

**Managing the Global Talent Pool:
Sovereignty, Treaty, and Intergovernmental Networks**

Forthcoming in *Technology in Society*

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Abstract

Better management of the international migration of highly skilled people may provide a way to expand the global talent pool as well as to allow existing talent to be used more efficiently. After reviewing contemporary scholarship on the knowledge economy and on migration patterns, this paper considers three broad approaches to governance of migration at the global level: sovereignty, treaty, and intergovernmental networks. Each approach has strengths and weaknesses with respect to the key objectives of facilitating knowledge spillovers from receiving countries to source countries and expanding investment in the development of talent in source countries. The complementarities among the three approaches reveal the promise of a workable international regime in this vital policy area.

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1. Introduction

Two broad trends distinguish economic life in the early twenty-first century: globalization and rising knowledge-intensity. More people from more diverse places are interconnected more fully through markets than was the case in previous centuries. The products that they are exchanging derive more of their value from skills and ideas than from brute labor and raw materials than they used to. These trends could be mutually reinforcing. Globalization may continually create larger markets and new niches for knowledge-intensive products; knowledge-intensive producers may gain access to a greater number and variety of skills and ideas as the new century wears on.

At the moment, however, the gap is wide between those who have the potential to contribute to the global knowledge economy and the actual contributions of the privileged few who currently comprise its talent pool. A vast amount of human talent is wasted, due to the vagaries of access to the basic necessities of life, to education, and to social and organizational settings that facilitate continuing creative endeavors. Narrowing this gap and reducing the waste of talent would not only benefit those individuals whose creative potential is thereby realized, but global society as a whole, as the value that those individuals create spills over to the public at large.

Better management of the international migration of highly skilled people may provide one way to address this challenge. In addition to allowing existing talent to be used more efficiently by allowing organizations that need talent to draw from a wider base, effectively managed highly-skilled migration (HSM) may induce larger domestic investments in human development in developing countries to expand the talent pool for the future. HSM may also catalyze international resource flows to support such investments if it strengthens financial, organizational, and intellectual relationships across borders.

“Management” is, however, a tricky task; the word itself is a euphemism. No global authority can take the measures that may be called for. Sovereign states are the dominant actors in the international system. Competition among such states has some advantages as a system for “managing” HSM in such a way that it draws more people supported by more resources into the global talent pool. However, as is the case in many areas of public policy, formal and informal modes of cooperation among states might also be useful in pursuing this global public interest.

This paper thus considers three broad approaches to governance of the global talent pool: sovereignty, treaty, and intergovernmental networks. I assess the strengths and weaknesses of

each approach – and identify complementarities among them. The ground for these assessments is prepared by reviewing, in the next two sections, contemporary scholarship on the knowledge economy and on migration patterns. Sections on the three approaches to governance follow. I conclude by focusing on the complementarities among the three approaches and the promise of a workable international regime in this vital policy area that incorporates elements of all three.

2. The Evolving Economic Geography of Knowledge: Appropriability and Spillovers

Recent work in economics and geography has undermined a number of long-established and widely-held assumptions about the knowledge economy. This work opens new possibilities for interpreting the consequences of HSM. What was once viewed simply as a brain “drain” from developing countries to developed ones is now variously labeled brain “strain” [1], brain “circulation” [2], and even brain “gain” [3]. These more optimistic assessments (from the developing country perspective) remain, however, possibilities whose realization depends on policy choices that are far from certain.

Economic theory has long taken knowledge to be a public good. According to this theory, the use of an idea by one person does not intrinsically limit its use by another, the way the use of a machine does. Nor, absent an intellectual property system, can anyone exclude anyone else from using an idea once it has entered the public domain. [4] These assumptions about rivalry and non-excludability have been generally accepted and their weaknesses largely ignored. [5]

Two insights serve as the building blocks of a more complete economic theory of knowledge. First, some knowledge simply cannot be codified and shared with others through normal channels of communication. “Tacit” knowledge can only be transferred through

prolonged interaction and practice, as apprentices have long learned crafts. Tacit knowledge, whether it be a scientific bench skill or a complex organizational routine, is, as Zucker, Darby and Brewer [6] have put it, “naturally excludable.” Second, the capacity to use knowledge, whether codified or tacit, depends on what one already knows. Knowledge cumulates. In order to absorb an idea generated by someone else, one must understand its context. For scientific and technical knowledge, “absorptive capacity” includes advanced education and, often, experience. [7]

These insights modify rather than invalidate the public goods tradition. Knowledge has the qualities of both public and private goods. Under some conditions, its benefits spill over entirely to those who are able learn it; under other conditions, they are fully appropriable by those who create it. Typically, there is a mix of appropriability and spillover. The conditions that determine the balance between the two have not been enumerated fully and systematically. One key variable that has been identified, however, is geographical proximity. [8] Other things being equal, the closer one is to the source of knowledge, the more likely one is to be able to learn about it, absorb it, and appropriate benefits from it.

Most economically valuable knowledge is generated in the advanced industrialized countries. Talented people from other parts of the world, therefore, must usually travel to and reside in these countries if they are to receive relevant portions of this knowledge base and contribute to it. However, if they do so, the spillovers from the knowledge they gain are, by the same logic, much less available to their compatriots who remain at home. While the knowledge of emigrants would likely have been less valuable in total had they never left their home countries, the net gain to those countries might nonetheless have been greater had they stayed

home. This argument provides the theoretical foundation for understanding the migration of talented people from poor countries to rich ones as a “brain drain.”

Geographical proximity is to some extent a proxy for communication channels that are determined technologically and socially as well as spatially. Massive bandwidth and sophisticated software, which facilitate rich and extended electronically-mediated interactions, now permit more forms of knowledge to be shared across longer distances than in the past. Cheap transportation contributes, too, enabling more frequent meetings and visits. Personal and organizational relationships, which are themselves enabled over long distances by new technologies, provide the motivation to undertake knowledge transfers and create trust that eases them. In the not-too-distant future, virtual reality communication channels may be able to substitute entirely for geographical proximity even in the transfer of the tacit cutting-edge laboratory skills.

The geographical constraint on knowledge spillovers is thus relaxing, providing one conceptual keystone in the argument that “brain gain” is mitigating or even outweighing “brain drain.” However, for an expansion of the international scope of spillovers to occur, two conditions must be met. Spillovers can only occur where personal and organizational relationships span the boundaries between the knowledge-producing countries and the brain-exporting countries. In addition, the latter must create, maintain, or attract sufficient absorptive capacity, in terms of physical, human, and organizational capital, in order to benefit from the knowledge that flows between the parties to these relationships.

These conditions are to some extent favored by the dynamics of international migration in an era of globalization and improving information and communication technology. Emigrants are better able to maintain strong relationships with friends and colleagues in their home

countries than in the past. The organizations that employ them are more likely than they used to be to disperse their operations internationally and build forward and backward linkages among them. The pre-existing social relationships and cultural knowledge of their expatriate staff may incline these organizations to site operations and build linkages in the countries of origin of these staff members. This potential may, in turn, induce investments in absorptive capacity within those countries.

Absorptive capacity may also be enhanced if individuals in sending countries are induced to acquire education and skills at home with the intention of migrating, but find themselves unable to do so. This somewhat frustrated human capital may then be utilized in the source countries instead. In some models and under certain conditions [3], this effect by itself outweighs the outflow of human capital through migration, leaving the sending countries better off than they would have been without emigration.¹

An endogenous shift from brain drain to brain gain, from appropriability by the receiving countries to spillover to the source countries, is a beguiling, but far from certain, prospect for advocates of a more equitable process of international development. The receiving countries, for instance, may seek to maintain their dominant positions by disrupting the development of international relationships and reducing spillovers. The source countries may lack sufficient capital, flexibility, or confidence in their potential gains to make the necessary investments in absorptive capacity. A complete theory in this domain must incorporate political as well as economic variables. Such a theory will not likely yield definitive predictions for “drain” or “gain,” but rather point to forces in both directions that must be measured empirically to assess the balance and which may perhaps be altered by conscious collective action.

¹ Stark’s [3] conclusions are hotly disputed by other modelers, such as Kapur and McHale [9, chapter 4] and Schiff [10].

3. The Rising Tide of Highly Skilled Migration

Empirical work in this field, unfortunately but understandably, lags behind theory. Data on the flow of talented people across borders, much less the degree to which the benefits of the knowledge they gain by migrating spill over, are spotty at best. Educational aspirations and attainment serve as the closest proxies for the flow. Researchers trace the migration patterns of those who have received college or graduate degrees and those who are studying at these levels. Border control and census agencies, though, have not been very consistent across nations or over time in gathering and reporting these figures. Recent work sponsored by the IMF, OECD, and World Bank, among others, has only just begun to provide a more comprehensive picture.

What the data, sketchy as they are, suggest, is a rising tide of HSM. Compiling 1990 data on legal migrants who are 25 and older, Carrington and Detragiache [11, p. 17] of the IMF find a “remarkably high” correlation between education and migration. Working with the same indicator, but drawing on a more complete accounting across countries in 2000, the World Bank’s Docquier and Marfouk [12, p. 22] confirm and extend the finding. People with a tertiary education in that year were six times more likely to emigrate than unskilled workers.² The share of tertiary-educated in the flow of legal migrants is growing; 37% of immigrants to OECD countries were in this category in 2000, compared with 33% ten years earlier. Looking further back, Docquier and Rapaport [13, p. 4] find “clear evidence that the brain drain has increased dramatically since the 1970s, both in absolute and relative terms.” Lowell, Findlay, and Stewart [14, p. 9] estimate that “nearly one in ten tertiary educated adults born in the developing world resided in North America, Australia, or Western Europe in 2001.”

² Docquier and Marfouk [12] point out that these estimates are biased upward because they do not capture illegal migration.

OECD research shows that the number of students studying abroad (who are not necessarily included in the figures above) has doubled over the past twenty years. [15] Some 700,000 students from developing countries now study in OECD countries. China is the largest source of students from outside the OECD, accounting for more than 8% of this total, followed by Malaysia, India, Indonesia, Singapore, and Thailand, which account for another 12%. [16, p. 6] Goldin and Reinert [17, table 6.3] estimate that there were another 600,000 highly skilled expatriates in the world in the early 2000s, primarily expatriates from developing countries who were working on temporary visas in the OECD.

From a legal perspective, students and expatriates are temporary migrants, but many nonetheless find a way to stay in the receiving countries for good. Although complete data on the shift from student or temporary status to permanent residence status are not available [18], there are some telling indicators. About 85% of Chinese recipients of doctoral degrees in science and engineering from U.S. universities, for instance, planned to stay in the U.S., as of 2001. [19] Perhaps 50% of holders of U.S. H1-B visas for temporary highly-skilled work, similarly, will seek to adjust to permanent status. [20]

Not all of these aspirations will be fulfilled. Those who fail in the attempt to stay permanently in the receiving countries will join those who had always intended to return home, bringing back with them the knowledge that they gained while abroad. For some countries, especially newly industrialized countries like South Korea and Taiwan, the rate of return from temporary migration has risen as they have developed in recent decades. Indeed, a combination of more attractive opportunities and deliberate policies have induced an increasing return migration of mid- and late-career professionals as well as recent graduates.

While we know something about flows of people, we know much less about flows of knowledge and the value gleaned from these flows by either source or receiving countries. Kapur and McHale [9, p. 171] note that return migrants tend to be less successful on average than those who are able to emigrate permanently. To the extent that knowledge resides in people, this finding suggests that receiving countries may benefit more than source countries from flows of people. On the other hand, case study and anecdotal evidence document the creation of new knowledge flows from the developed to the developing countries in scientific research [21] and high-technology industry [2, 22] as a result of return migration.

Many forms of knowledge, of course, need not reside in people; highly-skilled emigrants may thus be valuable sources of spillovers without returning home permanently. Lowell and Gerova [1], for instance, state “there is some evidence that expatriates do invest in businesses in their homeland and that their leadership can generate a more favorable climate for others to invest as well.” Saxenian [22] finds that many foreign-born Silicon Valley entrepreneurs maintain or plan to create business relationships with their home countries. Such efforts may have a “reputational” effect as well, validating investment and trade with the home country more broadly. [23] A number of formal organizations and informal networks have emerged to expand diaspora-based knowledge transfers and economic relationships. [24]

The possibility that migration may induce larger domestic investments in skills and education than it takes away has been investigated empirically in a preliminary fashion. At the national level, Beine, Docquier, and Rapaport [25, using the IMF data set for 1990] conclude that large countries that include nearly 80% of the world’s population do indeed benefit from this effect, even though a larger number of smaller countries are disadvantaged. In a finer-grained study of the Indian software industry, Commander et al. [26] corroborate this finding,

emphasizing that the induced demand for training has led to the creation of new educational institutions in India.

In the absence of conclusive evidence, experts differ on the overall balance between “drain” and “gain” effects. The most careful and comprehensive recent assessments, such as those of Commander et al [27], Lowell and Gerova [1], and Lucas [28], suggest that the former probably still predominate, despite encouraging signs of the latter. To be sure, these aggregate trends mask enormous variations at the national, regional, and industry levels. It is clear, for instance, that small countries are far more likely to be “drained” than big ones. If there is an endogenous shift from “drain” to “gain” underway, it is at best incomplete. More likely, any such shift will not be wholly endogenous to economic decision-making but instead will be at least in part a product of governmental decisions.

4. Sovereignty

Governments enter the picture because they regulate the movement of people across borders, restricting the choices available to those who might consider migrating internationally for economic reasons. If the world were suddenly to become one big labor market, many more highly skilled individuals would probably choose to move across present-day national boundaries. The vast majority of legal restrictions are imposed by the receiving countries; source countries impose few controls on emigrants. [29] There are few highly-skilled illegal immigrants, because many schools and employers would refuse them and because their alternative courses of action at home are reasonable substitutes for illegal immigration, given its many risks.

By and large, immigration policies in the receiving countries are set with little conscious regard for the global public interest or for the source countries, nor even much consideration for the simultaneous actions of other receiving nations. The current system of “managing” HSM is thus not a system at all. It is, rather, an array of independent operations that are loosely connected by their joint effects on the decisions of potential and actual migrants. Labor remains the great exception to the liberalization of movement of factors of production that has accompanied and fed globalization. The capacity to control the movement of people across borders continues to be one of the most fundamental attributes of sovereignty and self-determination.

Sovereign governance in this fashion has a number of strengths with respect to the global talent pool, as I will argue in this section, but they are hardly so preponderant that the alternatives of formal and informal cooperation should be simply ignored, as they often have been. Perhaps the most important strength of the absence of coordination among national policies is that it creates the possibility that countries may compete for talent. Such competition may drive up the value of immigrants, inducing countries to offer more attractive terms than they otherwise would. Permanent rather than temporary stays, opportunities for family members to come and to work, and less onerous administrative procedures might be among the inducements. Better “deals” [9] of this sort strengthen incentives for potential migrants in source countries to seek education and skills, although, as I note below, whether these incentives can be acted upon effectively is not certain.

The “deals” offered to immigrants under sovereign governance reflect changing political and economic circumstances in individual receiving countries. In recent years, a number of countries, such as Australia and Canada, have increased their intake of skilled immigrants. This

trend may reflect an expanding demand for skilled workers. It may also reflect employers' desire to expand the pool of skilled workers in order to moderate wage growth. And, in some countries, it may represent a political aspiration to upgrade the labor force, even absent an expressed demand for skills. Of course, such trends may also be reversed and abruptly so, if circumstances change abruptly. The adaptability and responsiveness of national policies, compared to internationally coordinated policies, may induce uncertainty into the incentives described above.

Another relevant feature of sovereign governance is that it may permit the receiving countries to learn from one another's experiences. One nation's success in inducing skilled immigration may inspire others to do the same; failure, similarly, may deter imitation. The recent expansion of skilled immigration seems to have involved a slow process of emulation, in which an increasing number of countries (perhaps at the behest of companies and other organizations within them) sought to replicate the American experience in this respect. At the height of the technology boom of the 1990s, even Germany, which has historically been averse to HSM, devised a "green card" program for highly-skilled workers to migrate there, at least temporarily.

Finally, and most obviously, sovereign governance may impose a negative externality on the source countries, the brain drain. Responsive only to the demands of domestic constituents and mindful of competition, receiving countries have no incentive to worry about, much less mitigate or prevent, this outcome. Unable or unwilling to force their highly skilled citizens to stay home, source countries must either do with less of this vital resource or over-produce in order to provide a "surplus" for export. Such a surplus is costly and may be infeasible to generate, due to the institutional and capital requirements of education and training. Thus, even

if more people want to upgrade their skills in response to opportunities abroad, they may find themselves unable to do so. If that is the case, HSM strips away the source countries' absorptive capacity and makes it even more difficult for them to gain from knowledge spillovers.

Sovereign governance is the baseline condition for “managing” migration, and the powerful forces of nationalist sentiment and national self-interest are likely to keep it largely intact for some time to come. However, international cooperation has been achieved in recent decades in some policy areas in which it seemed rather unlikely beforehand. If sufficient advantages for all parties can be identified without impinging grossly on sovereign prerogatives, international cooperation in the sensitive domain of international migration might enhance governance of the global talent pool.

5. Treaty

The classic counterpoint to sovereign governance is governance by treaty. Parties to a treaty concede some restrictions on their freedom of action in exchange for comparable concessions by others. Non-compliance with international treaties can be sanctioned by force in rare cases; more commonly, much feebler normative or economic sanctions must suffice. Nonetheless, international treaties often exert substantial authority, either because the perceived interests that prompted the initial agreement remain in place during the life of the treaty or because nations seek to maintain a reputation for good faith in international bargaining, even if their perceived interests change after treaty ratification.

A number of analysts have called in recent years for the establishment of a formal international regime to govern migration. [30] Jagdish Bhagwati [31, 32], for instance, argues that sovereign governments in the receiving countries no longer have the capacity or the will to

control their own borders; they must ultimately rely on a World Migration Organization (WMO) to manage this problem. The Global Commission on International Migration also envisions such an entity in the long run, with the transition path to it to be smoothed by an interim interagency “global migration facility.” [33] Most work on the creation of a formal migration regime focuses on security and human rights issues raised by international flows of refugees, asylum-seekers, and illegal immigrants.

HSM has not yet figured prominently in such discussions, but it seems likely to do so in the near future as flows of the highly skilled and their impacts on the knowledge economy continue to grow. Perhaps the greatest attractions of a formal arrangement for governing HSM would be stability and predictability. The talent pool is shaped largely by long-term investments by individuals in their educations and by nations in educational institutions. Uncertainty about the expected returns from such investments probably reduces them. If an international treaty on migration were to constrain national policies by limiting the pace of change in such policies, such uncertainty might be diminished. The tripling of the number of U.S. H1-B temporary visas for skilled workers between 1996 and 2001, followed by a reversion to the original level in 2003 (i.e., a cut of two-thirds), is an example of a volatile policy that may induce uncertainty among potential migrants.

Governance by treaty might also provide a platform for negotiation through which the brain drain externality could begin to be addressed. Compensation for the losses to source countries caused by the brain drain might in principle be forthcoming in exchange for their agreement on other provisions of such a treaty or as a result of the attention focused on this externality by the negotiating process itself. Such compensation need not take the form of monetary payments from receiving country governments to source country governments,

although it could. Individual migrants might be assessed at least part of the cost, for example. [34, 23] Perhaps more important, the recipients might include international and non-governmental organizations that stimulate “brain circulation” by carrying out projects that strengthen absorptive capacity within the source countries and foster international linkages that make knowledge more accessible to them. The treaty organization might also serve as a repository of expertise for assessing the relative costs and benefits of HSM, which vary over time and across categories of countries.

Another potentially valuable contribution of such a treaty would be to help protect the rights of immigrants once they have landed. In many national systems, entry and residency are tied to a specific offer of employment, giving the employer great power. Such power may be abused, resulting in poor working conditions, excessive work time, and short pay. Employees who experience maltreatment are reluctant to protest, given their precarious positions. Such situations are far from unknown even among highly-skilled migrants. An international migration treaty might provide legal standing, a sympathetic venue, and knowledgeable advocates for these vulnerable workers, even if the treaty did not alter the underlying condition (that is, the tie between employment and migration status) that produces this vulnerability.

It might be possible to separate the issues raised by HSM from those raised by other forms of migration by embedding the former within the WTO, rather than a new WMO. The WTO has at least two relevant processes underway. The GATS Mode 4 negotiations aim to facilitate trade in services by permitting the easier movement of “natural persons.” [35] Trade in “educational services” is also a subject of GATS negotiations. [15] Such an approach might be justified by the rising importance of human and knowledge capital in the global economy.

The governance of these assets, it might be argued, ought to be coordinated with the governance of trade, investment, and other key economic factors of production.

Embedding HSM within the trade regime might well produce stability. The WTO exists now, whereas the WMO is, at best, a long time off. However, this approach seems less likely to yield effective compensation for the brain drain and protection of individual rights than an approach that seeks to address all forms of migration together. Source countries have greater leverage in domains of immigration other than HSM, such as low-skill migration and movement of refugees. Bargaining linkages might be built between these areas and HSM issues or, in the case of individual rights, integrated with them, in order to secure provisions for compensation and protection.

Governance by treaty would have significant disadvantages. It would be inflexible. Negotiations for international treaties typically take many years, and the bargains that seal deals may be based on conditions that no longer exist after the treaty comes into force. Revisions are likely to be costly and slow as well. This inflexibility is problematic for governance of the global talent pool. Although the demographic forces that underlie international migration change slowly, economic, technological, and organizational influences that are more proximate causes of migration may change rapidly. The dynamics of “brain circulation” are of particular interest in this respect. As the Internet continues to expand in scope and capacity, the costs of transferring knowledge and capabilities across borders will continue to decline, with unpredictable consequences for both source and receiving countries. Treaty provisions that assume a particular distribution of costs and benefits of HSM might be rapidly outmoded.³

³ Weinstein [36] advocates a system of tradable work permits in order to provide more flexibility, but acknowledges that such a system would face severe administrative challenges.

The emerging global conversation about migration and its governance should not be mistaken for a sign that a substantial treaty is in the offing. [37] The benefits of sovereign governance, both symbolic and material, remain significant to receiving countries, and they are unlikely to limit their freedom of action unless circumstances change even more dramatically than they have to date. Nonetheless, the conversation about a treaty by itself may have important consequences, not the least of which is the nurturing of other, less formal modes of international cooperation.

6. Intergovernmental Networks

Sovereignty and treaty are often represented as mutually exclusive alternatives for addressing international issues. In practice, however, they are the poles of a spectrum of options that involve informal as well as formal arrangements for cooperation. Nations may coordinate their policies and behavior without agreeing to do so explicitly. Such coordination may take place through mutual observation without communication, as in the case of military deterrence. Communication, however, ought to make coordination more effective, particularly in policy areas not marked by deep suspicion or outright hostility. As the cost of international communication has declined, informal networks of relationships among government officials have been expanding and deepening, enriching the “middle space” of informal cooperation between the extremes of sovereignty and treaty.

The information that flows through these communication channels provides networked governance with its major advantage over sovereignty.⁴ [40, 38] In rapidly changing, complex

⁴ I focus in this text on intergovernmental networks; I do not address the capacity of these networks to incorporate non-governmental participants, such as representatives of civil society and business organizations. The reader should be aware that many authors working in this area include non-governmental participants within their definition of networks. Indeed, in some areas, like banking [38], non-governmental organizations help to create and

environments, these information flows may allow nations to learn more rapidly than they would by observing behavior at a distance and to adjust more effectively and appropriately to one another and to conditions on the ground in response. This argument bears on at least two aspects of the environment in which national policies for HSM are made.

First, demand for skills may change quickly, especially in specific fields. Reliance only on domestic information about trends in demand could lead national policy-makers to draw mistaken conclusions in an age of transnationally distributed production processes. Presuming that each national government has a more accurate picture of its domestic labor market than foreign governments do, mutual exchange of this information should allow the development of a global understanding of the likely size and sustainability of the demand for skills. Such an understanding may enable better choices to be made about long-term investments that could be made in response.

Second, as I noted above, the distribution of the costs and benefits of HSM may also change quickly. The Internet is expanding opportunities for highly-skilled expatriates to engage people and organizations in their home countries in scientific, commercial, and social relationships, thereby fostering knowledge spillovers. The supply chains of multinational corporations, in particular, are extending into developing countries more deeply and involving a wider array of activities than in the past. Expatriate managers within these firms and expatriate entrepreneurs associated with them have been important contributors to these shifts. [2] Better and more current information about such developments, if indeed they constitute a general trend, have the potential to moderate international conflict over HSM.

implement policies. I do not think that they will play as significant role in the migration field. [39] Of course, as the text suggests, to the extent that governmental officials can draw on information supplied by domestic non-governmental sources, the performance of intergovernmental networks should be improved.

The informational advantages that intergovernmental networks are said to have over sovereign governance are complemented, according to their advocates, by the greater flexibility that they allow policy-makers when compared to treaty-based governance. Networks need not extend to every interested party nor lock the participants into tightly constrained options for action. Shifting configurations, appropriate to the problem or opportunity at hand, can be accommodated more easily by this mode of governance.

A formal international migration regime, for instance, would likely be managed by representatives of national immigration authorities, whereas intergovernmental networks made up of officials with other substantive responsibilities might yield more concrete progress on specific aspects of HSM. For instance, networks composed of science funding agency personnel could foster cooperative or source-country focused R&D projects. Similarly, rather than having to work out treaty language that would specify allowable policies and precise formulae for compensation for the brain drain, intergovernmental networks might more easily facilitate the emergence of consensus in these domains through discussion and demonstration. Trial programs for compensation, for example, could be focused by such networks on small countries that are most vulnerable to the brain drain and least likely to benefit from “brain circulation.”

A number of intergovernmental migration policy networks have arisen in recent years, most notably the Regional Conference on Migration (also known as the “Puebla Process”) in the Americas and the International Center for Migration Policy Development (also known as the “Budapest Process”) in Europe and adjacent areas. The Global Commission on International Migration [33, p. 70] notes that “the officials participating in these processes have generally represented ministries responsible for immigration, and it has therefore been difficult for such processes to engage in other important issues, such as the contribution of migration to

development...” These processes may provide significant opportunities to expand the global conversation about HSM and to engage commercial, scientific, and educational officials in it.

Discussion and demonstration within expanded and activated intergovernmental networks may also lead to a broader consensus on international norms toward HSM and help to diffuse those norms among national policy-makers. The most important issue in this regard is whether the receiving countries have any obligation to compensate for or prevent HSM and, if so, what steps they ought to take. Great Britain, for instance, has sought to limit the flow of nurses from the Caribbean and South Africa, where they are in short supply and gravely needed to deal with the HIV/AIDS pandemic and other public health threats. [14, pp. 14-15] Information about the British initiative, including whether it achieved its goals and what its impact has been on health care in Britain and the sending countries, might be useful in persuading other receiving nations to consider such steps.

Slaughter [40, p. 171] points out that access to better information provided by intergovernmental networks without the constraints imposed by formal treaty obligations may lead nations to opt for “informed divergence.” Such a strategy could allow competitors to take advantage of leadership of the sort exercised by Britain in this example and stymie the diffusion of norms. In such a circumstance, recourse to a formal agreement in order to limit deviation from the norm would be a logical next step. Some analysts thus see intergovernmental networks as a way station on the road to a treaty-based system, rather than a viable long-term institutional response to international governance challenges. [41]

Nor surprisingly, the *realpolitik* barriers to governance of the global talent pool by intergovernmental networks echo those to a treaty-based international migration regime, although they are less profound. The economic and political benefits to the receiving countries

of sovereignty limit cooperation. A viable start toward greater cooperation might be made by concentrating on network-building outside the migration bureaucracies, focusing on specific, narrow dimensions of HSM with respect to which a strong practical and normative argument can be made for cooperation. Nursing in countries impacted by HIV/AIDS is one such area; scientific research in which the source countries provide essential materials or locations might be another.

7. Conclusions

Any international system for managing HSM should be designed to facilitate knowledge spillovers from the receiving countries back to the source countries. Such spillovers may occur through return migration; educational, commercial and scientific relationships; and investment and entrepreneurship. Ideally, these benefits will come to outweigh the very real costs imposed by the departure of highly skilled people from countries that are already short of talent. We should not assume that the benefit-cost ratio at the national level will shift in this fashion without policies and governance processes that nudge it along.

The three approaches to global governance considered in the three preceding sections are not mutually exclusive, and each warrants a place in the international system for managing HSM in the future. Sovereign governance will undoubtedly be the foundation of the system for many years to come; migration control is perceived to be a basic responsibility of most states. Fortunately, the inevitable is also the desirable in some key respects. Competition for talent within the framework of sovereign governance may be a powerful pull for private investment in education and skills as well as a spur to domestic development efforts aimed at retaining talent.

An international migration treaty, by contrast, is both unlikely and largely undesirable. Whatever predictability and stability a general treaty on migration might provide is likely to be outweighed by inflexibility. The most plausible and attractive agreement would focus narrowly on the rights of immigrants, incrementally extending existing international commitments to human rights. Such a treaty would have more significance for migrants other than the highly skilled, but many of the latter would benefit nonetheless. That said, a negotiating process for a broader migration treaty, as opposed to the treaty itself, might well prove valuable in stimulating awareness about migration and knowledge flows and catalyzing research into their costs and benefits.

Intergovernmental networks present some promising opportunities. Clearly, they can and do provide information, and such information-gathering and -sharing can be expanded. More substantively, one can imagine small groups of concerned nations developing focused, informal compensation schemes that address the most extreme cases of the brain drain. Such compensation, in the form of enhanced spillovers, might well be coordinated by networks of officials concerned with education, science, and commerce, with the support of educational and research institutions, firms, and civil society organizations. Over time, such schemes might be expanded to a larger universe of cases, although they should also be revised and reformed in response to changes over time in flows of talent and of knowledge.

The greatest danger for any system that might manage HSM is that emerging and expanding processes of brain circulation and knowledge exchange would be cut off. Intellectual protectionism on the part of either the receiving or the source countries would be both unfair and counterproductive. In addition to the substantive and informational tasks suggested above,

stronger intergovernmental networks might also allow officials concerned about HSM to create and disseminate more effective public explanations of their efforts.

Although analytically distinct, sovereignty, treaty, and intergovernmental networks co-exist in the real world. The complementarities among the three approaches reveal the promise of a workable international regime in this vital policy area.

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