retirement. The paper argues that such effects are non-negligible and are likely to have major policy consequences.

JEL-Code: F220, H750, J260, J610.

Keywords: pensions, retirement, international migration, social security coordination.

Alain Jousten
University of Liège
Boulevard du Rectorat 7, B31
Belgium – 4000 Liège
ajousten@ulg.ac.be

31/10/2012
The paper was prepared for the CESifo conference "Portability of Social Benefits: The Economics of a Critical Topic in Globalization". Financial support for this research by CESifo is gratefully acknowledged. The author wishes to thank Arjeta Aliaj for excellent research assistance and conference participants for helpful discussions and comments. A special thanks goes to the management team of the Inspection générale de la sécurité sociale (IGSS) and the Caisse Nationale d'Assurance Pension (CNAP) of Luxembourg for extremely stimulating discussions and insights. All remaining errors are entirely my own.

1. Introduction

International migration flows have substantially increased over the last decades. In its recent International Migration Outlook (OECD, 2012) the OECD presented some compelling statistics on the absolute importance migration. In 2010, the OECD average of foreign-born population is 13.5 percent, while it is 7.8 percent for the foreign population.[2] The statistics are clearly more compelling when focusing the attention on typical receiving countries of migration flows. For classical cases such as Germany, France and Belgium both stock variables are somewhat higher than the OECD average. Switzerland and Luxembourg are clearly outliers, with the former having roughly a quarter of its population with migration background, while the latter even reaches one third.

Migration is a dynamic process. Origin and source countries change as the respective national economies develop. Striking examples in OECD (2012) are Spain and Ireland that evolved from a typical emigration country to a net immigration country over the period 2000-2010. For example, in Spain the share of the foreign population increased by approximately 9 percentage points to 12.4 percent.

Migration is a more diverse phenomenon than often thought. Beyond migration from developing countries towards higher income countries (South-North migration) it also consists of migration between countries of a similar or at least less heterogeneous development level. Analysis of European countries provided by OECD (2012) underpins this observation. In many old immigration countries (Germany, Belgium, Sweden, Luxembourg) and some new immigration countries (Ireland, Spain), the largest cohorts of immigrants over the period 2000-2010 originate in fellow European Union member countries.

The scope and the composition of migration flows calls for an economic analysis of its effects. One interesting example is Borjas (1995) analysis that focuses on the overall effect of immigration on

[2] These two indicators are often rather correlated – and we thus use the generic term population with a migration background in what follows.

the economy. He evaluates the net benefits of immigration from younger to demographically older countries at the aggregate level. He defines the concept of "immigration surplus" summarizing the aggregate net gain in national income from migration to the receiving country under the form of sustained economic activity and growth net of any losses suffered by the native population as a result of the migration.

Beyond such overall assessments of the costs and benefits associated with international migration, more specific and targeted issues deserve a special attention. In the present paper, we focus on one key distinctive feature of international migration as compared to purely domestic one. In fact, migration will almost inevitably imply a change from one social security regime to another one – with all the ensuing consequences. The impact of this move is a non-trivial one – neither at the individual level nor at the level of the social security systems. For example, in the case of mobility from a developing country to a developed country this move may mean joining a formal social security system and changing the composition of the risk pool of the latter. In other cases, it may also mean losing social protection if it is done to become and illegal worker in the destination country. Finally, in the more classical case, it may mean shifting from the environment set by one social security system to another one – each one with its own characteristics and rules.

We choose to pay a special attention to this latter context – though our discussion could easily be extended to the other cases. We discuss the impact of migration in a world of different national social security systems, and explore the role and impact of international coordination rules. To clarify and stylize our arguments, we focus on the European context. But beyond reasons of presentational clarity, it is also in Europe that these issues are very acute with both large migration flows and rather intense (and unique) international coordination.

The paper is structured in two broad parts. The first one reviews the literatures on migration and pension, and on pensions and retirement. Section 2 starts by presenting basic findings from the literature on the impact of migration on pensions. As it turns out, the research has often been

focused on studying aggregate effects of mobility at the various stages of life. Section 3 summarizes the key results of the literature on micro-based analysis of pensions and retirement in a national setting. Both individual-level results and aggregate results are discussed, with a focus on the decision to retire and consequences thereof. The second part of the paper, section 4, explores the interconnections of these two very important literatures. Using the European example and focusing on the decision to retire from labor market, we discuss how financial incentives for individuals with a migration background are different from those of purely national cases. We also identify likely system-level effects. The final section summarizes our findings and outlines some promising avenues for future research at the nexus of these literatures.

2. Pensions and migration

The impact of migration on pensions has actively been studied in the economic literature. Often, the focus has been on the effect of stylized labor mobility patterns on the functioning and key macroeconomic outcomes of different pension systems. As discussed by Jousten and Pestieau (2001), three broad stages of mobility can be identified: at the beginning of the working life, during the working life and at the end of the working life. The mobility at these different stages of life has different motivations, consequences at the individual level and also different policy implications for the countries involved.

With regards to early-life mobility, overlapping generation (OLG) growth models are often used. For example, Cremer and Pestieau (2003), Kolmar (2007) and Gouveia (2011) consider the case of two countries having each a non-homogeneous population (in ability and income) and only differing in their chosen degree of redistribution in the pension system.[3] Pension systems are assumed to be characterized by a fixed retirement age. The authors explore the conditions under which early-life

[3] In the terminology of Cremer and Pestieau (1998) this is the so-called “Bismarckian factor”, i.e., a factor summarizing the degree of redistribution across ability types between 1 (purely Bismarckian system – strictly contributions-linked pensions) and 0 (purely Beveridgean – purely uniform benefits).

mobility leads to different redistribution, sustainability and migration patterns – with substantial impacts for sending and receiving countries. While their focus is on the case of the place-of-work country paying the benefits to the retirees, other scenarios could easily be integrated. Breyer and Kolmar (2002) explore conditions under which decentralized pension systems lead to efficient outcome in countries that are linked by migration flows. Again retirement is considered to be occurring at a fixed age. They show that harmonization of systems between countries is often not a sufficient condition for efficiency.

The question of mid-career mobility raises an extra set of issues as compared to early life mobility. The basic challenge relates to the need to protect individuals against the loss of coverage and/or the loss of accrued rights in a pension scheme as a result of moving across a border. This is a field with strong role for social law and benefit practitioners – to set out clear legal and administrative arrangements to deal with international mobility. At the conceptual level, the impact of mid-career mobility on individual benefits is similar to the extensively studied issue of portability of private (or public) pensions across plans at the national level. The main difference between the national and the international context is not so much a question of type but more of degree - with often larger cross-country disparities in income but also other socio-economic parameters at the individual and the aggregate level. As a result of this similarity with the purely national context, and based on experience and analysis at that level, it is not uncommon to hear frequent references to a "dominance" of defined contribution (DC) over defined benefit (DB) pensions on mobility grounds. The logic is simple: portability and mobility are simplified as, *a priori*, the value of a DC scheme is easier to determine than the value of a DB scheme at any given point in time hence making the effects of a move easier to evaluate. Though the basic intuition behind this idea is compelling, Bodie, Marcus and Merton (1988) already warned that this preference should not be seen as innate and needs to be traced to the specific accrual and indexation features of the various pension schemes – both DB and DC.

The third type of mobility – upon or after retirement – raises yet another set of issues, as it essentially corresponds to a shift of purchasing power from the country of work to the new country of residence. For the government, and leaving aside any possible income tax consequences, it reduces the consumption tax base in the country of work. This net gain in tax base for the destination country has been the driving force behind some implicit or explicit policies trying to attract retirees to capture their purchasing power.

The European context serves as a telling real world example of these basic principles of migration's influence on pensions.[4] At a general level, the freedom of movement rules for workers represent a backbone of the European integration – with a logic of economic gains from integration (and mobility). Similarly, the freedom of retirees to relocate upon (or after) retirement, though less developed than the freedom of workers, allows relocations of purchasing power across countries. Both policies have clear and conceptually easy-to-identify consequences in terms of sustainability and redistribution within countries, but also between. The situation is more challenging regarding mobility during the working life, as already highlighted by Jousten and Pestieau (2001) and recently reemphasized by the European Commission in its recent White Paper on adequate, safe and sustainable pensions (European Commission, 2012). While the general mobility rules also apply here, special hurdles exist when considering mid-career mobility. On the one hand, there are no generally applicable rules regarding the impact of portability on private pension entitlements – be they DB or DC in nature. In fact, the White Paper explicitly recognizes this obstacle to mobility and stresses the need for an environment in which supplementary pensions become safer and truly compatible with mobility. On the other hand, and maybe surprisingly, the largely DB public pensions are regulated by a clear set of rules (EU regulations EC 883/2004 and EC 987/2009) regarding the protection of

[4] In what follows we mostly refer to intra-European mobility by citizens of the countries that are part to these multilateral agreements. Outward mobility to non-member countries is sometimes regulated on a bilateral basis. See Avato et al (2009) for a broader survey of social protection for international migrants.

individual rights in case of intra-European mobility – with an explicit focus on maintaining individual-level rights for individual with partial and/or incomplete careers in several countries.[5]

The European experience however also provides some caveats regarding overly simplistic approaches to questions of migration and pensions. First, the link between migration and benefit entitlements is not a mechanical one and thus should not be considered as such. MacAuslin and Sabates-Wheeler (2011) insist that imperfect benefit eligibility and take-up, as well as selective benefit provision to immigrants are important considerations. This is particularly the case in the EU where the above-mentioned regulations essentially provide protective rights to citizens, that a person can or cannot use. Though this issue might seem to be of little more than rhetorical importance regarding pensions, it is much less so in reality – which leads us to the second caveat. The second warning relates to the dangers of an overly narrow focus on pure pension entitlements as compared to other types of benefits. In fact, mobility decisions do not only have pension consequences but often also have simultaneous – and sometimes more significant and conflicting – impacts at the level of other social (or private) programs or benefits. For example, Werding and McLennan (2011) document and analyze the (very different) rules applicable to health insurance coverage across the world. The European context is again rather revealing as regulations EC 883/2004 and EC 987/2009 not only deal with pensions but also with most other social protection benefits. This suggests that a more comprehensive approach is warranted, even in rather stylized models. Holzmann and Koettl (2011) provide a stimulating look at portability considerations in the broader context of social insurance benefits. They suggest an analytical framework to separate the risk-pooling, pre-funding and distributive elements of the various social insurance benefits.

[5] These EU regulations EC 883/2004 and EC 987/2009 will be discussed further in section 4 below.

3. Pensions and retirement

Over the last decades, an important literature has developed on the numerous interactions of pension systems and retirement behavior. Clearly, a complete review of the literature is beyond the scope of the present section. Our focus is rather on highlighting some key issues that are of particular importance when considering the impact of migration on pensions and retirement.

A first strand of the literature focuses on questions of benefit generosity, adequacy and sustainability in aggregate models. In such models, like in those that we considered in the previous section, retirement is considered as a binary event that either happens at some fixed age or according to some exogenous and pre-determined process. An example of the former is the stylized two period OLG model with pensions where individuals work for one period and are retired in the second. An example of the latter is the work of the Aging Working Group in the European Union where retirement is projected according to an exogenous pathway as indicated by national law.[6] Clearly, both approaches have their merits as they are likely fair assumptions for the study of some specific policy questions. But equally clearly, they have their limits when it comes down to understanding individual behavior.

Hence, more recently, another strand of studies has developed focusing on the effects of pension systems on retirement behavior. The main innovation of this literature is to recognize that effective retirement is not exogenously given either by law or by assumption, but rather that it is the result of decision-making. Clearly, such decision-making will be influenced by financial and non-financial incentives that economic agents – workers, employers and governments – face.

Employers and even public decision-makers may face incentives to either release workers early into retirement or keep them working depending on incentive structures they face. For example, Hutchins (1999) frames early retirement as the result of a profit-maximizing employer. At the system

[6] See, e.g., the Ageing Report 2012 (European Policy Committee and European Commission, 2012).

level, decision-making may also be influenced as recently discussed in the context of Belgium by Koźluk et al. (2012). These authors identify that an absence of tax-benefit linkages in the Belgian retirement systems de facto eliminates incentives of plan administrators to contain pension spending in the face of ever increasing age-related spending requirements.

Gruber and Wise (1999, 2004) and Wise (2012) focus their attention on the third participant in the decision-making process: the worker. These volumes contain individual country studies for a dozen developed countries – providing a rich set of analysis of the interactions between the institutional architecture and individual behavior in a variety of social protection designs. Individual level incentives can take multiple forms. For example benefits can be adjusted in an actuarially neutral or non-neutral way when varying the retirement age. Non-monetary factors may also matter, such as higher levels of life satisfaction from either working or alternatively retirement. Decision-making is clearly not strictly limited to the worker level.

Using typical household simulations, Gruber and Wise (1999) documented that incentives towards early retirement were built into many western European pension systems and that these incentives to retire early were independent of the basic distributive characteristics of the systems.[7] This analysis was strengthened and significantly deepened in Gruber and Wise (2004). Using microeconomic data at the individual level, the latter set of studies confirmed that most European retirement systems generated strong average incentives towards early labor force exit.

A second major contribution of Gruber and Wise (2004) highlights the role of each worker's personal characteristics in determining his effective retirement incentives – rather than relying on mechanical indicators of typical workers or averages for entire birth cohorts. In the econometric modeling, each individual's decision to retire is based on the specific environment he faces. The

[7] For example, the authors show that though Germany relied mostly on a Bismarckian pension system and the United Kingdom on a Beveridgean logic, incentives to retire early were rather comparable. Similarly, though the Netherlands has a major role for fully funded private pensions whereas Belgium, France and Italy are quasi-exclusively Pay-As-You-Go (PAYG) systems, they all share comparable incentives to retire early.

various country studies documented a large degree of heterogeneity in incentives across the population – depending on the specific socio-economic characteristics faced by the individual. For example, beyond pure household characteristics, the exact career profiles and wage trajectories over the life-cycle play a crucial role in determining future benefit entitlements and the associated adjustments for early or late retirement.

A fourth key contribution of these studies was the explicit recognition of the role played by numerous schemes other than pure pension or retirement schemes in shaping retirement patterns such as empirically observed in the real world.[8] As such, the studies considered the role of all programs that a person desiring to retire could rely on as an income source when retired. The list of relevant programs, as well as the age range during which people actually had an option to retire varies widely across countries. What is common across countries is the need to take a comprehensive look at all programs that are of relevance to potential retirees, and not limit analysis to those that formally carry the labor of pension retirement program.

Two polar case studies are worth highlighting as they illustrate the range of situations. First, Coile and Gruber (2004) discuss the case of the US with a rather simple environment where retirement and early retirement options are essentially limited to those that are open within the public Social Security system. People desiring to withdraw from the labor force are limited by the age range of early retirement options and effective retirement incentives are determined by the actuarial adjustment factors built into the system. Second, Dellis et al. (2004) analyze the case of Belgium – where retirement incentives are less standardized as the system architecture is significantly less uniform. In Belgium, three main pension regimes exist for contractual civil servants, wage earners and self-employed – listed in decreasing order of generosity. Both benefit eligibility and generosity vary significantly across schemes with significant non-neutralities for mid-career movers across

[8] See, for example, the Table 2.1. of the OECD publication Pensions at a Glance 2011 for a recent survey of observed and statutory retirement ages.

schemes.[9] Within the strict limits of each one of these schemes, workers face different incentives to retire early. Beyond the strict limits of the pension system, a series of alternative social insurance programs play an important role in determining incentives for early withdrawal from the labor force, such as formal early retirement programs organized outside of the pension scheme, unemployment insurance, sickness and disability insurance – with effective early retirement options available to individuals at ages as low as 50.

Last but not least, contributors to Wise (2012) insist on the numerous interactions between individual social protection programs – with a special focus on disability insurance. For example, tighter eligibility criteria affecting disability insurance will not necessarily leading to later effective retirement but possibly simply to higher enrollment in another social insurance program such as unemployment insurance. This interdependence should not come as a surprise, as it is the intuitive result of rational individual decision-making in the face of a set of options. It is not void of policy relevance: the importance of looking at the social insurance system as a whole, rather than an assembly of segmented programs to be analyzed and treated separately.

4. Migration and benefit entitlements in Europe

The preceding two sections have usefully set the stage for the discussion of the link between migration and benefit entitlements in the European Union (EU). Each one of these literatures has its merits: the first in positioning the migrant and the national pension systems in their international context; the second, in expanding the scope beyond pensions and recognizing that retirement behavior is a decision rather than a government-imposed parameter. The basic diagnosis is thus rather simple: stimulate research at the nexus between these two important literatures to push the research frontiers beyond its current limits. The ultimate aim should be to gain a better

[9] The three systems are DB systems with have largely different benefit formulas. As a result, non-neutralities appear that are akin to those we discussed in section 2.

understanding of the link between migration, benefit entitlements and retirement both at the theoretical and the practical level.

The present section thus explores some key dimensions of the current EU policy environment with respect to cross-border migration and highlights likely economic effects wherever possible. The policy relevance of an improved understanding of the links between migration, benefit entitlements and retirement is self-speaking in light of ever increasing cross-country mobility in the EU. First, more and more EU citizens have partial work careers in several countries thus increasing the importance of understanding the individual-level consequences of the legal and administrative arrangements for mobility. As a matter of example, the benefit level that an individual will receive during retirement crucially depends on exactly how these various national schemes are integrated. Second, increased mobility in the EU is not without consequences for pension and other social protection schemes. For example, mobility can lead to linkages and externalities between systems – as discussed in section 2. However, it can also be non-neutral at the budgetary level when an individual's mid- or end-of-career move between systems is not accompanied by the appropriate budgetary transfers.

The legal and administrative framework of European regulations EC 883/2004 and EC 987/2009 is rather uncommon at the international level. On the one hand, while many important policy coordination mechanisms involve bilateral agreements, these EU regulations are decidedly multilateral tools. This observation is all the more striking when comparing to the field of taxation where bilateral double tax treaties are still the predominant tool for coordinating national tax systems to prevent situations of double taxation (and non-taxation). Even in the European context, tax coordination mostly a bilateral matter – with sometimes substantial differences between the various bilateral double tax treaties. Similarly, while other examples of multilateral agreements for policy coordination exist in the field of social protection[10], no other multilateral agreement is as

[10] See for example Werding and McLennan (2011).

extensive. It governs not only pensions but also most other forms of social protection benefits – including, e.g., health care, disability, sickness and unemployment benefits.

The regulations coordinate independent (national) systems – they don't harmonize these systems. Effectively, the regulations set minimum standards, upon which national legislations or bilateral agreements among individual member countries can improve.

The regulations have important consequences both at the individual and the system-level – which we'll discuss in turns. They apply to all traditional branches of social security (both public and private), namely sickness, maternity, accidents at work, occupational diseases, unemployment benefits, pre-retirement benefits, retirement benefits, survivor benefits and death grants. Given our positioning in the retirement context we mostly focus our discussion on unemployment, pre-retirement, retirement, sickness and disability programs. It is worth noticing that these regulations do not apply to supplementary pensions (see the 2012 White Paper), nor do they apply to civil servant pensions – hence leaving these two sectors without a harmonized and/or unified portability regime. We do however also discuss health insurance – particularly in its effects on system finances.

Individual level discussion

At the individual level, the EU regulations regarding social insurance are based on three main principles: 1. any person is only subject to the legislation of a single member state (double coverage in two separate member states is not allowed); 2. equal treatment of all EU citizens (no discrimination); and 3. aggregation of periods across member countries. While the first two guiding principles apply immediately to all branches of social security, the third one has a differential impact for the different benefit types.

From an economic point of view, the various types of benefits covered by the regulation can be classified into three broad categories. The first category of benefits involves what we would qualify as "immediate risks" – where the coverage offered by a country is solely based on the current

insurance status of the individual at the moment when the negative event occurs. Benefits included in this category are health insurance, unemployment benefits as well as some limited number of EU countries' disability programs that are explicitly mentioned in Appendix 6 of regulation EC 883/2004. [11] For those programs, in line with the first principle, one country is competent – usually the place of residence or the main place of work. It is this country's legislation that determines the rules of enrollment in the relevant social security scheme. In line with the second principle, all people – immigrants or not – are treated identically under the competent national scheme. In line with the third rule, and where useful, periods of affiliation under other member country schemes are aggregated to determine benefit eligibility in the competent country – a process known as totalization.[12]

The second category of benefits could be qualified as "life-cycle risks" – where countries pay benefits in proportion to the share of the career the worker has worked under its social security legislation (pro-rated benefits). The most common examples are retirement benefits as well as disability benefits for all other cases than those previously mentioned. The three principles again apply, meaning that only one country is responsible for each share of the worker's career. To prevent individuals from losing out over purely national careers, an aggregation mechanism applies including not only totalization but also double calculation of benefits in each country – once on a stand-alone basis, and once based on a pro-rated formula integrating years of service abroad. Finally, the country of residence has an extra obligation under these rules: make a gap-filling payment if ever the sum of the worker's various entitlements is lower than the minimum social insurance benefit that he would have been entitled to if his career had been a purely national one.

[11] The case of disability programs is particularly complicated. While several EU countries have an "immediate risk" philosophy in their national disability programs – they have opted not to include their system in Appendix 6. Therefore, the immediate-risk philosophy is not applicable for cases of international mobility – while it would be applicable for cases of national mobility.

[12] One example may help illustrate the process of totalization. If a country imposes a minimum period of contributions of 2 years to be eligible for unemployment insurance benefits, and the worker can prove 2 years of contributions in another member state, then the process of totalization allows him to "use" these foreign years towards the fulfillment of the minimum contribution requirement.

The third category is made up of a single category of benefits: formal pre-retirement schemes. Under the EU regulations, formal pre-retirement programs are explicitly included in the text but no totalization is allowed – de facto rendering these programs purely national matters. [13] These formal early retirement schemes have to be distinguished from all early retirement arrangements that are organized either formally or informally as sub-divisions of other social protection schemes. For example, Luxembourg has a formal pre-retirement program that qualifies as such as it is clearly set up as a separate and well-defined program. Opposite examples are the Dutch early retirees benefiting from disability insurance benefits, or their French and Belgian counterparts that are retired under the cupola of unemployment insurance benefits. The latter would be classified as belonging to the second or the first category of benefits – and not to the category of pre-retirement programs!

The substantially different treatment of the various social security schemes is not surprising as such. Indeed, it can be directly traced back to the fact that the EU regulations do not attempt to harmonize systems – they merely attempt to coordinate systems insofar as individual mobility is requiring such coordination. Seen from another point of view, it means that all member countries keep their individual social security schemes in all traditional branches of social security with all their differences in entitlement ages, entitlement conditions, entitlement levels, benefit adjustments, dependent benefits, intra- and intergenerational degree of redistribution, etc.

The differential treatment is however problematic when positioned in a context where the borders between various branches of social security become blurry – for example when considering (early) retirement. As discussed in section 3, any program that provides an income stream (temporary or open-ended) to an early retiree or retiree is of relevance in understanding and analyzing the retirement decision. This implies that the very different treatment of the different types of benefits under the EU regulations will almost inevitably lead to an impact in retirement

[13] Technically, the absence of totalization is justified by the fact that such systems are not available everywhere.

incentives, and thus also in effective retirement behavior. Specific examples may again help illustrate this rather general point.

A first compelling example relates to early retirement. If programs are formally declared as such, early retirees do not have a right towards totalization. Now consider a case of a country imposing a 35 year work career length requirement for access to the formal pre-retirement program. In such a case, a migrant worker with a 35 year total career of which he spent half in his country of origin would not qualify for such pre-retirement benefits – whereas a worker with a purely national career would qualify. The principle of equal treatment is thus also violated. Now consider the same early retirement program, this time organized under cupola of unemployment insurance rather than formal early-retirement. Both workers – migrant and national would be equally treated…

A second example relates to disability insurance in the (most frequent) case of a life-cycle philosophy of benefits. Consider an individual applying for disability insurance in his current country of work – be it for reasons of physical impairment or as a matter of early retirement. Given the life-cycle conception of benefits, it means that the individual' eligibility is evaluated and benefits are awarded based on the rules in his current country of work for the part of the career that he worked in this country. If the worker completed his entire professional career in this country – a hypothesis usually assumed in early retirement studies at the national level –financial incentives towards early retirement would be easy to determine as benefit entitlements are entirely based on the country's legislation. If, however, the worker spent part of his career abroad, the situation would be very different: benefit eligibility and generosity for the foreign part of the career would be based on that country's rules and regulations. Depending on the systems, one country may consider a person disabled while the other one does not, or one country may differ in the assessment of the degree of disability. Similarly, the benefit levels and rules may vary substantially between countries. [14] As a

[14] The EU coordination arrangements do not include coordinated assessment criteria and procedures for disability insurance –countries thus keep full control over system operations beyond the 3 main principles.

result, incentives faced by older workers with a migrant past are most likely very different from those of non-migrants.

A third case relates to regular social security retirement benefits. Consider a worker that applies for retirement benefits in his current country of employment at the normal retirement age – which we assume to be fixed at 62. If this worker has a purely national career, the calculation of the benefit entitlement and the ensuing economic incentives are easily determined. The case of a worker with a migrant past, and a partial career abroad is less obvious. Though clearly falling under the category of “life cycle risks“, severe benefit consequences and incentive-for-retirement issues may arise. On the one hand, as compared to purely national workers, retirement benefit levels may vary substantially – hence leading to different incentives to retire. Similarly, eligibility ages and actuarial adjustments for early or late retirement may also vary between countries –leading to sometimes rather large differences in retirement incentives. The issue is most severe if in the country of origin the normal (or even the minimum) entitlement age is higher. In this case, the worker may have substantially lower incomes in the interim period – further reinforcing the differences in incentives. On the other hand, social insurance benefits interact with social assistance benefits – again affecting incentives. For example, this could be the case in the above-mentioned interim period – where the difference in eligibility age may lead to eligibility for social assistance pensions.

System level discussion

Beyond the individual decision-making process, there is also the impact of the regulations on system functioning, as well as on international burden-sharing arrangements with respect to budgetary costs. Indeed, and insofar as the mobility between countries is not associated with the adequate transfers reflecting the full insurance, savings and redistributive components of Holzmann and Koettl (2011), any transition between system will lead to a non-neutral effect in terms of

financial burdens for the source and origin countries. [15] In reality, no such stylized transfers exist – thus leading to potentially large non-neutralities for system finances.

On the one hand, life-cycle risks are least affected by this problem. The reason is simple. Each country is by and large responsible for financing and setting the benefit rules regarding the part of the career that the individual is affiliated with his system. This means that the various countries' rules are rather well delimitated – leaving aside exceptions such as the special role of the residence country for pensions as well as the interaction between social insurance and social assistance benefits.

Health insurance, on the other hand, is likely one of the most affected programs thus also generating the most compelling cases of the importance of explicit and implicit financial transfers. First, for numerous cases of mobility no financial compensation is due between systems. This is notably the case of early-life or mid-career mobility. While it is impossible to affirm whether the source or the benefit countries lose or win, it is clear that any such transitions from one country to another one will be non-neutral in the generic case.[16] Second, other cases of mobility do involve a financial compensation. This is, for example, the case for an individual who moves at the end of the working life to a different country than his previous country/countries of work. While the individual will be subjected to the new residence country's benefit rules, the financial cost linked to his coverage will be borne by the country where he worked and that he gets a pension from. In general, a financial compensation is thus due by the pension-paying country to the new residence country to compensate the latter for the extra costs of the new resident.[17] One corollary from this dichotomy is that situations arise where systems have to bear costs that are generated in a sister scheme (abroad) without the paying country having any immediate control of the costs incurred.

[15] Notice that these compensating transfers can be introduced both in insurance-based and in general revenue financed systems – as the key determinant for the transfer is the expected cost, not the revenue structure.

[16] The country-specific impact depends on the relevant risk pools' characteristics.

[17] Under the regulations, the resident country can claim either realized costs, or average costs associated with a comparable national retiree.

The discussion on non-neutralities of mobility with respect to system finances should be particularly important for countries with either large emigrant or immigrant populations. But beyond the sheer importance of migration, the precise composition of flows also matters. For example, while one could argue that such non-neutralities for system finances should not matter much in a world of symmetric migration flows, the same clearly does not hold in the presence of strong migration corridors from typical emigrant countries to typical immigrant countries. In both origin and receiving countries, the issue should be of prime policy relevance.

5. Concluding thoughts

In light of increasing migration flows, a better understanding of the impact of mobility on individual behavior as well as on social security systems take on a prime policy relevance. To discuss our ideas, we position the paper in the European context – as it is here that the regulatory environment regarding international coordination of social security benefits is most developed. The paper starts by proposing a stimulating look at the literatures on mobility-induced effects on pensions and on the effects of pension systems on early retirement. Our discussion highlights the important policy lessons of the existing literatures. We argue that there is substantial room for improvement and that and a cross-fertilization of these domains looks warranted. This observation is particularly true given the large shares of populations with a migrant background in Europe and beyond.

Several key observations emerge from the European context. First, while the regulations in place clearly help coordinate programs, they do not set out a harmonized or unified social protection system – thus maintaining possible incentives for migration between countries.

Second, we find that the European coordination regime is non-neutral at the individual level, and at the system level. At the individual level, it implies that a simple look at the worker's national professional trajectory is insufficient – and likely even misleading. The reason is that many social

programs have an explicit intertemporal dimension: people will still be exposed to rules and benefits from their former country/countries of work. This has immediate policy relevance in the field of retirement – but also well beyond. As illustrated by the early retirement literature, retirement is endogenous and a dynamic process – not a simple policy parameter. As such, individuals decide on (early) retirement based on their personal context – which also includes the migrant past. Ignoring this dimension thus risks leading to erroneous and misguided social and labor market policies – with the degree of error depending on the precise interactions of the various countries' schemes. Clearly, the basic argument also holds true for other country contexts – with or without formal coordination regimes in place.

At the system level, the coordination mechanism is also non-neutral. While the benefits and financial charges for retirement and disability essentially follow a life-cycle logic of pro-rating among countries based on the share of the career covered by the system, the situation is very different for programs such as health insurance (or unemployment insurance) where substantial non-neutralities appear. For example, mid-career migration leads to a switchover from one system to the other at the moment of migration – without any financial compensation between the countries. Other budgetary issues arise at the system level for end of the working life mobility.

Going forward, we recommend that substantial research efforts should be directed at evaluating the role of foreign careers on the behavior of individuals with a migrant past. Such an effort would almost inevitably involve a first phase of data collection. In fact, to our knowledge, no country systematically tracks information on foreign careers during an individual's working life. At present, a partial exchange of information usually only occurs upon the introduction of a benefit claim by an individual. Such data availability during the working life is however crucial to understand the incentives that people face – for example with respect to early retirement decisions. In a second phase, substantial efforts should be directed at improving the understanding of the true incentive structure faced by individuals with a migration background. While retirement is clearly a useful

starting point in a period of budgetary pressures and in face of an aging population, clearly it is not the only area where such analysis would be warranted.

Bibliography

Avato, Johanna, Johannes Koettl, and Rachel Sabates-Wheeler, 2009, "Definitions, Good Practices, and Global Estimates on the Status of Social Protection for International Migrants", World Bank Social Protection Discussion Paper 0909

Bodie, Zvi, Alan Marcus, Robert Merton, 1988, "Defined Benefit versus Defined Contribution Pension Plans: What are the Real Trade-offs?", in Zvi Bodie, John Shoven, and David Wise, eds., "Pensions in the U.S. Economy", University of Chicago Press , p. 139 - 162

Borjas, George, 1995, "The Economic Benefits from Immigration", Journal of Economic Perspectives, 9, 3-22

Breyer, Friedrich, and Martin Kolmar, 2002, "Are national pension systems efficient if labor is (im)perfectly mobile?", Journal of Public Economics 83 347–374

Coile, Courtney and Jonathan Gruber, 2004, "The Effect of Social Security on Retirement in the United States", in Jonathan Gruber and David Wise, eds., "Social Security Programs and Retirement around the World: Micro-Estimation", NBER and University of Chicago Press, 691 - 730

Cremer, Helmuth and Pierre Pestieau, 2003, "Social Insurance Competition between Bismarck and Beveridge", Journal of Urban Economics, 54, 181–96

Dellis, Arnaud , Raphaël Desmet, Alain Jousten, Sergio Perelman, 2004, "Micro-Modeling of Retirement in Belgium", in Gruber, Jonathan and David Wise, eds., "Social Security Programs and Retirement around the World: Micro-Estimation", NBER and University of Chicago Press, , Chicago, 41-98

Economic Policy Committee and European Commission, 2012, "The 2012 Ageing Report: Economic and budgetary projections for the EU27 Member States (2010-2060)", European Economy 2/2012 "

European Commission, 2012, "White Paper: An Agenda for Adequate, Safe and Sustainable Pensions", COM(2012) 55 final, European Commission, Brussels

Gouveia, Ana, 2011, "The political economy of pension systems under free labor mobility", mimeo

Gruber, Jonathan and David Wise, eds., 1999, "Social Security Programs and Retirement around the World", NBER and University of Chicago Press, Chicago

Gruber, Jonathan and David Wise, eds., 2004, "Social Security Programs and Retirement around the World: Micro-Estimation", NBER and University of Chicago Press, Chicago

Holzmann, Robert, and Johannes Koettl, 2011, "Portability of Pension, Health and other Social Benefits: Facts, Concepts, Issues", World Bank Social Protection Discussion Paper 1110

Hutchens, Robert, 1999, Social Security Benefits and Employer Behavior: Evaluating Social Security Early Retirement Benefits as a Form of Unemployment Insurance, International Economic Review, 40(3), 659-678.

Kolmar, Martin, 2007, "Beveridge versus Bismarck public-pension systems in integrated markets, Regional Science and Urban Economics, 37, 649-669."

Koźluk, Tomasz, Alain Jousten and Jens Høj, 2012, "Bringing Belgian Public Finances to a Sustainable Path", OECD Economics Department Working Papers, No. 954, OECD Publishing

MacAuslan, Ian and Rachel Sabates-Wheeler, 2011, “Structures of Access to Social Protection for Migrants”, in Rachel Sabates-Wheeler and Rayah Feldman, eds., “Migration and Social Protection: Claiming Social Rights Beyond Borders”, Palgrave Macmillan

OECD, 2012, “International Migration Outlook, 2012”, OECD Publishing, Paris

Werding, Martin, and Stuart McLennan, 2011, “International Portability of Health-Cost Coverage: Concepts and Experience”, World Bank Social Protection Discussion Paper 1115

Wise, David, ed., 2002, “Social Security Programs and Retirement around the World: Historical Trends in Mortality and Health, Employment, and Disability Insurance Participation and Reforms”, University of Chicago Press and NBER, Chicago