FACTOR MOBILITY AND REDISTRIBUTIVE POLICY

Local and International Perspectives*

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I. Introduction

The literature of local public economics, club theory, and fiscal federalism has been distinguished by its attention to the problems of fiscal policy in an open-economy setting. The actual or potential movement of goods and services, households, and business activity across jurisdictional boundaries raise a wide variety of issues for public economics. First and most importantly, the openness of jurisdictional boundaries implies the existence of margins of behavioral response to fiscal policy that do not arise in traditional closed-economy public economics. The possibility of cross-border shopping, capital flows, and movements of workers and households across jurisdictional boundaries all affect the allocative and distributional effects of tax and expenditure policies. The openness of the market environment within which local fiscal policies are implemented also naturally raises questions of interjurisdictional fiscal interactions. A taxpayer who leaves one jurisdiction must arrive somewhere else, businesses that are attracted by a favorable fiscal climate in one locality might have been established elsewhere, and local public services that improve environmental quality, reduce crime, or raise the level of health care in one jurisdiction may benefit residents of other localities. These and many other forms of interaction lead one to ask whether the fiscal policies pursued by independent jurisdictions are collectively optimal, in some sense, or whether there are potential gains from coordination of policy. In the latter case, explicit interjurisdictional compacts may provide one mechanism for reaping the gains from policy coordination. Higher-level governments may also discipline and coordinate the policies of lower- level governments, for instance through the use of fiscal inducements such as intergovernmental grants, restrictions on taxing authority, or through regulatory oversight in service delivery. Indeed, issues of policy coordination among jurisdictions lead directly to the question of government structure and jurisdiction formation. If decentralized fiscal policies lead to unfavorable outcomes, perhaps some or all policymaking responsibilities should be shifted to higher-level governments; if those higher-level governments do not exist, to paraphrase Voltaire, then perhaps they need to be invented. Much of the literature of local public finance can be read as an attempt to understand and ultimately to assess the economic performance, in a broad sense, of decentralized public-sector units, a necessary step in the development of a thorough appreciation of the comparative advantages and disadvantages of centralized and decentralized fiscal systems.

It is increasingly recognized that these issues, though of longstanding and obvious interest in the context of local public finance, also arise in many other policy contexts. Indeed, the movement of goods, services, people, and capital across space, including national boundaries, is a pervasive feature of economic life, and one that appears to be of growing importance over time. It is natural, therefore, to search for general principles of "open economy public economics" that can be applied in a variety of different policy contexts. In practical applications, however, the analysis of fiscal policy, intergovernmental fiscal relations,

and jurisdictional structure must be adapted to specific institutional, historical, and social contexts. For instance, analyses of the tax treatment of international capital flows and of multinational corporations are likely to take explicitly or implicitly into account the differing accounting and legal traditions of different countries and the problems of tax enforcement on an international scale, issues which recede somewhat in importance when studying capital taxation within a given country. Similarly, the movement of labor across national boundaries is often subject to legal constraints of kinds that do not apply to migration within countries, and these constraints – for instance, involving the eligibility of immigrants for fiscal transfers or social benefits – may be of some importance for fiscal analysis. While there are thus interesting analytical parallels between local public economics and the analysis of fiscal policy at the national and international level, it is important to appreciate that insights of great relevance in one context are not necessarily of universal validity.

The relationship between factor mobility and income redistribution is one which is of considerable importance at all levels of government, both within countries and at the international level. Capital and labor movements directly affect factor markets and the determination of income levels and thus interact directly with income redistribution policies. Governments at all levels engage in redistribution, sometimes very explicitly through cash tax- transfer mechanisms and sometimes less explicitly by distributing in-kind benefits (or imposing in-kind costs) through public good provision or regulatory policies; indeed, there are few if any spheres of government activity in which actual or potential distributional effects are not of importance to policymakers, voters, and other participants in public-sector decisionmaking. Thus, factor mobility impinges, directly or indirectly, on an extremely wide range of government policies. This essay discusses a number of the important issues for fiscal policy that arise in the presence of factor mobility. Since these issues are so multifaceted, it is impossible to discuss particular policy issues in the detail that they might otherwise warrant, or to refer to all relevant literature. The goal, instead, is to focus on a few central issues, to summarize and synthesize, as informally as possible, some broad findings from selected branches of literature, and to identify areas that seem to warrant additional research attention.[1]

The paper begins, in Section II, with a brief recapitulation of some of the basic economic implications of factor mobility without specific reference to government redistributive or other policies; this provides a background to the main discussion in Section III. One basic theme of this discussion is that both the benefits and the costs of redistributive policies can be significantly affected by factor mobility. Mobility of capital and labor may, indeed, pose significant challenges to the ability of governments to engage in redistribution, and it is possible that increases in factor mobility may thus result in substantial restructuring, if not dismantling, of government redistributive programs. However, factor mobility also requires a reconsideration of the goals of redistributive policies; at least to some extent and in some cases, factor mobility may obviate the need for redistributive interventions. These considerations are important when considering the reorganization of fiscal activities

among jurisdictions, including the formation or dissolution of jurisdictions themselves: on the one hand, as emphasized strongly in the Hecksher-Ohlin tradition in trade theory, factor mobility may be significantly altered by the redrawing of jurisdictional boundaries or through interjurisdictional compacts, while, on the other hand, changes in jurisdictional structure and function alter the very political mechanisms of the public sector through which redistributive fiscal policies are undertaken. In short, factor mobility can interact with redistributive fiscal policies in surprisingly complicated ways, and these interactions are important in a surprisingly wide variety of contexts.

Many of the principles and insights concerning the fiscal implications of factor mobility that are discussed in Sections II and III are equally applicable to both capital and labor. No doubt the relative importance of capital and labor mobility varies from circumstance to circumstance; one might indeed argue that one crucial distinction between the "local" and "international" public finance contexts revolves around whether labor is or is not considered to be mobile. However, the Hecksher and Ohlin tradition notwithstanding, it seems debatable whether labor should really be treated as immobile among nations, and, if so, whether this immobility is economically intrinsic to labor itself or whether it is simply the result of policies which, if altered, would reveal labor to be mobile after all. In part because the literature on capital mobility is better- developed, in part because the distribution of income among households is really the main focus of redistributive policy and politics, and in part to be a bit provocative, the discussion in Sections II and III places a somewhat unusually heavy emphasis (at least by way of illustrations) on the importance of labor mobility in international setting as well as within countries. Section IV returns more specifically to the question of labor mobility, attempting to identify more clearly the empirical issues that arise in assessing its potential importance for fiscal analysis. Section V offers some brief concluding remarks.

II. The Effects of Factor Mobility on Efficiency and Equity

The potential fiscal implications of factor mobility are quite far-reaching. However, in this as in other contexts, analysis of fiscal policy cannot proceed very meaningfully without an appreciation of the underlying economic environment within which policies are implemented and through which their impacts are transmitted. In the present context, it is necessary to have some theory of spatial factor allocation and pricing before proceeding to an analysis of the allocative and distributional consequences of fiscal policy in the presence of factor mobility. Indeed, factor mobility has important implications in itself for economic efficiency and for the distribution of income, even in the absence of fiscal policies. These most basic economic effects of factor mobility form the fundamental backdrop against which government redistributive interventions should be assessed.

Factor Market Integration Can Improve the Efficiency of Factor Allocations

To the extent that factor markets generate price signals that are indicative of the

economic productivity of labor, capital, and other productive inputs, and to the extent that factor owners are able to respond to these signals in deciding on the locations and sectors in which factors of production are employed, greater intersectoral and interregional mobility of factors can contribute to more efficient resource allocations. Of course, the extent of spatial and intersectoral factor mobility is a matter of degree, as discussed in more detail in Section IV below. On sufficiently small geographical scales, however, it is obvious that there are very few (if any) places in the world where the uses of labor and capital goods, including their places of employment, are completely inflexible. For instance, in virtually all market-oriented economies, it is common for workers within a country to be able to move from one region to another without legal prejudice; even more is it possible for workers to change their places of employment within urban agglomerations. Factor markets may in practice fall far short of the ideal assumptions of perfect competition – indeed, much of the following discussion deals with the implications of fiscal distortions for the efficient allocation of mobile resources. Nevertheless, only brief and casual consideration is necessary to realize that devastating economic consequences would result if no workers were able to move from very narrowly- defined neighborhoods over the course of their lifetimes, and that the efficiency gains from labor mobility within countries must be immense.

There are of course examples of countries where restrictions on internal labor mobility are or have been quite important. For instance, under the *apartheid* system, South Africa imposed significant race-based restrictions on the (spatial and sectoral) mobility of labor. In China, a household registration (*hukou*) system has been in effect throughout the postwar era, the purpose of which has been to provide government control over the assignment of households to residential and employment opportunities. In both of these cases, economic and political reforms have eliminated or weakened the constraints on internal migration, although China has much further to go in this direction than South Africa, where the *apartheid* system no longer exists. In both of these countries, there would appear to be significant potential productivity gains from liberalization of factor markets.[2]

On a more global scale, international movements of labor and capital have undoubtedly played major roles, in historical terms, in raising incomes. For example, Hatton and Williamson (1994) (and references therein) discuss recent research on nineteenth century flows of both capital and labor from the Old World to the New. It is clear from data on factor returns that this was a move from a region of low to one of high productivity, resulting in increases in aggregate income. The opportunities for productive spatial reallocations of labor and capital are recurring ones, as fertility, mortality, education, savings rates, the state of the productive arts, climate, natural resource availability, and institutional structures vary over time in ways that give rise to spatial divergences in factor productivity, and these effects are surely operative at the international level as well as within countries.[3]

Factor Market Integration May Affect the Distribution of Income

When labor and capital flow across jurisdictional boundaries, they alter factor supplies.

In doing so they can affect equilibrium factor prices; there may also be "short-run" impacts on unemployment rates. Since so much of fiscal policy is concerned with income distribution issues, the distributional effects of factor mobility are of critical importance for public policy.

Of course, it is obviously necessary to go beyond the most aggregative representative-agent models if one hopes to address the distributional effects of factor mobility. Indeed, the general equilibrium impacts of factor mobility are potentially quite intricate; the classic Harberger (1962) analysis of the incidence of a corporation income tax in a two-sector economy, the study of the effects of changes in factor endowments in neoclassical models of international trade, and analyses of related issues in more complex multi-sectoral computable general equilibrium models have highlighted many of these intricacies. However, even very simple and minimally- disaggregated models, through varied interpretations, can yield surprisingly rich insights. Perhaps the simplest model of the effect of factor mobility on income distribution is one in which the perfectly competitive economy of each jurisdiction is assumed to employ two factors of production to produce a single homogeneous output. One of these factors of production is assumed to be immobile and the other is assumed to be mobile. Assuming further that production exhibits diminishing returns to the fixed or immobile factor, at least in the relevant range, it follows immediately that inflows of the mobile factor will depress its equilibrium price and raise the return to the immobile factor. In the absence of compensatory transfers, the owners of resources that are identical to or highly substitutable with "immigrant" factors are harmed by factor inflows and those who own complementary factors – the immobile factor owners, in the simple model – gain. In short, this simplest of models reveals the important point that factor market integration may not be Pareto-improving, however great the efficiency gains associated with it. To apply this insight in practice requires a determination of the extent of substitutability or complementarity of different factors and the identity of the immobile factors. Some illustrations will indicate the rather subtle empirical questions involved in these determinations.

As one important example where the potential distributional effects of migration are often cited, consider "South-North" labor migration, i.e., migration from poor to rich countries. Does such migration tend to reduce the earnings of workers in rich countries? The answer, plausibly, is that it does, especially for workers in rich countries with skills and other attributes that make them very substitutable with immigrants. When considered in detail, of course, not all labor in origin and destination countries is economically homogeneous. For example, workers in rich countries generally possess high levels of human capital relative to those from poor countries. One view of human capital is that it raises the effective labor supply of a worker: an educated worker might be able to provide, say, twice as many units per year of labor services as an uneducated worker. An alternative view is that workers with high levels of human capital are different in kind from low-skilled workers and complementary in production with them. In the former case, inflows of workers from poor countries would be expected to *depress* earnings for all workers in rich countries whereas, in the latter case, they would *raise* the earnings of highly-educated workers in rich countries. The issue

is one of aggregation: which factors (high-skilled labor, low-skilled labor, capital, natural resources) can appropriately be aggregated and treated as having a common price? This is a well-known problem in empirical analysis, and one which cannot be answered on an a priori basis. Among other complications, the appropriate aggregation depends on the time frame of the analysis, as discussed in Section IV.[4]

Likewise, the mobility of different factors of production cannot usually be settled on an a priori basis. It is certainly reasonable to argue that land and many natural resources are immobile. These are also resources, however, for which asset markets are in some cases rather well developed and that can therefore be owned at a distance, for instance through investment in (perhaps multinational) corporations and financial institutions. Changes in the returns on such immobile resources resulting from migration thus need not carry very obvious implications for the distribution of income in the jurisdiction experiencing migration. Labor and capital are plausibly mobile in the "long run", but the horizon over which mobility is important for these resources is variable. Old workers, for instance, are less mobile than young workers, and better- educated workers are more mobile than the unskilled. Capital embodied in public infrastructure may be extremely immobile; for instance, although road surfaces deteriorate with use, the establishment of rights of way, network connections, and basic grading associated with the establishment of a highway system cannot easily be physically removed and can constitute extremely durable investments. Other types of physical and financial capital can be extremely mobile. Depending on the intended application, it is appropriate to aggregate different types of labor and capital in different ways.

These observations suggest several interesting distributional issues associated with factor mobility. For instance, in the context of German unification, it is fairly clear that substantial numbers of workers, especially young workers, might in the short run flow into the labor market of western Germany, especially in the absence of policies that provide incentives to remain in the east. This migration, if unchecked, would depress wages in the west for those who compete in the labor (and housing) market with the migrants from the east. In Figure 1 (drawn from Wildasin [1994a]), let X, measured along the horizontal axis, denote the aggregate earnings of workers initially located in western Germany and let Y, measured along the vertical axis, represent the incomes of other factor owners initially situated in the west (for instance, owners of land, capital, and perhaps specialized labor resources). Let the point A represent the gross or before-tax incomes received by each of these groups before unification. The 45-degree line PQ represents alternative distributions of the total income of pre-unification western Germany that could be achieved through lump-redistributive transfers.[5] Assuming for the present that no redistribution takes place, so that the distribution of income in the West is initially given by the laissez-faire point A, consider the distributional impact of unification. Provided that western wages exceed those in the east, workers will flow from the latter to the former, with the result that the aggregate income of those workers initially situated in the west will fall from X_0 to X_1 and the aggregate income of immobile factors in the west will rise from from Y_0 to Y_1. (It can

be shown that the aggregate of $X + Y$ does indeed rise, as shown in the figure.) Of course, as already indicated above, factor mobility can generate efficiency gains, and the combined economies of eastern and western Germany could certainly be more productive, with free mobility, in the post-unification situation. However, even a first-pass disaggregation of factors in this very simple framework suffices to show that not all relevant groups in society necessarily share in these productivity gains. From the viewpoint of political economy, the identification of gainers and losers is a crucial first step not only in determining who might gain or lose from factor mobility, but also in suggesting what sorts of policy responses might emerge as a result of (or in anticipation of) these distributional impacts. This point is taken up again below.

Factor Mobility May Insure Against Income Risk

Economic theories of migration and capital flows are essentially based on spatial arbitrage arguments. Differences in factor returns are indicative of relative local scarcities of factors. Factor owners –those who hold capital or workers who embody their productive labor –have incentives to move their productive resources from locations where their returns are low to where they are high. Under the standard neoclassical assumption of diminishing returns to mobile factors, this is a self-limiting equilibrating adjustment that erodes wage or rate-of-return differentials. As with most arbitrage mechanisms, interjurisdictional labor migration and capital flows perform a useful economic function by directing resources to productive uses, but they also have distributional consequences because the process of arbitrage itself affects the equilibrium prices of the arbitraged commodity and of related commodities. Although factor mobility may be harmful to those who compete with immigrants and industry entrants, it is natural, when taking a system-wide view of factor mobility as an arbitrage mechanism, to suggest that it can be equalizing and risk-reducing as well as efficiency-enhancing. Viewed from an *ex ante* perspective, the prospect of equalization of factor returns implies a reduction of income dispersion or risk (Wildasin [1995]).

To illustrate how factor movements can help to equalize incomes, it is instructive to consider the evolution of per capita incomes in major regions of the US over the course of the present century. In 1900, per capita incomes in the South were less than half the national average, while incomes in the West were twice as high as the national average. Unsurprisingly, workers tended to migrate out of the South and into the West during most of the century; meanwhile, per capita incomes gradually but steadily converged. By 1980, per capita incomes in the South stood at over 90% of the national average, while those in the West had fallen to less than 15% above the national average. These crude figures are not adjusted for regional cost-of-living differentials, nor do they reflect regional amenities or disamenities; furthermore, they represent income from all sources and thus do not measure the returns to particular factors of production. However, the broad message is clear: poor southerners benefitted from access to nationally-integrated labor markets. Some southerners left for more prosperous regions, which not only enabled them to earn higher incomes but tightened the labor market in the South and thus raised incomes for those who remained

behind. Conversely, the high-income West has consistently drawn immigrants from the rest of the country, gradually eroding the income premium of those who reside there.[6]

Now consider these trends from the perspective of an individual young worker. At the beginning of the life cycle, this worker enters the labor force with a first job. This job requires an attachment to a particular occupation, a particular firm, and a particular location. Even if this initial employment match is a very good one, a worker who had no opportunity, over the entire life cycle, to change occupations, employers, or locations would face considerable earnings risk, including the possibility of zero earnings in the event of job termination in the event of a layoff or of the failure of the firm. Mobility across occupations, employers, and locations provides workers with options, and one need only observe that many of these options are in fact exercised over the course of a typical worker's life cycle to see that they have significant value.[7]

Krugman (1991) has emphasized that large metropolitan areas provide dense labor markets that attract risk-averse workers because they are places where workers can switch from unfavorable to favorable job matches at low cost. The large city, in other words, provides an integrated labor market where income risk is reduced and expected utility is thereby increased. By the same token, a representative US worker benefits, in an *ex ante* sense, from being able to participate in the national labor market. Standing behind a veil of ignorance, a worker who might be randomly assigned an initial residence in any US region (looking back, say, to the situation of a young worker in 1930, or, looking forward from the present time, in 1996) would view the ability to migrate from one region to another as a kind of insurance against certain types of lifetime earnings risk. The "premium" for this insurance is the erosion of earnings suffered by workers initially situated in high-wage regions when they face intensified labor market competition from migrants, but in exchange for this premium they are protected (to some extent) from low earnings if they happen to be assigned initially to a low-wage region. To the extent that migration is efficiency-enhancing, this market insurance mechanism may be better than actuarially-fair, though this depends on the distribution of ownership claims to immobile as well as mobile factors and on the distribution of the efficiency gains from migration between mobile and immobile factors (see Wildasin [1995] for further details). In any case, however, the spatial competition that results from factor mobility does tend to equalize returns for the mobile factors themselves, and thus tends to reduce the income risk that they face.[8] This is of importance when assessing the implications of factor mobility for redistributive fiscal policies whose objectives are also to reduce income variations.

III. Fiscal Aspects of Factor Mobility

Having reviewed the most basic economic effects of factor mobility, let us now consider some of its fiscal dimensions.

Factor Mobility May Raise the Cost of Income Redistribution and Limit Its Effectiveness

Early contributors to the literature on fiscal decentralization recognized that the economic impact of redistribution is very different when undertaken by small, open jurisdictions rather than large, closed ones (although they did not use this terminology, borrowed from international economics). Stigler (1957), for example, explains clearly that redistribution from rich to poor within a small locality can lead to an exit of the rich and an influx of the poor.[9] Since migration of this sort is a response to artificial fiscal incentives rather than to fundamental economic productivity and locational preference considerations, it is fairly obvious that this type of migration tends to detract from efficient locational choice. There is, therefore, a real economic cost associated with local redistribution.

It is also clear that factor mobility can greatly limit the ability of a government to alter the distribution of income among households within its boundaries. In the simplest formulation, following the international trade tradition of "small open economy" analysis, one might regard the net return to mobile factors of production as exogenously fixed on external markets. In this case, it is impossible, by construction, for local redistributive policy to be effective: there is simply no way to alter net factor returns. This does not mean that local redistributive policies cannot be undertaken, of course. But, under the assumption of smallness and openness in the external factor markets, the effect of these policies must be, fundamentally, to generate deadweight losses that are borne by immobile factors of production (Wildasin [1992]). As a predictive matter, one might expect that the ineffectiveness of local redistributive policy in small open economies might lead political actors, or the populations to whose demands they are more or less responsible, to limit the amount of income redistribution they undertake. That is, the small-open model suggests that factor mobility affects the *political economy* of redistribution, a point that is taken up further below.

While the theoretical paradigm of the small open jurisdiction is very useful and suggestive, its limitations – particularly, its partial-equilibrium character – should be borne in mind. The importance of the general-equilibrium effects of local property taxes is explicitly recognized in the work of Mieszkowski (1972) and in numerous subsequent analyses of the incidence of local capital taxes and of tax competition. This is well-illustrated by the analysis of the incidence of local property taxation in Bradford (1978). In this analysis, a single locality's tax on a mobile factor of production (capital, in the property-tax context) causes an outflow of that factor to the external market; under conventional assumptions, this outflow reduces the equilibrium price of the factor on the external market. If the locality is very small, the economy-wide equilibrium return to the taxed factor will fall by a very small amount. However, this "very small" reduction in the equilibrium return to the taxed factor is borne by the "very large" world supply of the factor. The incidence of the local tax, therefore, which is the reduction in the total return to the factor in the world as a whole, is thus the product of a small number (the reduction in the world price of the factor) and a

large number (the world supply of the factor). Bradford's analysis shows that this product is likely to be of the same order of the magnitude as the amount of tax collected by the locality that imposes it. In other words, the tax levied by a single small jurisdiction on a mobile factor of production reduces the global net return to that factor by (approximately) the amount of the tax collected. In this sense, factor mobility does not allow factor owners to escape the burden of local taxes; it does, however, mean that the burden of local taxes (or the benefits of local expenditures) are transmitted to factor owners outside as well as inside the taxing (and spending) jurisdiction. This fact is important to bear in mind when analyzing the effects of decentralized fiscal policies of a group of small jurisdictions: what appears to be true from the viewpoint of any one small jurisdiction considered in isolation (i.e., that local fiscal policy has no impact on the net returns to mobile factors) is not true from the viewpoint of the collectivity.

If local redistribution is costly in efficiency terms and is unlikely to be very effective in altering net factor returns, it may still be very difficult, as a practical matter, to avoid at least some redistributive impact from local fiscal policy. For example, consider primary and secondary education, public services that have been major functions of local governments in the US for the past century. If provided publicly, how could this service be financed so as to avoid redistributive impacts, assuming that this were desired? In the US, local property taxes have historically been used as the major source of own-revenues for school finance. This system of finance, though perhaps not strongly redistributive, is nevertheless likely to entail net fiscal transfers from households that pay heavy property tax burdens but do not value public schools very much (e.g., households with large, expensive dwellings and few or no children in public schools) to households with opposite characteristics (e.g., those with many children in public schools and those with small, inexpensive dwellings). According to the principles of local redistribution just discussed, one would expect that this system of school finance would give rise to incentives for spatial stratification of households that limits the extent of local redistribution. The theory thus appears to be broadly consistent with the observed development of high-income suburbs around low-income central cities. Of course, some exclusion mechanism is needed to prevent net fiscal beneficiaries from following net fiscal contributors into high-income suburbs. In the US, local government regulations in the form of land-use controls appear to play a particularly important role in restricting residential developments that would allow cross- subsidization of local public service provision between high- and low-income consumers (Hamilton [1975]).[10]

Factor Mobility May Curtail Redistributive Policy

Does factor mobility imply that a government cannot or will not undertake income redistribution? If so, does this mean that factor mobility is harmful to equity? The first of these questions is really a problem of public choice or political economy, and its answer depends on the way that the political process works. The second question is partly normative in nature. To answer it requires a predictive judgment about how factor mobility may affect government policy making (the first question, again) and a normative criterion with which

to evaluate whatever changes in redistributive policy result from factor mobility.

Without attempting to provide a thorough analysis of redistributive politics, various conjectures about the effect of factor mobility on redistribution are possible. It seems plausible that the economic costs of redistribution in a world of factor mobility are likely to make themselves felt in ways that do, in fact, reduce the extent of income redistribution; in effect, by raising the the marginal welfare cost of redistribution, factor mobility would appear to have a relative price effect that would induce substitution away from redistributive policies. For this reason, Brennan and Buchanan (1980) argue that a federalized fiscal structure provides a useful mechanism through which limits on redistributive interventions can be established at a constitutional level.[11]

Do limits on redistribution harm or promote equity? This is a very contentious issue. "Redistribution," to some, means "redistribution in favor of those who are ethically deserving, especially the poor." Redistribution in this sense can clearly be a public-sector activity that many value and factor mobility may thus pose a threat to equitable fiscal policy. It is possible to take a less benign view of government redistribution, however. Rent-seeking behavior, the objective of which is to achieve redistributive transfers in favor of politically-influential groups, clearly pervades many important areas of government policy formulation, ranging from corporate income tax policy to the regulation of industry to international trade policy. Social services programs, though ostensibly designed to benefit the poor or disadvantaged, may be captured by service providers who exploit them for high wages, protected employment, or simple corruption. Greater mobility of capital and labor can limit the ability of government officials to exploit their regulatory and other powers to extract rents and can help force government resources to be employed in economically-productive uses. From this perspective, factor mobility helps to discipline the public sector, forcing it not only to be more efficient but to forgo redistributive policies which, being arbitrary in nature, may be viewed *ipso facto* as inequitable, and which may also violate distributive equity norms by transferring resources from the poor and disadvantaged to the rich and powerful.

In general, jurisdictions of small geographic scope are more open to factor movements than large ones, and this may be an important reason why extensive redistributive activities tend to be undertaken by national governments rather than by lower-level governments. For instance, in modern welfare states, income support for the poor, the elderly, and the unemployed are frequently financed by central governments, an observation that is consistent with the notion that factor mobility is indeed effective in limiting the redistributive activities of the public sector. It should be noted, however, that even if factor mobility raises the welfare cost of local redistributive policies, that is not the entire story. To the extent that factor mobility contributes to greater economic efficiency, it raises incomes in general, and if income redistribution is a normal good, these efficiency gains may generate demands for increased rather than reduced levels of redistribution (as illustrated in Wildasin [forthcoming]). In general, highly-developed welfare states are found in high-income societies, and it is not implausible to suggest that efficiency-improving institutions, which could certainly

include relatively freely-functioning factor markets, may thus be conducive to some forms of public-sector redistribution.

Factor Mobility May Reduce the Benefits of Redistributive Policy

Although factor mobility may raise the costs of local redistribution, it may also reduce its benefits (Wildasin [1995]). As noted in Section II, the standard economic theory of factor movement is a theory of spatial arbitrage, and arbitrage tends to equalize factor returns and to reduce income risk. As many analysts have observed (see, e.g., Varian [1980], Atkinson [1987], Sinn [1995a, 1995b] and references therein), much of income distribution policy can be interpreted as a form of insurance. The income inequalities that redistribution policies attempt to redress result in part from fundamental inequalities in underlying endowments and from fundamental risks, including many personal attributes such as physical endowments (e.g., birth defects), behavior-independent health risks (e.g., multiple sclerosis), and "deep" personal differences in aptitude and motivation (resulting, for example, from mental disabilities and illnesses). However, economic inequalities also result from attributes of places and sectors. Some regions are technologically advanced, some have abundant fertile land or rich mineral deposits, and some have well-ordered legal and political institutions conducive to efficient resource allocation. Similarly, some "sectors" – which in this context should probably be thought of in terms of "occupations" rather than in terms of product types, though the two are obviously related – may be characterized by technologies or (derived) demand conditions that contribute to higher or lower factor returns. Factors of production that are location- or sector-specific thus experience returns that reflect location- or sector-specific conditions. Greater mobility of factors across space or sectors reduces factor specificity and thus some causes of economic inequality.[12] Therefore, although increased integration of factor markets may raise the costs of local redistributive policies and thus limit the extent of redistribution that is undertaken, it does not necessarily follow that factor mobility results in a less equal distribution of income. Referring once again to the twentieth-century experience of migration among regions in the US and Canada or the nineteenth-century experience of migration between Europe and North America, it is arguable that the net effect of labor (and capital) mobility may have been to reduce overall economic inequality. Moreover, even if factor mobility did not reduce the dispersion of the size distribution of income, it may have nonetheless have generated efficiency gains large enough to raise the incomes of both the poor and the rich. There is scope for valuable empirical research on this question which, so far, seems to have been only incompletely investigated.

Although factor mobility may reduce some income risks, it must be noted that it does not really pool regional income risks and thereby reduce the riskiness of returns for all factors.[13] Underlying differences in technologies, demand conditions, and endowments can still give rise to inequalities among regions in the returns to certain factors of production. What factor mobility does is to shift the incidence of these risks away from mobile to immobile factors of production. In principle, this may either increase or decrease the social cost of income risk. Some income risks – e.g., those accruing to tradeable non-human assets

such as land – can be effectively pooled through financial markets; other risks, particularly those accruing to labor, generally cannot be. Integration of labor markets can shift income risk away from labor toward non-human assets and thus from an uninsurable to an insurable form, perhaps leading to new roles for financial institutions. Conversely, integration of capital markets (specifically referring here to increases in opportunities for direct investment) may lead to reduced reliance on financial markets to pool risks among regions, and to an increase in the relatively uninsurable income risks borne by workers. The relationship between labor mobility, capital mobility, and financial markets warrants attention in future research.

Factor Mobility May Increase the Scope for Central Government Transfers

Consider a collection of subnational governments, such as localities within a state or province, or states or provinces within a nation, among which factors of production are relatively mobile. Factor mobility may induce these lower-level governments to limit their redistributive interventions. In practice, however, very few government functions are free of redistributive impacts. Even in cases where market failures may warrant public-sector interventions for allocative reasons (e.g., provision of highways), it can be difficult if not impossible to avoid redistribution, short of government withdrawal from in the sector altogether. Furthermore, lower-level governments may have some comparative advantage, relative to higher-level governments, in providing in-kind redistribution through health, education, and other public goods and services. If desirable lower-level government activities do entail some redistribution, therefore, factor mobility may limit these activities to an undesirable extent.

These considerations can provide a rationale for fiscal transfers from higher- to lower-level governments.[14] Fiscal equalization is one possible goal for such transfers. As argued by Buchanan (1950, 1952) and elaborated by Boadway and Flatters (1982), transfers from rich to poor jurisdictions within a federation may reduce the incentives for inefficient migration of labor in response to fiscal differentials among lower-level governments. Furthermore, transfers which are based at least in part on population size (or other demographic indicators of the number of beneficiaries) can compensate jurisdictions for inflows of households who would otherwise impose net fiscal burdens, and thus can reduce the incentive for these jurisdictions to curtail public services in order to limit these inflows. Alternatively, a central government may use matching grants (or, as in the US case, implicit subsidies through Federal income tax deductibility of state and local taxes) to provide direct support for the redistributive programs of lower-level governments. As noted above, any single open jurisdiction's redistributive policies can affect economy-wide factor returns, even if only to a slight degree. Factor mobility thus implies that the effects of local redistribution spill out to the rest of the economy, and, in the absence of Coasian bargains, intergovernmental grants may be needed to internalize these interjurisdictional externalities.[15]

Factor Mobility, Economic Unions, and Jurisdiction Formation

The spatial mobility of factors of production, particularly labor, is often closely linked to the definition of jurisdictional boundaries. Freedom to reside, work, or establish an enterprise in different locations within a country is one of the most important economic attributes of citizenship, even if it is not a guaranteed right in every country. Changes in national boundaries through accessions of territory (as in the case of German unification, or as seems likely to occur in the medium term in Korea) create larger effective market areas for factors of production and increase factor mobility. Free mobility of labor and capital was one of the founding principles of the European Union, which can be viewed from this perspective as a new jurisdiction whose spatial extent encompasses all of its member states. Indeed, a practical current question facing the European Union is which, if any, of numerous applicants for membership should be admitted to the EU, and the prospect of increased mobility of labor and capital that membership entails may be one of the more important factors to be taken into account in evaluating membership applications. It is perhaps noteworthy that Turkey applied for membership many years ago but that its application was held in abeyance for many years before being rejected, while the more recent applications for membership by countries such as Finland, Sweden, and Norway were acted upon favorably in rather short order (even though a Norwegian referendum subsequently rejected EU membership). Have fiscal considerations and factor mobility played any role in this process? What, in any case, would be some of the fiscal implications of the accession of new countries (for instance, recent applicants like Poland, the Baltic republics, Hungary, Romania, or Bulgaria) to an entity like the EU? Conversely, what would be the fiscal effects of the breakup of existing jurisdictions? The dissolution of the Soviet Union may be the most conspicuous recent example of such an event, but movements toward increased regional autonomy or outright secession are under way in many other countries at present.

To begin with, the formation of a new, market area from smaller constituent jurisdictions offers the opportunity to reap the efficiency gains from integration of markets for goods, services, and factors of production, and perhaps to reduce the social cost of some types of factor-price risk, as discussed above. On the other hand, if no strong central government structure emerges that can implement fiscal policies over the more extensive market area may mean that the redistributive functions of the public sector will become more constrained for the reasons already described.

A further issue of some interest concerns the implications of asymmetries among regions which are potential members of an economic union or unified political jurisdiction. As discussed in Wellisch and Wildasin (1996) in the context of EU membership, the welfare impact on existing EU member states of the entry of a new country depends on the net fiscal burden (or net fiscal contribution) of immigrants from the new country. This net fiscal impact of immigrants depends both on the attributes of the immigrants themselves as well as on the fiscal policy of the existing countries. Large international migrations prior to World War II antedate the modern welfare state with its extensive programs of

redistribution, and the net fiscal impact of migrants were therefore comparatively modest. In modern EU countries, however, where the growth of redistributive policies has resulted in government expenditures that commonly amount to roughly half of national income, the fiscal impact of migrants is of great potential importance and suggests the undesirability of allowing comparatively free entry of immigrants who impose net fiscal burdens. The rapid acceptance of the applications of the Nordic countries for EU membership, hesitation over the applications of applicants from Eastern Europe, and the denial of the application from Turkey, can perhaps be partly explained in these terms.

Asymmetries among jurisdictions suggest that greater factor mobility between rich and poor regions can work to the fiscal disadvantage of the rich; this might make the rich reluctant to form economic and political unions with the poor. On the other hand, economic disparities can create very powerful incentives for factor movements which may not be easily resisted; in particular, the high-wage, low-birth rate regions of Western Europe and North America will find it difficult to limit immigration from the neighboring low-wage regions of Eastern Europe, North Africa, and Latin America, the latter two also being regions with high fertility rates. The degree of economic integration of the labor markets of these regions can obviously be influenced by government policy (decisions about EU membership, for instance), but it is costly, and perhaps ultimately infeasible, to halt labor flows between these regions. As indicated already with reference to Figure 1, immigration from poor to rich countries can depress labor earnings in the latter, at least in the absence of offsetting compensatory mechanisms. It is natural to ask whether fiscal policies could perform this function.

The extent to which fiscal policies can compensate existing workers from erosion of income due to immigration depends on the precise instruments that are available to the fiscal authorities, and, in particular, on the ability of these instruments to discriminate between native and migrant workers. If it is possible to increase the net fiscal burden imposed on immigrants, for instance on the basis of rules for taxation and access to social benefits based on citizenship status, the gains in aggregate income to original factor owners in an immigrant-receiving country, as represented in Figure 1 by the attainability of point A when immigration occurs, can be partially redistributed to initial workers in such a way that they are better off as a result of immigration.[16] In practice, however, it is often quite costly to exclude immigrants from the benefits of public goods or to subject them to different tax treatment, and the existence of binding immigration quotas in at least some countries indicates that discriminatory fiscal treatment of immigrants, to the extent that it occurs at all, has not been carried sufficiently far to discourage entry to the level of the quota limits. To the extent that immigrants enjoy the same fiscal standing as existing residents, however, the ability of a government to use fiscal instruments to compensate native residents from the distributional impact of migration is compromised. In Figure 1, the curve PQ shows possible distributions of net income that can be attained, in the absence of migration, through redistributive transfers between owners of potentially mobile labor and owners of immobile

factors of production. The curve $BA'C$ illustrates the set of net income distributions that are attainable in a given jurisdiction when it is open to immigrant workers who are subject to the same fiscal treatment as native residents. Note, in particular, that this curve cuts below the *laissez-faire* point A on the original income-distribution frontier PQ. Since the *laissez-faire* point with immigration, A', lies above PQ, this means that if the workers who compete with immigrants initially are net fiscal beneficiaries, i.e., if the pre- immigration distribution of net income lies on the segment AQ, then either those workers, the owners of immobile factors of production, or both, must be worse off after immigration, no matter what redistributive policy the government follows.[17]

Since immigration can be harmful, even Pareto-harmful, when the government is unable to discriminate in its fiscal treatment of immigrants, the question arises whether it could be advantageous to attempt to use fiscal instruments to forestall immigration. Indeed, if a destination jurisdiction (EU countries, the US) can transfer resources to an origin jurisdiction (Eastern Europe, Latin America) in such a way that the benefits of those transfers accrue to workers who remain in the origin jurisdiction, it is possible that welfare in the donor (destination) jurisdiction may rise. In Figure 1, the line RS, which just touches the schedule $BA'C$ at one point and lies strictly above it everywhere else, shows the set of net income distributions that can be attained by the original owners of mobile and immobile factors in the destination jurisdiction if they can make transfers to workers in the origin jurisdiction who do not migrate.

The fact that a jurisdiction's residents can gain from transfers to another jurisdiction raises the question of how such transfers might be effectuated. One possibility is through mechanisms such as foreign aid. For such aid to forestall migration, it is important that its benefits accrue to potential migrants in the origin jurisdiction. From this viewpoint, donor jurisdictions might seek to promote infrastructure investment and other developmental programs that raise labor productivity in the origin jurisdiction, though the recipient governments might take advantage of the fungibility of aid to channel these resources into other expenditures. But the origin and destination jurisdictions need not be interpreted as countries; they could, instead, be viewed as regions within a country, and fiscal transfers from rich to poor regions could be brought about through intergovernmental grants or, indeed, through central government redistributive or developmental programs (e.g., development of a national highway or waterway system that is disproportionately financed by rich regions). If rich regions wish to direct resources to potential migrants in poor regions, the formation of a political union with a central government that engages in systematic interregional transfers might provide donor regions with a better framework for monitoring and control of transfers than could be achieved by international transfers. Central governments, from this perspective, may be viewed as the outcome of a kind of Coasian bargaining in which donor and recipient jurisdictions attempt to find an efficient institutional mechanism through which to make interjurisdictional transfers. Thus, even jurisdictions that are asymmetrically situated may find it advantageous to form or to maintain political unions, despite

the fact – indeed, because of the fact –that the political union entails net fiscal transfers from one jurisdiction to another.[18]

IV. How Important Are the Fiscal Impacts of Labor Mobility? Issues for Empirical Research

Labor market integration is potentially of great importance for fiscal analysis, and for public policy, because such a large fraction of both the revenue and expenditure sides of the government budget depend on earnings and household demographics. A large share of national income in every economy derives from the return to labor services. Tax systems in developed countries (and to a lesser extent in developing countries) generate revenue either from direct taxation of wage income through personal income taxes and wage-based social insurance contributions or indirectly (if not quite equivalently) from broad-based taxation of consumption via value-added taxes or retail sales taxes. On the expenditure side of the fiscal account, programs dealing with education, health, and transfer payments to the elderly, poor, and young are responsible for a very large share of public expenditures. As a consequence, changes in the demographic composition of a jurisdiction can affect both the demands for public services and the revenues with which these services are financed. Much of the preceding discussion has referred to some of the possible fiscal impacts of labor mobility. However, whether within countries or at the international level, the empirical importance of labor mobility may be open to question. And, if labor is mobile, how important really are the fiscal consequences of the spatial allocation of labor? These are large and difficult empirical questions, on which significant amounts of research have already been undertaken. The proper formulation and analysis of these empirical questions, however, is not altogether obvious. The present section raises, though it does not resolve, some of the important conceptual issues which empirical analyses must address, explicitly or implicitly.

A. Costly Migration

Does labor mobility "matter" for fiscal policy? Some might be inclined to answer this question on an *a priori* basis, perhaps with a definitive "yes" or perhaps with a definite "no." A more cautious response would be to say that this is an "empirical question." While unexceptionable, this cautious response is not in itself enlightening nor does it reflect the fact that the analysis of labor mobility for the purposes of fiscal policy actually presents many distinct "empirical questions." In order to progress beyond conflicting *a priori* assertions about mobility or vague appeals to empirical analysis, a clear conceptual framework is necessary. The following paragraphs attempt to sort out some of the conceptual issues and to outline some important directions for empirical research.

First, one might think that a high level of migration would be the crucial indicator of the importance of labor mobility and the extent of labor market integration over space. One might also suspect that erosion of wage or income differentials provide crucial information about the extent to which labor markets are linked. In fact, however, neither observed

migration flows nor income differentials necessarily carry obvious implications for the extent of labor market integration. In this respect, migration flows are analogous to net flows of investment in non- human capital: migration is a stock-adjustment mechanism, and low levels of migration may simply indicate that sufficient equilibrating adjustments have already taken place that further spatial reallocation of labor is unwarranted. A simple static model illustrates these points effectively and provides a basis for deeper discussion.

Figure 2 presents a standard representation of the allocation of a fixed amount of a factor of production, such as a fixed population of identical workers, $\bar{l}$, between two locations, 1 and 2. Any point along the horizontal axis of the figure portrays a division of the total work force between the two locations. In each location, suppose that there is a production function in which labor enters as a variable input and that there is at least one factor of production that is locationally-fixed. The curves MP_1 and MP_2 show the marginal productivity of labor in each location, denominated in units of some numéraire commodity, as a function of the level of employment there. Assume, first, that these two locations are completely isolated from one another, so that it is physically impossible for labor to migrate between them. If by chance the number of workers in location 1 is l_1^*, the marginal productivity of labor in each location will be the same, and, if labor markets are competitive, wage rates will also take the same value w^* in both locations. The absence of a wage differential does not indicate that labor is mobile between them.

Next, suppose that labor is costlessly mobile between the two locations. Assuming again that there are l_1^* workers initially situated in location 1, wage rates in both regions will be equal if labor markets are competitive and, assuming that workers seek only to maximize their wages, no workers will have any incentive to migrate. Thus, labor markets can be perfectly integrated in the complete absence of observed migration.

More generally, suppose that the initial assignment of workers differs from l_1^*. For instance, suppose that l_1^0 workers start out in location 1. If migration is costless, markets are competitive, and workers seek to maximize earnings, then $l_1^* - l_1^0$ workers will migrate from location 2 to location 1, eliminating the initial wage differential of $w_1^0 - w_2^0$ between the two locations. Comparing this case with the preceding one, it is apparent that the level of migration may be an indicator not of the extent to which labor markets are integrated but of the extent to which the initial distribution of labor across locations differs from the equilibrium distribution.

Now consider the costs of migration. Note first that these costs may be "intrinsic," that is, they may represent real economic costs, or they may be determined by deliberate policy choices, for instance through legal restrictions on migration. The real costs of migration, and perhaps the legal impediments to migration, are unlikely to be the same for all workers. What matters for many analytical purposes is the level of migration costs for the "marginal" household or worker. For example, workers who have strong locational preferences, who have dependent family members to support, or who are old, sick, poor, or poorly educated are

likely to be relatively immobile. The distribution of these attributes among workers may affect the *composition* of any migration flow but need not necessarily affect its *level* or its allocative or distributional implications. In Figure 2, it is obvious that if $\bar{l}_2$ workers are unwilling or unable to leave location 2, this has no effect at all on the level of migration or on its allocative or distributional consequences.

It could be argued, of course, that migration is not costless for *any* workers. Suppose, for example, that every worker moving from location 2 to 1 must bear a cost of c. This cost could be interpreted narrowly to include only out-of-pocket pecuniary outlays associated with moving, but it could also be interpreted very broadly as the monetized value of all non-pecuniary as well as pecuniary costs of migration, such as the disruption of social ties, learning a new language, or acquiring information about different market and legal institutions in a new environment. Under either interpretation, these are real economic costs, and in their presence, earnings in location 1 must exceed earnings in location 2 by at least c if workers are to migrate. In Figure 2, if l_1^0 workers are initially assigned to location 1, $(l_1' - l_1^0)$ workers would have to move from 2 to 1 before the higher wage in 1 would no longer be sufficiently high to compensate workers for the cost of moving plus lost earnings in location 2. Note that earnings levels would not in general be completely equalized in equilibrium due to mobility costs; arbitrage (or labor market integration) only implies that equilibrium earnings differentials cannot exceed the level of migration costs. Moreover, if the number of workers in location 1 exceeds l_1' – for instance, if this number lies between l_1' and l_1^* – migration would not be observed, even though workers are potentially mobile.

We have so far considered the cases where (i) all workers face prohibitive migration costs, (ii) no workers face any migration costs, and (iii) all workers face a fixed cost of migration c. More complex cases amount essentially to combinations of these simple ones. For instance, suppose that the costs of migration are 0 for some workers, c for others, and prohibitive for still others. The first group would migrate even if wage differentials are very small, the last group would never migrate, and the middle group will migrate if earnings differentials are sufficiently large. One or the other these groups might constitute the pool of "marginal" workers, depending on technologies in each location, the initial distribution of workers, and the size of each group. With reference to Figure 2, suppose that the initial division of workers between locations 1 and 2 is given by l_1^0. Then, if more than $\bar{l} - l_1^0$ workers in location 2 face prohibitive migration costs, the analysis of case (i) applies. If more than $l_1^* - l_1^0$ workers in location 2 can migrate at zero cost, then the analysis of case (ii) is applicable. If the number of workers facing a migration cost of c exceeds $l_1^* - l_1^0$, then case (iii) applies. More generally, migration costs might vary continuously over the population from a zero or negligible level to a prohibitively high level. Then, in equilibrium, there will be some critical level of migration costs c^* such that workers with migration costs less than c^* do migrate, those with migration costs greater than c^* do not migrate, and the equilibrium earnings differential is c^*. Practically speaking, this amounts to case (iii) except that c is now understood to vary over the population.

Realistically, non-zero migration costs are likely to be the rule rather than the exception for most or all migrants, and for some analytical purposes these costs can be quite important. Migration costs drive wedges between the equilibrium returns to labor in different locations, implying that complete spatial wage convergence is unlikely to be observed in practice.[19] Indeed, the spatial wage inequalities created by migration costs may be sufficiently large to contribute significantly to overall income inequality and may warrant policy attention in some cases.[20] However, from the viewpoint of the analysis of fiscal policy, and particularly redistributive policy, they need not change the qualitative implications of factor mobility itself. To illustrate this point with reference to Figure 2, suppose that location 1, which might be interpreted as the US or Western Europe, offers social benefits to workers that raise their net incomes by the proportional amount b, illustrated by the schedule $(1+b)MP_1$. Assume that location 1 offers these benefits on a non-discriminatory basis to immigrant workers from location 2, which might be interpreted as Mexico, Eastern Europe, or North Africa, either because fiscal discrimination is infeasible or because non-discrimination is chosen as a matter of policy. If there are no migration costs, then l_1^b rather than l^* is now the equilibrium allocation of labor. Note that that the social benefits offered in location 1 raise equilibrium real incomes in location 2, cause an inefficient allocation of labor, and induce more migration from 2 to 1 than would otherwise be the case. Now suppose that each migrant must bear a migration cost of c. With social benefits to workers in location 1, the intersection of the $(1+b)MP_1$ curve with the MP_2+c schedule determines the equilibrium net incomes, gross wages, and levels of employment and migration in both locations. Exactly as with costless migration, fiscal benefits in location 1 spill out to region 2 via higher levels of migration from 2 to 1, resulting in higher incomes in region 2 and excessive employment in location 1 (the equilibrium level of employment in location 1 is $l_1^{b'}$ while the efficient level is l_1'). In fact, in the costless migration case, the MP_2 curve in effect is a supply curve of labor to location 1 from the rest of the world; with costly migration, the MP_2+c curve is the supply curve from the rest of the world. The qualitative analysis of fiscal policies in location 1 is essentially unaffected by the fact that migration costs shift this supply curve upwards, provided only that migration costs are sufficiently low (or original labor assignments are sufficiently far from equilibrium) that there is a non-zero level of migration. What matters most for fiscal analysis is not whether migration costs are "negligible" but whether they are sufficiently small that policies undertaken in one geographic location can potentially give rise to factor movements into or out of another location.

B. The Dynamics of Migration: Market Integration and Factor Aggregation

Migration is a process that occurs in time, at one or more points in the life cycle of the (potential) migrant. Given that migration is costly, migration decisions are not costlessly irreversible. Given imperfect information about (and imperfect insurability of) present and future local labor market conditions, the prices and quantities of local non-traded goods, services, and amenities, and other relevant local conditions, migration choices should be viewed as investment decisions made under conditions of uncertainty. The opportunity

to migrate is thus an option which particular households may choose to exercise at any particular point in time (Dixit and Pindyck [1994]). The benefits and costs of migration vary over the life cycle, depending among other things on the evolution of (planned) labor-force participation, family formation, anticipated mortality, and the like. To the extent that parents and children are linked, altruistically or otherwise, the private benefits and costs of migration can extend across generations.

Explicit recognition of the intertemporal setting of migration suggest that the extent of labor market integration over *space* depends on the amount of *time* over which market integration is to be assessed. The least costly job switches for workers are probably those that involve task reassignments within a given workplace; somewhat more costly is a switch in job locations within a firm, or a switch in employers, within those parts of a metropolitan area in close proximity to a worker's current residence. Moves among metropolitan areas, larger regions such as states or provinces, or among countries are likely to be more costly still. It is to be expected, then, that the magnitude and anticipated durability of the benefits of these types of moves must be successively greater, as well, if they are to occur. Particularly under conditions of uncertainty, signals of persistently higher returns in other locations may be necessary to induce very costly migration.[21] The migration-adjustment process is thus likely to be attenuated in time, as succeeding waves of workers with the best information about market opportunities and the lowest costs of migration gradually flow from low- to high-return locations. If distances and information costs are low, legal impediments to migration are absent, and labor market institutions are flexible, the speed of adjustment may be relatively fast, whereas in other cases it may be substantially slower. In any case, the issue of labor mobility is not binary in nature: the empirical question, in general, is not whether labor is mobile or immobile, but rather the *speed* with which the spatial allocation of labor adjusts to wage variations or, of particular concern here, to changes in fiscal policy.[22] The migration response to redistributive and other fiscal policies is unlikely to be instantaneous, and it may well be appropriate for some analytical purposes to treat labor as immobile in the "short run." At the same time, slow migration responses to fiscal policy are likely to be relatively costly to reverse and their consequences may therefore be quite durable.

For some purposes, it may be helpful to think of spatial labor market integration as an aggregation problem, in which the essential question is whether workers in two different locations can be viewed as "sufficiently substitutable" that it makes sense to "add them up" for analytical purposes. Analyses of labor market conditions that refer to "the" US, German, or Mexican wage or unemployment rates implicitly or explicitly assume that labor can meaningfully be aggregated at the country level. This involves an aggregation across workers of different educational levels, occupations, skill types, ethnic, religious, or age groups, and, of course, geographical sub-units within the country. Sometimes these sub-groups can be broken down and analyzed separately, which is of interest to the extent that they do not constitute a homogeneous aggregate. For example, the differential incidence of

macroeconomic shocks on sub-groups within the labor market (for instance, white-collar vs. blue-collar workers) has been a topic of some interest for empirical researchers, and generally indicates that identifiable subgroups have labor market experiences that are distinguishable to some extent. The same is true for sub-groups that are spatially separated. When data permit, it is possible to investigate the degree of substitutability between workers in different locations, as measured for example by the degree to which relative wages are fixed over space; to the extent that this is so, it is acceptable to view labor in different locations as a Hicksian composite commodity. We may think of the distribution of labor over space at a particular moment as rather like the distribution of labor over occupational groups, that is, as location- or occupation-specific stocks (as the case may be) that adjust gradually over time as old workers exit the labor force through retirement or death, while young or middle-aged workers establish themselves in particular locations or occupations through migration or through education and training. In the "short run," location- or occupation-specific wage differentials (quasi-rents) may arise, and are evidence of imperfect short-run substitutability, but these differentials are expected to be eroded over time, implying greater substitutability in the long run. To say that labor is mobile across locations is thus essentially equivalent to saying that labor can be spatially aggregated; broader aggregates are in general more appropriate, the longer the time horizon of the analysis.[23]

Indeed, the parallels between aggregation of labor over space and over sectors or occupational categories can and for some purposes should be pursued still further. Immigrants, and their families, typically undergo a complex process of adjustment to their new locations in which they become increasingly functional in local language, markets, and social institutions, a process commonly called "assimilation." Over time –perhaps over generations – assimilation can become so complete that the immigrants – or their descendants – become economically indistinguishable from "natives." Immigrants may initially differ from the indigenous population in terms of education levels or sectoral or occupational concentrations, but these differences may disappear over time. This process of economic assimilation of immigrants is also normally part of the process by which labor is reallocated among sectors and locations within the economy, for instance as internal migration carries immigrant groups away from "gateway" cities. This dynamic process complicates the empirical assessment of the impact of immigrants on domestic labor markets, a much-researched topic. Borjas *et al.* (1996) find that recent immigrants to the US appear to depress earnings relatively little in the particular metropolitan areas where they are concentrated but relatively much for domestic workers with comparable (low) levels of educational attainment. In this case, it appears that workers in US labor markets can more appropriately be aggregated over space than across skill levels. But, of course, the educational status of these immigrants, and their offspring, may well change over time, so that those who are not now readily substitutable with immigrant workers may become so, perhaps in a generation or two. In other words, the extent of spatial and sectoral labor market integration is critically dependent on the time horizon over which it is assessed.

C. The Dynamic Fiscal Impact of Migration

The preceding subsections have emphasized that labor mobility does depend on migration costs, but that the importance of these costs, and the extent of spatial integration of labor markets, must be seen within a dynamic context, possibly extending over several generations. It follows that the implications of factor mobility for redistribution policy should also be assessed within a dynamic setting. This presents significant challenges for empirical research.

Consider, for instance, the question of whether migrants impose net fiscal burdens, or make net fiscal contributions, to origin or destination jurisdictions, an important and contentious public- policy issue. A first question to consider is the demographic and socio-economic composition of the migrant population, for instance with respect to age, sex, family status, and possession of human and non-human wealth. All of these attributes affect the way that households interface with the fiscal system: taxes are typically levied on earnings, non-wage income, wealth, and consumption, while access to benefits from income support, education, health, public pension, housing, and other public-expenditure programs depends on income, wealth, and demographic characteristics.[24] However, migrant attributes change over time, and the fiscal burdens or contributions of migrants therefore change over time as well.

For example, young single males are often an important migrant type. These individuals are likely to be labor force participants; they are not likely to have much labor-market experience or previous on-the-job training; they are relatively likely to be involved in criminal activities, to be healthy, and to have completed or nearly completed their primary and secondary education. These initial characteristics all have important fiscal implications for both the origin and destination jurisdictions. Young single males also age, however, and as they do, their job experience and earnings are likely to grow; they are less likely to commit crimes and more likely to become sick or disabled. They are also likely to form families and have children, possibly with women who follow them from origin locations but also possibly with non-immigrant women, and they may be joined by elderly parents or other relatives. Their mates, offspring, and relatives may receive fiscal benefits or make fiscal contributions. And, of course, the demographic, economic, social, and finally fiscal characteristics of the whole migrant-related group gradually change over time, giving rise to time-streams of consumption of public-service benefits and of tax and other fiscal contributions. Eventually, the original migrants, if they remain in the destination jurisdictions, will retire and die, possibly leaving survivors who continue to participate in the economy and the fiscal system of the destination jurisdiction. These impacts may persist over many generations, becoming more diffuse as successive generations produce offspring with members of other family lines.

It would be possible, in principle, to record the economic and fiscal impacts of migrants, their partners, relatives, and offspring over time. (In practice, of course, this would be a very difficult undertaking due to basic limitations of data, the fact that many migrants may be

illegal and thus not readily observable, and a host of other complicating factors.) Assuming that such data could be gathered, there is still a basic problem in deciding exactly how to formulate empirical questions. At the conceptual level, to determine "the" fiscal impact of migrants, it is necessary to define both the demographic "breadth" of the "migration event" – that is, the set of individuals whose fiscal benefits and burdens are to be associated with migration – and its temporal "depth" – that is, the time horizon over which these fiscal effects are counted. From a generational accounting perspective, it may be appealing to limit attention to the fiscal streams that persist during the lifetime of a migrant, perhaps also including a surviving spouse. From a dynastic family perspective, on the other hand, there is no reason to ignore the migrant's offspring and subsequent descendants.

It is not obvious how to settle these conceptual questions, but the stakes are large. After all, as a close approximation, all of the taxes that US residents have ever paid, and the fiscal benefits that they have received, can be attributed to immigration that has taken place during the past several centuries! Consistency with the simple static models sketched above suggests that the planning horizon of the potential migrant determines the period over which (the present value of) the fiscal redistribution associated with streams of taxes and benefits should be calculated. Although this begs the question, it does suggest that the "instantaneous" or "initial" fiscal contributions or burdens of migrants are likely to be seriously misleading indicators of their fiscal impacts. Indeed, for some purposes, such as the assessment of the fiscal consequences of jurisdiction formation and dissolution, very long-run perspectives might be quite appropriate. This is well illustrated by a consideration of the potential effects of migration on public pension programs. Throughout the developed world, these programs are enormous mechanisms of redistribution, accounting for a very large fraction of total public revenues and expenditures; because of the intergenerational transfers to which they give rise, they must be analyzed in a very long-run setting. They are generally beset by impending funding problems due to population aging, the resolution of which will constitute one of the chief problems for fiscal policy in these countries during the next half- century. Over this time horizon, actual or potential events such German unification, the admission of Eastern European countries into the EU, the breakup of the Soviet Union, major changes in immigration policy (including the fiscal treatment of immigrants) in North America, and gaps in population and economic growth rates between developed and less-developed countries may well have significant impacts on interjurisdictional flows of labor, and thus on the fiscal stability of public pension programs and other redistributive policies. The fiscal and other economic impacts of migrants, in this context, should be analyzed over quite lengthy periods.[25]

V. Conclusion

Public economics has evolved mainly as a "closed-economy" specialization in economics. In viewing factors of production as immobile, to a first approximation, it reflects the tradition in international economics associated with the names of Hecksher and Ohlin. The broad acceptance of factor immobility as a stylized fact has contributed to an intellectual division of

labor between public and international economics. Within the context of national economic policy, taxes and expenditures whose primary impact falls directly on labor and capital – the bulk of all taxes and expenditures – have been viewed essentially as "domestic" policies, falling within the purview of public economics. International economists have tended to focus on those aspects of policy that directly affect the international flows of goods and services among countries, such as tariffs, while leaving "domestic" economic policy in the background.

The value of this division of scholarly labor between public and international economics has been amply demonstrated by the important progress made in both fields over the past decades. In the aftermath of World War II and throughout the Cold War era, national boundaries among OECD and Warsaw Pact countries were quite stable and the mobility of labor and capital, though certainly not altogether absent, appeared nonetheless to be quite limited. More recently, however, international capital market institutions have become increasingly developed. Immigration to the US has risen to levels that are relatively high by historical standards and immigration has also increased substantially in Western Europe. The process of economic integration in Europe, including particularly the recent and prospective accession of new member states to the EU, is lowering the barriers to factor movements. Recent or prospective restructuring of national boundaries and of economic unions naturally raises interest in the potential implications of factor mobility and also invites consideration of the fundamental economic determinants of market areas both for factors of production and for goods and services. For these reasons, the boundaries between "domestic" and "international" policy have become somewhat blurred, and it is useful to revisit many issues in public economics to see to what extent the potential mobility of factors of production (as well as of goods and services) can affect the economic analysis of fiscal policy.

The mobility of labor and capital has long played a major role in research on public economics issues at the local or state/provincial level (and on related issues in urban and regional economics). While the specific policy questions faced by national governments differ in many important ways from those confronting lower-level governments, there are nevertheless some fundamental economic similarities between them. The preceding discussion has drawn together some of the important insights that have emerged from research on redistributive policy in the presence of factor mobility, insights which in many ways have their roots in the early literature of local public finance and fiscal federalism but which are of potential applicability in much broader contexts. This field remains open to much further development, however, both in its theoretical and empirical dimensions. As emphasized in Section IV, there are many subtle questions involving the simultaneous demarcation of the spatial and temporal dimensions of factor markets which warrant empirical examination. These questions are similarly relevant in defining the time horizon over which the process of redistributive policy takes place and over which factor mobility matters for the purposes of fiscal analysis. These questions probably cannot be satisfactorily settled on an *a priori*

basis. Rather, they attest to the complexity of the phenomena under investigation, which cut across the boundaries of many specializations in economics, including not only public and international economics but labor economics, economic history, urban and regional economics, and others. If this means that there are some daunting barriers to research on these problems, it also means that progress can be made on many fronts. The ongoing evolution of economic and political institutions throughout the world seems certain to require analysis of policy issues revolving around redistributive policies and factor market integration for the forseeable future. There is much scope here for intellectually- innovative research that can shed significant light on some of the major issues of our time.

Footnotes

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[1] The topics discussed in this essay stand at the intersection of many distinct but related fields of inquiry, including not only much of public economics but population and labor economics, economic history, political economy, international economics, and urban and regional economics. A comprehensive treatment of these topics, including references to the many valuable and relevant contributions to the literature, is well beyond the scope of this paper. In order to limit its length, the discussion and references are highly selective and admittedly idiosyncratic. Serious students of these issues can find references to much other useful literature in the works cited here. Other broad treatments of issues relating to open-economy public finance, factor mobility, and related topics, containing many citations to other literature, include Wildasin (1986, 1987), Rubinfeld (1987), Mieszkowski and Zodrow (1989), Tanzi (1995), Frenkel *et al.* (1991), Cremer *et al.* (1995), and Wellisch (1996); see also Cremer and Pestieau (1996a).

[2] For example, urban per capita incomes among major regions in China differ by nearly a factor of 2, with even larger variations in rural incomes (World Bank [1995, 103–104]). Income variations of this magnitude, and the associated internal migration flows that are now occurring in China, suggest the existence of important factor productivity differentials across regions, and correspondingly important potential gains from factor reallocations. It should be noted that housing market liberalization can contribute greatly to labor mobility; indeed, restrictions on housing markets played a crucial role in the enforcement of *apartheid* and *hukou* controls on population movements. (Since housing markets are in turn closely linked to capital markets, there are many interesting connections between capital and labor market reform in countries like South Africa and China. Explicit treatment of these connections goes beyond the scope of the present discussion, however.)

[3] Using computable general equilibrium methods, Hamilton and Whalley (1984) estimate large productivity gains from the efficient allocation of labor on a worldwide scale.

[4] In "brain drain" models, highly-skilled workers migrate from poor to rich countries. (See, e.g., Bhagwati and Wilson [1989].) The same issues of factor aggregation arise in this context, as well. Schiff (1996) emphasizes that many studies have found that very low-wage workers are less likely to migrate to high-wage regions than those with somewhat higher incomes. Informational constraints, capital market imperfections, and the fact that workers

from low-wage areas with better education may embody greater amounts of labor services and thus may achieve greater income increases from migration than the very poor may all be part of the explanation for this finding. Here again the question of labor aggregation comes to the fore.

[5] Such ideal transfers are of course generally unavailable; but labor/leisure, consumption/savings, and other distortions associated with feasible tax and expenditure instruments are suppressed here for simplicity.

[6] These basic observations on income convergence and migration appear, for example, in Mieszkowski (1979) and Mills and Hamilton (1984). More recently, work by Barro and Sala-i- Martin (1991) has drawn further attention to the issue of income convergence across space. Carrington *et al.* (1996) discuss the South-North migration of blacks in the US during the present century, and conclude that it played an important role in income growth for this generally poor part of the population. Helliwell (1996) shows that the Canadian experience is very much similar to that of the US: incomes among provinces have tended to become more equal over time, and migration has proceeded in the expected direction, that is, from poor to rich provinces. See Asdrubali *et al.* (1996) and Sørensen and Yosha (1996) for discussions of the sharing of risk among US states through capital markets (as well as through central government fiscal policies).

[7] As described in Topel (1991) and Topel and Ward (1992), workers in the US economy often change jobs rapidly at the beginning of the life cycle, and in doing so experience rapid earnings growth; as their earnings rise, their attachment to specific jobs tends to increase. These studies address the issue of mobility among jobs rather than among places. However, findings reported in Topel (1986) indicate that young workers are more geographically mobile than old workers. Thus, especially in the early part of the life cycle, workers do in fact exercise their options to switch jobs, and do so in part by switching locations.

[8] To the extent that investment in human capital entails the acquisition of durable, specialized skills, it exposes workers to skill-specific risks. If these occupational risks are not perfectly correlated over space, labor mobility can provide some insurance against them and thus provide a more certain environment within which to undertake such investment (Wildasin [1996]).

[9] See also Oates (1968) and Musgrave (1971) for early discussions. The term "welfare magnets" has become a popular expression for this phenomenon; see, e.g., Peterson and Rom (1990).

[10] A more thorough discussion of the equity and efficiency dimensions of local school finance goes beyond the scope of the present paper. See, however, Inman and Rubinfeld (1979) for an integrated discussion of the economic and legal dimensions of school finance. One major policy response to the issue of inequality in school finance has been the growth of equalizing state grants to local school authorities, an example of a case where higher-level governments have assumed greater responsibility for redistributive functions of the public

sector. See Ladd and Yinger (1994), Oakland (1994), and Reschovsky (1994) for recent discussions of this important topic.

[11] See, e.g., Cremer *et al.* (1995). The political economy of redistribution is complex, however; on issues of centralized and decentralized voting, in addition to a long line of contributions in the literature of local public finance (see Epple and Romer [1991] for one recent example), see Janeba and Raff (1995), Piketty (1996), Crémer and Palfrey (1996), and Cremer and Pestieau (1996b).

[12] By the same token, mobility can change the distribution of fundamental personal risks within a jurisdiction. Bureau and Richard (forthcoming) analyze the integration of insurance markets, for example through household mobility, in the presence of asymmetric information. In their model, public insurance systems may or may not break down in the present of labor mobility depending on the distribution of risks in different countries. It would be interesting to extend this analysis to a model with endogenous wage determination. It should also be noted that the sector-specificity of factors – human capital is perhaps the most important example – is endogenously determined. Factor market integration may make investment in more specialized skills more attractive, which may increase productivity but which also partly undoes the risk- reducing impact of more extensive factor markets. Factor mobility may also introduce tax competition among governments, however, possibly limiting their ability to use fiscal instruments that recapture the costs of publicly-provided human capital investment (Wildasin [1996]).

[13] Many studies have drawn attention to the possibility that the fiscal policies of central governments can pool income risks among households, including households in different regions, an idea that can be viewed as an application of the insights of Domar and Musgrave (1944) to the context of location-specific income risks. Persson and Tabellini (1996) discuss risk sharing in political equilibria with various combinations of central-government transfers to decentralized local governments as well as central- and local-government taxes on individuals, abstracting however from interjurisdictional factor mobility.

[14] Boadway and Keen (1996) discuss possible justifications for fiscal transfers from lower- to higher-level governments. Their analysis focuses explicitly on the distortionary effects of taxation on factor supplies (e.g., through labor/leisure tradeoffs) and the fact that these distortions are compounded when multiple levels of government independently attempt to raise revenues from the same tax base. The present discussion abstracts from these types of distortions for simplicity.

[15] See, e.g., Oates (1972) for a standard treatment of interjurisdictional spillovers and of the rationale for matching grants to correct them. In general, internalization of the external effects associated with decentralized provision of public goods does not imply uniformity of policy across jurisdictions, since local preferences and costs may vary. The application of this idea in the context of local redistribution (see, e.g., Pauly [1973]) suggests that diverse preferences for redistribution by heterogeneous taxpayer-donors in different jurisdictions should be accommodated by correspondingly varied local taxes and transfers. However,

provided that the beneficiaries of redistributive transfers are mobile, an optimal structure of matching grants would induce lower-level governments to set redistributive policies such that net fiscal burdens or benefits are the same everywhere, even when lower-level jurisdictions differ in their underlying endowments, technologies, or preferences for redistribution (Wildasin [1991]). Uniform fiscal treatment of mobile net fiscal contributors is also necessary for efficiency. See also Goodspeed (1995a) and Cremer and Pestieau (1996a) for related discussion.

[16] Sandmo and Wildasin (1994) show that it is generally in the interest of the native residents of a jurisdiction to apply fiscal instruments to migrants in a discriminatory fashion, if feasible; for example, it is preferable to raise taxes on immigrants to the point where any immigration quotas become non-binding. Note that effective fiscal discrimination does not necessarily require the application of individual fiscal instruments on a discriminatory basis. For example, Bucovetsky (1995) considers the case where native residents are initially endowed with ownership of all land in their jurisdictions. Even if native residents and immigrants earn identical amounts in labor markets and are taxed identically on these earnings, a locality can discriminate between immigrants and native workers by varying the fiscal treatment of land and labor (or other factors).

[17] For example, if the economy begins at the *laissez-faire* point A, a system of taxes on immobile factor owners can be used to finance compensatory transfers to workers that preserve their net incomes at the level X_0. However, this would reduce the net incomes of immobile factor owners to the level corresponding to point C, thus necessarily making them worse off, despite the fact that they would receive higher before-tax incomes due to the increased supply of mobile labor.

[18] Friar and Leonard (1995) present estimates of net fiscal flows among US states, taking the effect of a number of Federal government fiscal instruments into account. These estimates indicate that some states –for instance, Mississippi, a persistently low-income state – are the recipients of net fiscal transfers from the central government, while others – for instance, New Jersey, a persistently high-income state –are net donors. These patterns of net transfers show considerable stability over the decade 1984–94 for which the estimates are made. Many of the states that are estimated to be net fiscal recipients tend to have low levels of redistributive transfers (as indicated, for example, by levels of AFDC benefits) while those that are net fiscal contributors tend to have more extensive redistributive policies. More detailed empirical investigation to see whether there is indeed a positive relationship between the magnitude of local redistribution and net local fiscal contributions to the central government would be of interest.

[19] It should also be borne in mind that if labor-market arbitrage is effective, it equalizes the *real*, not nominal, returns to labor. Quite aside from migration costs, spatial nominal wage differentials may reflect differentials in the prices of non-traded goods, most notably housing, or differences in congestion costs and local amenities and disamenities. Many hedonic wage models of environmental and other local amenities (see, e.g., Rosen [1986])

are indeed premised on the assumption that money wages are *not* expected to converge, but rather should exhibit compensating differentials that reveal implicit valuations of non-market goods such as air quality, crime rates, and the like.

[20] There are strong parallels between inequalities due to imperfect spatial arbitrage in labor markets, for instance due to migration costs, and the inequalities that arise due to sluggish adjustment to sectoral shocks. Protection for workers (or other factor owners) from negative quasi-rents appear to play an important role in the political economy of trade policy, privatization, and economic liberalization and reform in general (see, e.g., Boadway and Wildasin [1990] and references therein). For instance, inequalities attributable to costly intersectoral reallocation of labor play a central role in Diamond (1982); Lawrence and Litan (1986) argue specifically for retraining programs for displaced workers as a policy for dealing with the adverse distributional consequences of trade liberalization, and thus to defuse political opposition to free trade. Job retraining, and education in general, can be viewed as mechanisms of inter-occupational or intersectoral job switching; the cost of retraining, or of education or skill acquisition more generally, can be viewed as the cost of "migration" between declining and expanding sectors, or between unskilled and skilled job "locations." (Sometimes, as in the case of spatially-concentrated declining industries like coal mining in Appalachia, sectoral and geographical job-switching become thoroughly intertwined.) Much of measured economic inequality is attributable to these costs.

[21] As Topel (1986) and others show, young workers are more likely to migrate in response to spatial wage differentials, both because their migration costs are lower and because they have a longer employment horizon over which to reap the benefits of higher earnings.

[22] Decressin and Fatás (1995) compare the role of migration in adjustment to labor market shocks among regions in Europe and the US, finding in general that migration plays an important role in both cases but that migration responses in the US are faster than in Europe – adjustments that take one year in the former might take as long as three years in the latter.

[23] The distribution of non-human capital over space and over industrial sectors also adjusts gradually as old capital depreciates and new capital comes on line; intersectoral differentials in Tobin's q (appropriately adjusted for tax and other factors) reflect quasi-rents arising from the short-run sector-specificity of capital. Note that labor and capital adjustments are likely to be linked: employment opportunities for workers are likely to expand more rapidly in a region that is attracting capital inflows, and, similarly, rapidly-growing labor resources are likely to attract increased capital investment. The dynamics of migration and capital flows should therefore be analyzed simultaneously – as for instance in the historical investigations described in Hatton and Williamson (1994). This interdependency gives rise to interesting connections between the fiscal treatment of labor and capital that deserve analytical attention.

[24] Borjas and Hamilton (1996) show that immigrants to the US differ from the existing population, and among themselves, in these attributes, which are important determinants

of the benefits that they receive from AFDC, SSI, Food Stamps, and other social welfare programs.

[25] See Johnson and Zimmermann (1993) for discussion of many of the possible economic and fiscal conseqences of long-run demographic trends, including population aging in Europe and the pull that this may exert on migrants from younger and poorer countries. Wildasin (1994b) presents some illustrative calculations of net lifetime social security (public pension) wealth for hypothetical workers moving among a set of EU countries, indicating that the changes in social security wealth resulting from intra-EU migration can be as high as 10% of lifetime earnings, depending on the country pairs under consideration. Calcuations of this sort cannot really be undertaken meaningfully without taking earnings growth, retirement age, life expectancy, and other life-cycle factors into account, emphasizing the need for long-run dynamic analysis of the implications of migration for these very important redistributive fiscal policies.

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