As developing countries embark on a policy agenda of innovation-based growth, they face an acute shortage of competent individuals who know the country well, but who are not part of the “status quo” and therefore have no vested interests other than the best possible country outcome. Paradoxically, the search for these individuals often leads to the country’s talent abroad—its skilled diaspora. The best and brightest, who are crucial for innovation, have often left the country in search of better opportunities. The usual policy focus—encourage return of talent to the home country—is often neither realistic nor necessary: members of skilled diasporas can just as effectively engage in joint continuous projects with the home country without permanently relocating to it: a phenomenon called “brain circulation.”

The Twin Problem of Second-Generation Reforms

As developing countries embark on and advance second-generation reforms—changing “rules of the game” in public finance, education, innovation, health systems or infrastructure provision—they face an acute shortage of competent, motivated people to lead and manage the reforms. And it is not just the reforms that need to be managed. Vested interests (those that stand to lose from change and therefore defend “business as usual”) need to be tackled as well. This is the twin problem of reforms. In this situation, competent individuals who know the country well, yet are not a part of the vested interests, can be compared to proverbial Archimedean levers to trigger and sustain the change. Indispensable yet rare, they become institutions themselves. The search for these skilled or educated workers often goes abroad—to skilled diaspora. The Africa region, where the grip of vested interests is particularly strong, is at the forefront of this trend for recruiting diaspora (the president of Liberia and recent finance ministers of Nigeria are recent examples).

To confront the established and entrenched interests, diaspora skills alone will not suffice. Credibility, reputation, a risk-taking attitude, long-term planning horizon, tenacity, and perseverance are also essential. Individuals with such qualities are considered “overachievers” to denote their willingness to share their skills and education with their home country rather than seek only personal gain. Motivation and modes of engagement of diaspora overachievers with home countries is the focus of an on-going action learning project.1 This note highlights two findings from the project regarding the process of engagement of the overachievers with home country...
countries and the process of institutional development. First, the massive return of talent to the home country is typically neither realistic nor necessary; diaspora overachievers can just as effectively engage in joint continuous projects with the home country without returning “home”—a phenomenon called “brain circulation” (Saxenian 2006; Kuznetsov 2006). When diaspora formulate joint projects, they do not think about far-reaching reforms or institutional development. Yet, and this is the second message, the institutional development impact can be significant.

Examples of Diaspora Impact on Institutional Development

In 1997, Ramón L. García, a Chilean applied geneticist and biotechnology entrepreneur with a PhD from the University of Iowa, contacted Fundación Chile, a private-public entity charged with technology transfer in the area of renewable resources. García is the chief executive officer of InterLink Biotechnologies, a Princeton, New Jersey–based company he co-founded in 1991. After jointly reviewing their portfolios of initiatives, Fundación and Interlink founded a new, co-owned company to undertake long-term research and development projects. These projects were needed to transfer key technologies to Chile to sustain the competitiveness of its rapidly growing agribusiness sector. Without the combination of García’s deep knowledge of Chile and his advanced U.S. education and exposure to U.S. managerial practice and experience as an entrepreneur, the new company would have been inconceivable.

The fact that skilled expatriates can create enormous benefits for their countries of origin has come to sudden attention in recent years through the conspicuous contributions that the large, highly skilled, manifestly prosperous, and well-organized Chinese and Indian diasporas have made to their home countries. But García’s collaboration with Fundación Chile suggests that diasporas do not need to be large and voluminous to produce an impact: 10 cases of “Ramón García” could transform entire sectors of the economy in relatively small countries like Chile. Moreover, García’s collaboration with Fundación Chile suggests that even sparsely populated, informal diaspora networks linking small home countries with their talent abroad have some institutional resources, and may prove capable of developing more. Overall, García has created three biotech firms with Fundación Chile.

Chile Global—a network of about 100 “overachievers” of Chilean origin—was established in 2005 to institutionalize contributions that “Ramón García’s” can make to the Chilean innovation system. However, this is not where the story ends, but rather where it begins. Chile Global promotes mentoring relationships between innovation start-ups in Chile and Chilean “overachievers” abroad. In this endeavor, the Chileans can study (yet not copy) a now-famous Taiwanese (China) experience of creating an early stage venture capital (VC) industry.

When the Taiwanese (China) government decided to promote VC industry in the beginning of the 1980s, it had neither the capabilities nor a blueprint. Many were opposed to the idea because the concept of VC was foreign to traditional Taiwanese (China) practice, in which family members closely controlled all of their businesses’ financial affairs. Entrenched interests in maintaining the status quo were strong.

The decision by tens of thousands of Taiwan’s (China) most talented university students to pursue engineering graduate degrees in the United States in the 1960s and 1970s, and to take jobs there after graduation, turned out to be part of the solution for the VC industry. Opportunities in the United States, were superior to those at home. For instance, the large Hinschu Science Park, opened in 1980, was unable to find tenants despite aggressive efforts to lure multinationals. Outsiders in Silicon Valley, the immigrants found each other in technical associations and alumni networks that also allowed them to stay in touch with their counterparts in Taiwan (China). But few considered returning home permanently. Policy makers complained about this “brain drain” and sought to limit it and none foresaw that it could be an asset.

A search network (a network to identify successive constraints and then people or institutions that can help mitigate the these constraints) consisting initially of key, dynamic, and forward-looking members of the Taiwanese (China) government and leading overseas Chinese engineers in Silicon Valley was central to the emergence of the VC industry. This network did not have a blueprint, yet it did have a role model (Silicon Valley) and a clear idea of “what to do next.” By defining each subsequent step along the road, the network became wider and eventually incorporated skeptics and opponents. Through a process of intense interactions with the Taiwanese (China) diaspora in Silicon Valley, new laws for VC industry and institutions such as Seed Fund provided matching capital contributions to private VC funds. Two American-style venture funds, H&Q Asia Pacific and Walden International Investment Group, were also created in the mid 1980s. They were managed by U.S.-educated Chinese living overseas who received invitations to relocate to Taiwan (China). Once the first venture funds proved successful, domestic banks and large companies created their own VC funds. Once those started to payoff, even the conservative family groups decided to invest in VC funds and information technology businesses.

By the late 1980s, when companies like Acer and the returnee company Microtek were publicly listed on the Taiwan Stock Exchange, the venture capital industry in Taiwan (China) took off. The conspicuous success of these venture-backed startups attracted growing numbers of overseas Chinese back from the United States to start businesses. By 1996, more than 2,500 engineers and scientists had returned to work in the Hinschu Science Park and 40 percent of the 203 companies based in the park were started by returnees.
The extension of diaspora entrepreneurial projects from cofounding joint firms in their home countries to cocreating institutional infrastructure so that many similar firms can flourish is natural. The initial objectives of Ramón García and his peers from Taiwan (China) were both modest and specific: to advance their professional interests by setting up technology firms in their home countries. Yet, as the constraints of the home country institutional environment became apparent to them, they engaged in advancing institutional reform to remedy some of these constraints. Successful growth of knowledge-based firms and formation of appropriate institutional environment became two sides of the same coin. Innovation entrepreneurship has blossomed into institutional and policy entrepreneurship.

**International Mobility of the Highly Skilled: Key Stylized Facts**

Are these examples mere oddities, exceptions to the general rule, which by the nature of being exceptions are then difficult to engage systematically into reform process? The following stylized facts suggest that the potential of diaspora overachievers should be taken seriously.

**Agglomeration of talent and increasing returns to skills**

Migration of skills affects both developed and developing countries. Due to the increasing returns to skills, talent seeks the environment of similarly talented peers. Few centers of excellence, such as Silicon Valley, are magnets of skills for both developed and developing countries. For instance, somewhat counterintuitively, the United Kingdom (UK), not China or India, used to hold the largest stock of tertiary educated nationals abroad (table 1). Arguably, the Organisation for Economic Co-operation and Development (OECD) data are highly imperfect and outdated, yet the prominence of the UK’s and Germany’s diasporas is noteworthy.

**Table 1. Stock of Tertiary Educated Expatriates in OECD Economies, 2000**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country/economy</th>
<th>No. of tertiary educated expatriates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United Kingdom</td>
<td>1,051,885</td>
</tr>
<tr>
<td>2</td>
<td>India</td>
<td>996,813</td>
</tr>
<tr>
<td>3</td>
<td>Philippines</td>
<td>886,653</td>
</tr>
<tr>
<td>4</td>
<td>Germany</td>
<td>855,815</td>
</tr>
<tr>
<td>5</td>
<td>China</td>
<td>799,834</td>
</tr>
<tr>
<td>6</td>
<td>Mexico</td>
<td>473,923</td>
</tr>
<tr>
<td>7</td>
<td>S. Korea</td>
<td>425,152</td>
</tr>
<tr>
<td>14</td>
<td>Taiwan (China)</td>
<td>263,086</td>
</tr>
<tr>
<td>21</td>
<td>Ukraine</td>
<td>206,471</td>
</tr>
<tr>
<td>32</td>
<td>Brazil</td>
<td>140,764</td>
</tr>
<tr>
<td>67</td>
<td>Chile</td>
<td>62,072</td>
</tr>
</tbody>
</table>

Source: OECD Migrants Database 2000, Set A.

**Supply side: professional advancement of diaspora members**

Talent needs time to mature and advance in professional hierarchy. Junior foreign professionals might prefer to conceal and even to forget its foreign origin for the fear of discrimination and to focus exclusively on professional advancement. As overachievers emerge and become more numerous and diverse, senior members of the diaspora start to mentor junior members. As many diaspora overachievers reach the top of professional hierarchy, a collective credibility emerges. The specific trajectory of how each diaspora member made it to the top is invariably unique and so the experiences and capabilities of diasporas from Israel, India, China and Armenia, which are examples of collective credibility and influence, are unique. As time goes by, the relatively young, skilled diasporas of Latin America, Africa, and Eastern Europe are maturing and advancing, suggesting a higher incidence of overachievers. This is one reason why the size of skilled diasporas is far from a perfect predictor of the number of overachievers. The Philippines has a very large tertiary-educated diaspora, yet relatively few overachievers.

**Demand side: increasingly diverse pockets of dynamism at home**

Durable macroeconomic, political and social stability, which are now a fact of life in most of the developing world, stimulate development of regional and sectoral clusters. This signals dynamism and growth, even if the national economy is slow growing or stagnating. Such increasingly diverse pockets of dynamism are sources of demand for highly skilled expatriates and brain circulation networks.

**Analytical Framework: Heterogeneity of Institutions**

To develop operational implications of diaspora engagement with home countries, one needs a compelling theory of institutional development at home, a view that helps to identify entry points for diaspora contributions. The central conceptual block of such a theory is heterogeneity of home country institutions.

The recent growth literature shows that growth is not hard to start, but keeping it going is not easy: doing so requires attention to the context of growth-binding constraints and situation-specific ways to resolve them (Hausmann, Rodrik and Sabel 2007; Sabel 2007). Likewise, the same goes for institutions: it is almost always possible to find some that are working (Sabel 2007; Saxenian and Sabel 2008). The issue is using the ones that work to improve those that don’t. This hypothesis assumes that there are nearly always opportunities for development in a given economy, and that some actors, private and public, begin to take advantage of them. But while development in this view is not hard to start, neither is it self perpetuating. Senior public sector officials with a drive, vision, and ability to take risks (public sector or policy entrepreneurs) introduce new pro-
grams and policies. Often they do that on an organizational periphery, outside of the grip of entrenched interests. The key is to explain how these institutional and policy start-ups evolve, expand, scale up, get transformed, or expire.

Our example of Chile provides a good illustration in this regard. The country’s institutional framework is far from perfect, yet it does have a segment that performs well enough to take calculated risks in developing new programs and approaches, to be accountable for such calculated risk-taking, and to assure continuity of performance with the change of administrations.

Heterogeneity of public sector institutions is matched by heterogeneity of the diasporas of the highly skilled. Only a few are experienced, successful, and resourceful enough to engage in a dialogue about creating innovation firms and institutional dynamics. But these few individuals could be enough to trigger a process of reform. Search networks may then match and link better performing and dynamic segments of diasporas and home country institutions, tantamount to “Archimedean levers” to initiate change and introduce new institutions.

Usually two issues are at play. First, as already noted, the local elite are often entrenched. Diaspora members, in contrast, know their countries intimately, but they are not (necessarily) entrenched. Recall our Taiwan (China) example of venture capital industry: overachievers in Silicon Valley not only brought expertise on VC industries, they also helped a champion in the government to make the case for establishing that industry in Taiwan (China) in the first place and that was done despite overt resistance from a conservative and closely held local financial sector. Before catching up, one needs to wake up, and the diaspora overachievers are sometimes indispensable in providing a wake-up call: they have a rare combination of credibility, motivation, and expertise to do that.3

The second consideration relates to the so-called learning or switching costs of introduction of a new institution. In the medium term, a new institution (say, private credit bureau) can benefit all stakeholders, yet in the short run there are switching costs for actors (such as local banks) to learn new skills and routines, and to overcome initial resistance to innovation. The switching costs can be high. For instance, many international firms have attempted to establish private credit bureaus in Armenia, and were deterred by high switching costs, but a diaspora overachiever from California (with the usual combination of profit maximization and intrinsic motivation to get involved in Armenia) had a planning horizon long enough to make the switching profitable and worthwhile.

Ultimately, it is the dynamic segments of home country institutions that will do the work. However crucial the Silicon Valley overachievers were in triggering the Taiwanese (China) VC industry, it was a set of new national programs and procedures that made the difference: the diaspora members help to perform the search for individuals, expertise, and institutions to articulate a missing component of development.

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**Skills Abroad as Change Agents at Home: Toward a Typology**

Economists are familiar with top-down and bottom-up institutional dynamics. Diaspora experiences provide ample evidence of both. Reform teams are often composed of the returning students and experts as in Indonesia (Berkeley Mafia) and South Korea (formation of Economic Planning Board and Government Research Institutes in 1970s and 1980s). Middle East (Kenner 2010) and Africa provide further examples. Even more numerous and diverse are examples of bottom-up dynamics when a single institutional entrepreneur establishes an enclave organization in higher education, health, or other sectoral domain (from Africa, Asia, and other parts of the world). Reform dynamics initiated by a group of returning migrants that led to gradual but far-reaching changes in electricity and other rural infrastructure provision in Morocco in the 1980s and 1990s (Iskander 2010) is another example.

Yet, in spite of the apparent differences, both top-down and bottom-up reforms are vertical and somewhat heroic, as they crucially depend on individuals—reform teams in the top-down transformation or a policy entrepreneur in a bottom-up case. Accordingly, the transformation is vulnerable: a new institution established by an entrepreneur functions well as long as it remains an enclave within (dysfunctional) domestic institutions or an enclave of the world economy—it hits a wall once it attempts to diffuse or scale up. Similarly, reform teams leading top-down transformation can either be removed or with time can become part of the established elite they sought to transform. The top-down reform is also vulnerable because it relies on return migration—often a plainly unrealistic or expensive (cost of salary subsidies to make salaries comparable to the opportunity costs of the returning talent) proposition. In addition, as soon as the diaspora member is returned, he or she is likely to become part of the entrenched vested interest again.

All of these considerations make an attractive alternative—lateral and horizontal—in-side-out reform (table 2).

As the Taiwanese (China) example illustrates, the inside-out transformation bets on the heterogeneity of the elites: it creates an alliance between forward-looking and dynamic segments, incorporating the diaspora overachievers into the elite. The transformation often starts with institutional innovation ignored by established players (large banks and firms didn’t take seriously the venture capital program in Taiwan [China]). The inside-out transformation occurs by incorporation—turning the established elite into an ally of the institutional innovation.

**Policy Implications: Toward a New Generation of Diaspora Initiatives**

How does matching of dynamic segments of diaspora talent and dynamic segments of the government occur? Ramon Garcia stumbled at his match—the CEO of Fundación Chile at Miami airport. Is it possible, and if so how, to create an environ-
With few exceptions (such as South Korea in the 1970s), centralized schemes, particularly those managed by the government, have proved to be of limited efficacy in terms of reaching this objective. And so are many recommendations of the current diaspora debate: ever more detailed studies of diasporas, digital diaspora networks, and conferences of diaspora members. They are useful as entry points and initial introduction, but they cannot substitute for detailed and lengthy discussions over possible joint projects between public sector champion(s) and diaspora overachiever(s).

Three approaches have emerged to provide a framework to articulate and implement joint projects.

The first follows the logic of how Ivy League universities work with their alumni. An intentionally small group of diaspora overachievers is invited to join an elite diaspora program: Global Scot has about 900 members, whereas Chile Global about 100. The program is housed within an entrepreneurial and capable economic development organization (Scottish Enterprise and Fundación Chile respectively) to follow up on the joint projects. Significantly, even for those highly capable organizations, the binding constraint is in the home country: its ability to follow up and implement ideas and projects of the diaspora members rather than commitments of the diaspora.

This observation indicates that this high-intensity approach is predicated on sophisticated domestic capabilities, an approach that might be too demanding for low-income countries.

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Table 2. Skills Abroad as Change Agents at Home: Typology

<table>
<thead>
<tr>
<th>Change agents</th>
<th>Top-down transformation</th>
<th>Bottom-up change</th>
<th>Inside-out reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returning students and other experts form reform, policy-making, and policy advice teams</td>
<td>Policy or institutional entrepreneurs establish new institutions at home</td>
<td>Diaspora overachievers and government champions jointly initiate and sustain multiple, incremental changes from diverse entry points</td>
<td></td>
</tr>
<tr>
<td>Indonesia:1966/1983—Berkeley Mafia</td>
<td>Single, institutional entrepreneur establishes an enclave organization in higher education, health, or other sector: many examples in Africa, Asia, and other parts of the world</td>
<td>Taiwan (China): Creation of VC industry in the 1980s</td>
<td></td>
</tr>
<tr>
<td>South Korea: 1970s and 1980s—Economic Planning Board and Government Research Institutes</td>
<td></td>
<td></td>
<td>India: Improvement in the legal and institutional framework for entrepreneurship in the 1990s</td>
</tr>
<tr>
<td>Nigeria: On-going, top decision-making positions in the government</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China: Science and technology parks for returning technical talent</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>How transformation occurs</th>
<th>Vulnerabilities/risks</th>
<th>Specific assets (skills, motivation) of talent abroad</th>
<th>Dealing with entrenched and vested interests</th>
<th>International migration perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization: Top decision maker facilitates university education abroad and installs reform, policy advice, or technical teams on the basis of returning skills</td>
<td>Reform team is removed or becomes entrenched</td>
<td>Technical skills in a specific area: economic, scientific, or technological expertise</td>
<td>Shake up: Effective in the short term, but risky in the longer term (as vested interests regroup and strike back and as diaspora itself becomes again part of vested interests)</td>
<td>Starts with return migration, which may turn into brain circulation</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurship: Individuals act despite obstacles</td>
<td>Reforms hit a wall: Enclaves fail to expand, diffuse, or turn into role models to follow</td>
<td>Both the technical skills and unusually high self-motivation to prevail and succeed</td>
<td>Assault: Direct confrontation (may work in specific domains) Strategic bet: That the institutional innovation would be initially ignored by the vested interests as an oddity and then could be protected by its own success</td>
<td>Typically, return migration</td>
<td></td>
</tr>
<tr>
<td>Bootstrapping: Joint search for solutions relying on and leveraging better-performing segments of government and public sector</td>
<td>Transformation is incremental: It is relatively robust, but slow and may fizzle out</td>
<td>Creative and pragmatic problem solving: While technical skills are useful, the key is the capability to research and combine knowledge from diverse policy domains</td>
<td>Transformation: Turning forward-looking segments of the vested interests into allies. Robust and effective in the long run, but vulnerable as transformation can occur the other way around (change agents are incorporated into vested interests)</td>
<td>Starts with brain circulation, which, if the reforms succeed, leads to return migration (as the talent abroad creates conditions and opportunities for its own return)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled by author.
A contrasting “light touch” approach focuses on dissemination success stories of diaspora—home country interactions and generally on learning from emerging good practice. Through focused workshops, the objective is to transform success stories into role models to follow.

A third approach, which is just emerging, intends to provide room for bottom-up creativity and initiative, while ensuring the sharing of best practice between decentralized and bottom-up projects and experiments. A contest, pioneered independently in Mexico in 2009 and Russia in 2010, provided matching funds to organizations in a home country interested in articulating and running a project with diaspora members that advance their own missions and objectives. Both in Russia and Mexico the beneficiaries are domestic research and development organizations. These contests are too new, so the jury is still out on their performance. The key feature is their focus on domestic organizations as immediate beneficiaries, not on the diaspora members. This reflects the understanding that domestic capabilities are key binding constraints and also provides an entry points for domestic champions to articulate their projects.

In such a contest, one organization might be interested, say, in leveraging diaspora professionals to test new methods of delivery of preventive medicine to a low-income population. It would then formulate a proposal for the diaspora contest which will be considered receiving matching fund contributions. Operational details would obviously differ from country to country, but such a contest fund would have clear eligibility criteria and could support institutionalized diaspora initiatives for a period of up to three years with a limit of $100,000 contributions per year, and support 10–20 focused, global search initiatives with the help of diaspora.

Ideally, each diaspora network, within a portfolio of initiatives to be supported by the contest, would be characterized by the following features:

- The ability to identify, bet on, and manage strategic first movers. Strategic first movers are individuals with a longer than usual planning horizon: they are not philanthropists, yet they have more patience in seeing returns on their effort and investment.
- Focus on mentoring as a key feature in nourishing joint projects between diasporas and home country organizations. Another way to describe a search function of diaspora members is to characterize them as mentors: they do not do the work themselves, but primarily help home country organizations to perform their functions better.

Conclusion

Direct economic impacts of diaspora relate to the remittances, donations, investments, and knowledge of diaspora members. These impacts are well known and documented, particularly the size and dynamics of migrant remittances (World Bank 2010). This note points out that the increased salience of diasporas to home economies goes beyond their direct economic impacts. Diasporas of the highly skilled can contribute to institution building through multiple, incremental changes that lead to the transformation of private and public sector institutions.

Direct economic impact is about the breadth of diaspora engagement, whereas the institution-building impact is about its depth. While remittances and donations—currently the focus of migration debates—are important for poverty reduction, the key issue is how to turn migrants and diasporas into agents of change in institutional development in their home countries.

Members of expatriate communities, particularly over-achievers, have three characteristics that position them to make a unique contribution to the development of their home country: a strong motivation to “make their mark” despite and against many odds; knowledge and expertise of both global opportunities and local particulars; and (not always, but frequently) resources to act on new opportunities. When these resources combine, usually as a matter of serendipity, the impact on home country development can be substantial. Yet these resources can combine also in a negative way: diaspora overachievers can also become ferocious rent seekers allying themselves with reactionary and backward-looking vested interests in the home country.

Paradoxically, it is home country institutions that appear to be key determinants of diaspora impact. Yet both home country institutions and diaspora are highly heterogeneous. When dynamic, forward-looking, and better-performing segments of the diaspora and the government develop joint pragmatic projects, these projects have the potential of triggering institutional dynamics that are at once humble (in the short term) and ambitious (in the long run): economic and institutional change that begin in certain locations and/or sectoral domains, and advance through partial and incremental (microlevel) reforms that with time may aggregate into larger-scale transformations.

About the Author

Yevgeny Kuznetsov is senior economist in Economic Policy and Debt Department of the Poverty Reduction and Economic Management Network.

Endnotes

1. This note is based on some of the findings from the project “How Can Talent Abroad Help Reform Institutions at Home” funded by the MacArthur Foundation (visit the Global Diaspora Project Web site for more information about the project).
3. This is not to say that diasporas cannot themselves become entrenched. Diaspora organizations can pursue narrow objectives with little consideration of the interests of the country they presumably represent. Long-distance nationalism of diasporas (see Kapur [2006]) can be unproductive and detri-
mental. A tendency of diaspora organizations to become entrenched and pursue narrow objectives is one reason to focus on informal diaspora networks and individual overachievers.

References