

Workers Without Borders?

Culture, Migration and the Political Limits to Globalization^{*}

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Abstract

Despite potentially large welfare gains, the barriers to the international mobility of workers are high and persistent. We develop a simple framework that throws light on why the globalization of labor differs from that of goods and capital. In doing so we ask whether a government will ever spurn the large welfare increase from freer labor mobility, even if such a policy had no distributional impact on native workers, was desired by the host country's citizens and if the repatriation of overstaying workers could be costlessly enforced. In addressing these questions we examine the role of culture in driving the political economy of migration policy.

The paper shows that there exists a broad *political* failure that results in inefficiently high barriers restricting the import of foreign workers. We examine the conditions under which a country is best positioned to reap the economic gains from the globalization of temporary (or permanent) labor migration. We show that culturally homogeneous countries that are poor at cultural assimilation may be better positioned to take advantage of short term foreign worker programs than more culturally diverse and tolerant countries. Our framework suggests that simple alteration of existing policy measures can help encourage international labor mobility. In particular, restrictions on the mobility of the foreign worker across firms (e.g. the H-1B program in the U.S. or the *Employment R* in Singapore) might work to the detriment of the host country, and make it more difficult to sustain a credible temporary worker migration program. Therefore, any policy measure that improves the mobility (and bargaining power) of the foreign worker helps not only the worker, but more surprisingly, also boosts host country welfare.

Keywords: International migration; political economy; cultural heterogeneity; temporary workers.

JEL Classification Codes: D72; F22; J61.

1 Introduction

The past half-century has been witness to dramatic reductions in barriers to the mobility of capital and goods. In sharp contrast severe restrictions on the movement of workers across borders remain in place. This is somewhat puzzling given that the gains from relaxing this labor market distortion are likely to dwarf the gains from further reduction of the (relatively low) barriers to the mobility of goods and capital.¹ Furthermore, what makes the import of (relatively young) workers particularly attractive is that it offers countries a potential solution to the frequently-voiced concerns about the fiscal prospects for social security and pensions associated with the demographic shifts in rapidly aging rich countries. Given these potential benefits Rodrik (2001), Kremer and Watt (2006) and Freeman (2006) and others have proposed that programs that promote greater international labor mobility should be given much higher priority. Nevertheless, if the gains really are as large as suggested, then the issue is why such extreme barriers to (even temporary) international worker mobility persist. In this paper, we examine this central puzzle by addressing the following question: Why would a government fail to reap the large economic gains from freer worker mobility, even if such a policy had no adverse distributional impact and where the repatriation of these workers could be costlessly enforced? In addressing this issue the paper takes a first step towards developing a framework to analyze the impact of cultural factors in driving the nature of immigration policy.

The increased international mobility of labor brings with it both the promise of economic gains along with the perils of adverse distributional consequences - as does the movement of goods and capital. So why is the import of labor treated so differently? Ethier (1986) provides a hint when he points out that the movement of labor (unlike goods and capital) is embodied in individuals and cannot be disassociated from it. Accordingly, the import of labor has the potential not just to raise income, but also to affect a country's socio-cultural identity and political outcomes. As argued by Freeman (2006), "public opinion and national policies toward immigration seems to rest on issues well beyond gains and losses in the labor market. Some natives worry that immigrants will present a cultural threat to their way of life and reduce social cohesion". These views accord well with those echoed by Pritchett (2006) who argues that "Of all the ideas that limit migration perhaps the most important is the idea that there is a national 'culture' and that increased labor mobility threatens that culture".² In other words, part of the political resistance to labor

¹See, for instance, Klein and Ventura (2006), Pritchett (2006) and Walmsley and Winters (2003).

²More provocatively Huntington (2004) argues that "the single most immediate and serious challenge to America's traditional identity comes from the immense and continuing immigration from Latin America." He goes on to worry that it is questionable whether "the United States (will) remain a country with a single national language and a

immigration arises from its capacity to fundamentally alter the cultural identity and polity of a country. Nevertheless, this effect should not be exaggerated. Indeed, for many the gains from worker migration would offset the losses if the migration of workers were temporary rather than permanent. Such temporary worker programs are attractive not only because such workers are unlikely to constitute a fundamental threat to a country's culture and identity, but also because of their option value. When economic or political circumstances change, a host country always has the option to repatriate guest workers. Not surprisingly, mechanisms to increase labor mobility have received greater attention in not just the academic community (see Kremer and Watt (2006) for an intriguing proposal), but also have moved to the top of the latest round of the General Agreement of Trade in Services. Nevertheless, despite the importance of cultural factors, the literature on the political economy of migration has focused mainly on its distributional consequences (see Borjas (1999) and Hanson (2005) for an overview).

Accordingly, in this paper we take a first step towards developing a simple framework to systematically analyze these issues. We begin by constructing a simple dynamic political economy framework where individuals care about not only about income but also the country's socio-cultural identity. We draw on Coate and Morris (1999) in developing a framework which makes government policymaking vulnerable to both lobbies as well as the electoral power of citizens. We show that, in the absence of any distributional effects of migration, the level of permanent migration is always socially optimal.³ Countries with a greater tolerance of ethnic and cultural heterogeneity will have higher levels of immigration. However, more striking is the finding that if there is *any* temporary migration, then we have a broad *political failure* in the economy, with there being inefficiently high barriers to worker mobility. This inefficiency arises despite the fact that all parties in the country, be it the host country's citizens, its firms or its government, obtain large economic gains from relaxing restrictions on temporary foreign workers. This inefficiency arises because the host country's citizens fear that temporary foreign workers may, over time, become permanent - with the accompanying increase in socio-cultural heterogeneity affecting the nation's cultural and political makeup (adversely, in the view of the natives (Alesina and La Ferrara, 2004)). What is particularly striking is that this inefficiency can arise even if the government possesses the ability to costlessly detect and repatriate temporary migrants who would rather stay permanently.

core Anglo-Protestant culture."

³We suppress distributional effects in our analysis not only because they are relatively well understood (see Hanson (2005) for a comprehensive analysis), but also to highlight other non-distributional channels due to which immigration policy can be affected.

So why this political failure that results in international barriers to worker mobility? To see this we first observe that the objectives of the firms and the country's citizens are only partially aligned. While both firms and citizens benefit from having temporary workers, firms benefit even more from having experienced long-term workers. Citizens may worry that firms will successfully manage to lobby to retain temporary foreign workers, in effect making them permanent. However for any such explanation to be complete it has to go further. In particular it should simultaneously also account for the fact that, even when the gains from retaining temporary workers are large, yet the lobby is unable to successfully lobby to admit permanent foreign workers to begin with. In other words, why does there exist a wedge between the pre and post migration ability of the firms' to effectively lobby the government? A key element of our model is that this wedge arises due to the firm profits being higher with experienced foreign workers rather than with a rotating pool of less experienced new ones. Therefore if firm profits (and hence the 'bribe') are large enough, the government may cave in to the lobby and let the migrants remain, even at the cost of its future re-electoral prospects. Citizen-voters are well aware of this and accordingly would rather not make the government vulnerable to a bribe by the firms' lobby. Accordingly, they threaten to replace any government which allows more than a threshold minimum number of temporary workers into the country. Hence, it is the citizen-voter's recognition of a lack of inter-temporal control over the elected government, that prevents socially optimal worker movement across borders.

What is striking about this result is that this inefficiency has little to do with any administrative or technical costs of identifying and repatriating temporary workers who might 'go underground'. Neither does it rely on political opposition arising due to the distributional impact of migrant labor on the domestic work force. In other words, this social inefficiency would persist even if the government faced no such program implementation costs or adverse distributional consequences.

The movement of workers across borders has the potential to boost national income. However, our framework suggests that not all countries are equally well-positioned to take advantage of this globalization of labor. Take, for instance, the structure of the domestic labor market in host countries. Several studies suggest that there exist broad differences across countries in the ease of economic assimilation of migrant workers. In particular, immigrant wages converge to native levels much faster in "integrated" labor markets such as Australia, Canada and the U.S. than in "segmented" labor markets, as in many countries in Continental Europe (see Bauer, Lofstrom and Zimmerman, 2000). Our framework suggests that, somewhat paradoxically, it is much more difficult to sustain large numbers of temporary migrant workers in countries where economic assimilation is relatively poor, i.e. countries with "segmented" rather than "integrated" labor

markets. The reason is that firms with migrant workers earn high rents from those workers in segmented labor markets. This makes it more profitable for them to lobby to retain these workers permanently. Anticipating that temporary foreign workers will thus manage to outstay their welcome, citizen-voters in countries with segmented labor markets will pressure their government to restrict the entry of these workers in the first place.

Our analysis also suggests that a simple policy change, of relaxing restrictions on migrant labor mobility *within* the host country, can be very effective in increasing the level of temporary migration that can be sustained by the host country. Most countries typically require the ‘tying’ of guest workers with specific employers - be it the *Auslaenderausweis B* program in Switzerland, the *H-1B* programme in the U.S. or Singapore’s *Employment R* program among others. The question of interest to us is whether this employer-guest worker ‘tying’ is a good thing from the host country’s point of view. At first glance the answer seems straightforward - after all by restricting the mobility of the migrant worker, the domestic firm can pay lower wages to the migrant worker and thus extract a surplus. Nevertheless, our framework provides an unambiguous negative answer. A policy change that allows the migrant worker to have greater mobility across firms will result in higher wages for the worker and lower rents for the firm. In turn this reduces the firms’ payoff from lobbying the politician to retain the foreign workers. This suggests that a migration policy that strengthens the bargaining power of experienced migrants reduces the firms’ profits (and desire) to lobby intensively to retain them. Ipso facto, elimination of worker-firm ‘tying’ will result in the country being better positioned to take advantage of the immigration surplus due to the higher sustainable level of temporary migration. Therefore, a policy that strengthens the foreign migrant’s bargaining position, somewhat paradoxically also benefits the host country’s overall welfare.

A distinctive feature of our framework is that it places issues of socio-cultural heterogeneity at the center of the politics of migration policy. The question of the migrant worker’s identity is no less important than their number. For instance, is a country that is good at the socio-cultural assimilation of migrants, better positioned to take advantage of the globalization of labor? Somewhat surprisingly, we find that the countries good at rapid socio-cultural assimilation of foreign workers, may find it somewhat difficult to sustain high levels of temporary labor migration. The reason is that in those countries where foreigners do not assimilate, allowing temporary migrants to stay on is politically very costly. This raises the country’s ability to sustain a higher pool of temporary migrant workers.

One of the striking things about temporary labor migration programs is that the more success-

ful programs are in countries with illiberal political institutions - countries such as Kuwait (the *Kafala* program), Hong Kong, Singapore (the *Employment R* program), Taiwan as well as Bahrain and Saudi Arabia. In contrast, temporary programs in many liberal democracies have been much smaller or have been abandoned as failures (e.g. the *Gastarbeiter* Program in Germany or the *Bracero* program in the United States). These differences in the cross-country experience between liberal and illiberal political systems are a direct implication of our analysis. In particular, citizen-voters in liberal democracies may choose to restrict (or eliminate) temporary migration into the country, if they expect to find it difficult to forcibly deport foreign workers (for instance, due to human rights concerns). There is no such constraint in countries where its citizens do not have any qualms at deporting workers who may have overstayed their welcome. This observation, that difficulties in enforcing repatriation make it difficult for liberal democracies to sustain temporary labor migration programs that help both foreigners and themselves, has also been made by Ruhs (2002) and most pointedly by Kremer and Watt (2006).

The rest of the paper is organized as follows. We describe the model in Section 2 and analyze the equilibrium in Section 3. This analysis is carried out for what we have called ‘segmented’ markets above, in which we assume that migrants’ wages never converge to the level received by natives. Subsequently, we discuss ‘integrated’ labor markets, where convergence does occur (after one period). Various policy implications are studied in Section 4 and we conclude with a discussion in Section 5. All proofs are relegated to the appendix.

2 The Benchmark Model

We now describe a model which illustrates the dynamic interaction between citizens, a lobby and the politician over an infinite number of periods. We begin by describing the political and economic structure in a small (developed) open economy.

Production and the Labor Market: The country has a population comprised of N (native) citizen-workers, each of whom inelastically supplies a unit of labor to a firm. Equity in each of these firms is equally distributed across all these citizen-workers, each of whom has identical productivity – together these assumptions ensure that our basic mechanism is not obfuscated by distributional considerations.

Each firm uses labor to produce a good at world prices (normalized to one), with the per-period

production function given by:

$$Y = A.L - \frac{b}{2}L^2 \quad \text{where} \quad L = [N + \lambda M_n + M_p] \quad (1)$$

where $A > 0$, and L is the effective labor supply, which is divided between native workers and migrants, M_n is the number of ‘new’ migrant workers and M_p is the set of ‘permanent’ migrants, who have been with their firm for more than one period, and cannot be involuntarily repatriated. It is also useful to define an additional piece of notation, M_e , the number of ‘experienced’ workers, who have completed one period in the country (and if retained for another period, would become permanent, non-repatriable, workers).⁴ The profits earned by firms are proportional to the size of temporary labor migration. Greater temporary migration, by increasing the size of the total labor force (and output), generates the standard ‘immigration surplus’ by boosting firm profits to more than offset the decline in native workers’ wages. For simplicity, we assume that the number of firms in the economy is fixed, so as to sidestep considerations of profit dissipation due to entry, market structure, etc., which are peripheral to the issues that we address.

We assume that in the longer term there are no differences in the intrinsic productivity of the migrant and native workers. Nevertheless, new migrant workers face communication, cultural and other social barriers that reduce their productivity till such time as they gradually assimilate into the country’s work force. Accordingly, when new migrant workers are randomly matched with firms, their productivity is a fraction λ of the native worker’s productivity. However with more time spent at the workplace (i.e. one period), the migrant’s firm-specific productivity increases as the firm irons out early difficulties of communication and teamwork.⁵ With even more time spent on the job and in the country (i.e. two periods), the migrant worker’s skills (say, due to better ability to navigate cultural and linguistic barriers) and productivity no longer remain firm-specific but can be transferred to other firms, albeit at a possible mobility cost, which we discuss next.⁶

Segmented versus Integrated Labor Markets: Wages of migrant workers are a function not just

⁴Recall that the basic model we are developing here is for the case where the host country labor market is ‘segmented’. This is discussed further below. In thinking about ‘integrated’ labor markets, it will be useful to distinguish between ‘experienced’ workers (who are non-repatriable, but whose wages have not yet converged to native workers’ wages) and ‘permanent’ workers (non-repatriable, but with wages equal to those of native workers).

⁵See Cornell and Welch (1995) and Lazear (1999). See also Carliner (2000), which documents the increase in immigrant workers’ wages with an increase in language skills.

⁶The extent and speed with which a worker’s increased productivity translates into higher wages, may well depend on the nature of the country’s labor market, cultural (and legal) differences in treatment of native versus migrant workers. We explore some of these labor market differences later in the paper.

of their productivity, but also the nature of the country's labor market and broader society. In particular, a number of analysts have observed that there are differences between the labor markets in Europe and the United States (Blanchard, 2005) - from higher structural unemployment, employment protection and insurance. More importantly, both geographic and inter-firm mobility is much higher in the U.S. than in Europe (Nickell, 1997). We are interested whether the political and economic implications of relaxing restrictions on the import of foreign labor may differ between the U.S. and Europe. Accordingly, we distinguish between a "segmented" labor market and an "integrated" one. In a *segmented* labor market, the foreign worker is never quite assimilated and is always treated somewhat differently. We model this in the simplest way by assuming that a migrant in a segmented labor market always incurs an additional fixed cost c_m when he changes jobs and moves across firms. Therefore, at the end of the first period a migrant worker's outside option is constrained both due to the fact that part of his rise in productivity is firm-specific as well as the fact that changing jobs is costly. Hence, given the employee's relatively weak outside option after the first period, the firm can get away with retaining part of the surplus generated by the migrant worker's increased productivity. Accordingly, we assume that experienced migrant workers (i.e. those who have worked for at least one period) earn a fraction θ of their productivity, (where $\theta > \lambda$), providing some extra profits for the firms that employ them, if the firms can successfully lobby to retain them. By contrast, an *integrated* labor market is effectively one where $c_m = 0$, so that all migrant workers are gradually (after two periods) completely assimilated into the country's economic fabric - with any worker who works in the country for longer than two periods, having productivity, mobility and wages that are identical to that of a native worker. We elaborate on the details of an integrated labor market in Section 3.

Migration Rules: Apart from these transitional differences in productivity, there is an additional difference between migrant workers and natives. In particular, migrant workers are vulnerable to repatriation. The government is assumed to be able to costlessly enforce the repatriation of foreign workers at the end of the first period.⁷ However, if the migrant worker stays for two periods or longer then he cannot then be repatriated. The idea is that he becomes a resident alien or permanent worker. We further assume that all foreign workers are treated symmetrically. This implies that the government can neither selectively tax nor repatriate a subset of these workers. Thus the tension between voters and firms comes at the end of the first period, when the repatriation of temporary migrants is still feasible, while their productivity increase is beneficial

⁷The implications of imperfect enforcement on the part of the government are discussed in Section 4.

to firms.

Natives, Migrants and Heterogeneity: Governments and their citizens care about migration levels for two reasons. On the one hand, higher levels of migrant labor boost the income of natives. However, migration levels also matter because they may change the socio-cultural makeup of the country. As forcefully argued by Alesina and La Ferrara (2000) and Huntington (2004), citizens of a country care not just about their income but also the degree of socio-cultural heterogeneity in their society.⁸ Greater ethnic and cultural diversity can affect a native's welfare in different ways. For instance, greater socio-cultural heterogeneity adversely affects a native citizen through its impact on the nature of local public goods provided (see Alesina and Spolaore, 1997). So, for example, natives may dislike the fact that the nature of public education changes with greater Hispanic immigration, with greater resources being diverted away from, say, classical music and towards teaching Spanish. A more straightforward way is when diversity enters preferences directly (as in Alesina and La Ferrara, 2000). This accords with pioneering work in social psychology by Tajfel et al (1971) that suggests that greater ethnic heterogeneity has a direct (and adverse) impact on the utility obtained by an individual through social interaction.⁹ For simplicity, we adopt this formulation and assume that a native citizen-worker's preferences are given by,

$$U_N(M_n, M_p) = [w_N + \frac{\Pi}{N}] - H(M_n, M_p) \quad (2)$$

where the term in the square brackets is the sum of the wage income of the native worker w_N and his share of the aggregate profit earnings in the economy Π . The last term is the disutility to the native citizens from increased socio-cultural heterogeneity due to immigration, where this disutility H is increasing in the number of migrants of both new and older vintage such that $H_1, H_2 > 0$, and $H_{11}, H_{22} > 0$.¹⁰

⁸For instance, Freeman (2006) suggests that "some natives worry that immigrants will present a cultural threat to their way of life and reduce social cohesion. This view is reflected in the attitudes of some Europeans toward immigrants from developing countries, particularly those from Moslem countries. Another factor that determines attitudes toward immigration is that immigrants eventually become citizens and affect politics. In the United States, both political parties seek support from the growing Hispanic community and tailor their policies on immigration to appeal to that community."

⁹See Leyens et al (2003) for a more recent discussion.

¹⁰We should point out that there it may well be that individuals like *some* heterogeneity. It is only when heterogeneity increases beyond this minimal amount, that citizens obtain disutility. With some work, we can adapt our framework to account for this. Alternatively, it may be simpler to think of the society as falling in the 'relevant' parameter range, where citizens would prefer to not increase the level of heterogeneity *per se*.

More specifically, in order to delineate different aspects of this heterogeneity, we give this function an explicit structure, such that citizen preferences are given by:

$$U_N(M_n, M_e, M_p) = [w_N + \frac{\Pi}{N}] - [h.(M_n + M_p)^2 + A.(M_p)^2] \text{ where } h, A \geq 0.$$

The above formulation captures two aspects of socio-cultural assimilation. We postpone a more detailed exploration to section 4 below, but the parameters h and A can be broadly interpreted, respectively, in terms of the society's broad tolerance for greater socio-cultural heterogeneity, and its ability (or willingness) to assimilate long-term resident foreigners.

Therefore, the citizen-worker faces a simple trade-off in his preferences with respect to migration levels - on the one hand, greater migration has a positive aspect in that it increases profits and national income. In contrast, the potential negative impact of greater migration is that it hurts welfare by increasing socio-cultural heterogeneity. However, what makes the citizen vulnerable is that policy decisions are made by a government which may be subject to influence and bribing by lobbies.

The Political Structure and Immigration Policy: In each period policy decisions about immigration levels are made by an elected politician who runs the government, and faces an election at the end of each period. The incumbent politician makes the decision of whether to allow 'experienced' workers to be retained by their domestic employers, and how many (temporary) new labor migrants to admit into the country, and faces an election at the end of each period. The government's immigration policymaking can be influenced by a lobby. We assume that in any period t , firms with experienced migrant workers can form a lobby after incurring a lobby formation cost $\mathcal{L}_t$. Such a lobby may find it profitable to bribe the government so as to retain the migrant workers. All politicians are identical and a politician's payoff each period is given by,

$$U_P = R + B + U_N \tag{3}$$

where R denotes the ego rents from holding office, B is the bribe accepted in period t by the incumbent politician, and U_N is the representative citizen-voter's utility. Given these preferences, both the citizens and the lobby are in a position to influence (using different instruments) government policymaking. The lobby can offer the government a bribe to induce it to allow firms with experienced workers to retain them (thereby making them permanent workers, who are immune to future repatriation), or to allow greater migration of new foreign workers into the country.

In contrast, citizen-workers exercise control on government policy by threatening to replace the incumbent in the upcoming elections.¹¹

We summarize the above by describing the timing of the game. At the beginning of any period, citizens observe the state variable, M_{nt-1} , the number of migrant workers inherited from the previous period, and choose a voting rule, which associates, for any given history, a probability of re-election for the politician with the action taken by the politician that period. The firms who are employers of experienced migrant workers observe the voting rule, and the country's underlying state, and decide on whether to incur the organizational cost of forming a lobby to try and retain these workers. If formed, the lobby decides whether to offer the politician a bribe to implement its preferred policy of letting the experienced migrant workers remain in the country. The incumbent politician observes the citizen's voting rule and the bribe/policy offered by the lobby, and decides on an immigration policy, which determines whether firms are allowed to retain their experienced migrant workers, and how many new migrant workers are admitted into the country. The politician can choose either to accept the bribe and implement the lobby's preferred policy, or to refuse the bribe with the aim of getting re-elected. The new migrants enter the country's labor force, and are randomly matched with firms. The politician's decision on whether to allow firms to retain their experienced migrant workers, and on how many new migrants to allow in, is observed by citizen-voters, who then vote whether to either re-elect the incumbent politician, or replace him with a randomly drawn challenger. Next period, the same cycle is repeated, with either the re-elected politician, or the new incumbent elected to replace him.

3 Equilibrium Analysis

There exist cultural differences across countries that makes some countries better positioned to assimilate and integrate foreigners. These broad cross-country differences will affect the optimal mix of migrant workers that arise in any political equilibrium, with some countries preferring permanent immigration, and others relying on temporary migrants. In this section we analyze the equilibrium to the game described above. However, a useful benchmark is provided by describing the social planner's problem. Accordingly, we begin by briefly delineating key features of the social planner's problem by describing the optimal migrant mix in the *absence* of any political considerations on the part of the government.

¹¹This political structure, which involves a dynamic game between the lobby, the politician and the citizen-workers of the country, draws on Grossman and Helpman (1994) and is similar to Coate and Morris (1999).

3.1 The Socially Optimal Mix: Temporary versus Permanent Migrant Workers

A social planner will maximize the discounted stream of utility to the representative citizen, V_N , with per-period utility given by U_N . Accordingly, we take the first order conditions and solve for the socially optimal (in steady state) number of temporary migrant workers m_{nt}^s and permanent immigrant workers m_{pt}^s .¹² We now describe key aspects of the optimal solution while relegating all details to the Appendix.

Migrant workers, be they temporary or permanent, both lower wages and provide an ‘immigration surplus’. So what accounts for differences in the social planner’s preferred mix of temporary versus permanent migrants? Our framework emphasizes two factors that drive the socially optimal mix of temporary and permanent migrants. The first is the impact on the social planner’s payoff of a relative increase in migrant worker productivity over time - we label this the inter-temporal “productivity effect”. For instance, if worker productivity increases with time spent in the host country, a country will prefer to retain experienced migrant workers rather than bring in relatively new temporary migrants. The other driving force is the preference that natives have for temporary versus permanent migrant workers - the inter-temporal “cultural assimilation” effect. Of course, a country’s ability to assimilate foreign migrants is going to be a function of the ethnicity of the migrant workers and the ability of the country’s society to assimilate and absorb the migrant workers into the national fabric. Given these two effects a number of outcomes are possible. Below we describe those that are of interest to us.

(i) Corner Solutions: Permanent Immigration versus Temporary Migration: The social planner’s optimization problem may result in a corner solution where only permanent migrants are admitted, i.e. $m_{pt}^s > 0$ and $m_{nt}^s = 0$. For a permanent worker always to be strictly preferred to a temporary one, we need the following. First, the payoff to the host country citizen from the inter-temporal “productivity effect” must always outweigh the disutility from the “cultural assimilation effect”. This is most likely for a relatively small λ and small (or negative) A . For example, if a country is particularly good at cultural assimilation over time, permanent workers would be strictly preferred even if there is no difference in the productivity of temporary versus permanent migrants. Typically, we would expect that permanent migrants would always be preferred by countries that have a history of immigration and assimilation as well as greater tolerance

¹²In addition, we can also solve for the optimal number of temporary workers during the ‘transition’ to the steady state, which, in the case of ‘integrated’ labor markets, would last two periods, and denote those workers by m_{n0}^s and m_{n1}^s .

for socio-cultural heterogeneity. In contrast, there will only be temporary migration if, despite there being an “immigration surplus” that is larger than the disutility from temporary workers, the disutility from allowing even a single worker to stay on and become permanent is sufficiently high. That sort of immigration regime may be most suitable for countries such as the UAE and Singapore.

(ii) *Interior Solution: Both Temporary Migrants and Permanent Immigration:* Alternatively, for a wide set of parameters we may have an interior solution with both temporary and permanent migrants (in any steady state) i.e. $m_{pt}^s, m_{nt}^s > 0$. Such an outcome is possible if the inter-temporal “productivity effect” is strictly greater than the disutility from the “cultural assimilation effect” for a positive number of foreign workers. However the import of migrants beyond this threshold, while still economically profitable, results in high disutility if they are allowed to become permanent. Accordingly, the social equilibrium will consist of ramping up to the optimal number of permanent workers, along with a rotating pool of temporary workers.

In what follows we assume that parameters are such that there exists an interior solution with the social optimum consisting of both temporary and permanent migrants (see the Appendix for details). For simplicity, we consider ‘deviations’ from our hypothesized equilibrium when there are zero permanent migrants in the economy, which allows us to save on notation. The analysis would be similar for a positive, socially optimal, number of permanent migrants.

3.2 Politics and Barriers to Entry: Equilibrium Analysis

To fix ideas, we begin by informally describing aspects of an equilibrium to the game described above. Despite the obvious economic gains, the representative citizen chooses an (economically) inefficiently low level of immigration as his preferred level. The citizen-voter promises the maximum possible incentive to the politician to enact this policy by proposing a threshold voting rule - replacing any government which in any period either retains any experienced workers, or admits more than a threshold level of temporary migrants into the country. The politician faces a simple trade off - the payoff from any bribe received from the lobby to help retain the migrant workers of the lobby versus the prospect of electoral loss if the migrants are not repatriated. If it is potentially profitable, the firms which have been matched with repatriable temporary migrants form a lobby to bribe the government. If the bribe offered by the lobby is sufficiently large, then the politician retains the temporary migrants for an additional period and is replaced by the citizen-voter in the next elections.

The equilibria that we focus on emphasize the importance of history. In particular, if the number of foreign workers inherited by the government exceeds the voter's threshold, then the bribe offered by the firms' lobby will be large enough that any government in office will accept the bribe offered by the lobby and will retain the foreign workers. In contrast, if the inherited number of foreign workers is below the voter's announced threshold we have inefficiently low levels of worker migration. In all future periods the number of new workers entering the country will be inefficiently small and their repatriation will be enforced by the incumbent government.

We now analyze this equilibrium more systematically. At the outset we should point out that the precise values of the payoffs will depend on the nature of the labor market - whether it is integrated or segmented, in the manner described above. To begin with, we focus on the simpler case of segmented labor markets.

3.2.1 Segmented labor markets

Since this is an infinite horizon game, we begin by analyzing decision making in any period t . Consider first the citizen's voting rule in this period, v_t , which specifies the incumbent politician's re-election probability as a function of whether the inherited (experienced) migrant workers are repatriated, and of the number of new migrants admitted into the country. In equilibrium, the citizen's voting rule states that the incumbent government will be re-elected if both (i) the number of new migrants admitted, M_{nt} , is below a threshold M^{tc} and (ii) all temporary workers inherited from the previous period are repatriated i.e. if the politician sets $M_{et} = 0$. Given this voting rule, consider the equilibrium strategy of the firms which have migrant workers who are experienced, i.e., who have completed one period of employment. If the number of firms with experienced migrant workers is greater than M^{tc} , these firms will incur the lobby formation cost and form a lobby to bribe the incumbent government into retaining these (experienced) workers.¹³ Since the politician loses the election if he accepts the bribe, the size of this bribe B will have to be large enough to compensate him for his drop in payoff in all subsequent periods. This loss in utility has two sources. First, there is the loss in ego rents from remaining in office for all subsequent periods. Moreover, since the politician also derives utility as a citizen, now and in the future, whether or not he is in power, he also suffers a loss in welfare from the greater ethnic heterogeneity.

In order to solve for the time-consistent level of temporary labor migration, we need to determine the minimum acceptable bribe for the politician. Recall that the lobby makes a take-it-or-

¹³We assume that each firm has at most one migrant worker.

leave-it offer to the politician where, in exchange for the bribe B , the politician agrees to let the lobbying firms retain their M_{nt-1} temporary migrants for as long as he is in office. We introduce a little additional notation to consider the politician's payoff from the decision of whether to accept or reject the bribe. Let $\pi(M_{nt}, M_{pt})$ denote the profit of a firm employing a migrant worker who was first hired in the previous period (i.e., those firms that could potentially form a lobby to bribe the politician) when there are M_{nt} and M_{pt} temporary and permanent workers present in the economy in period t . Recall that we have defined $U_N(M_{nt}, M_{pt})$ similarly, as the citizen-voter's utility when there are M_{nt} and M_{pt} new and permanent workers, respectively, present in the economy.

The period- t politician's payoff from accepting the bribe ($\beta = 1$) is

$$V_P(\beta = 1) = R + B(M_{nt-1}) + U_N(M_{nt}, M_{nt-1}) + \delta_P V_N(M_{nt}, M_{nt-1}) \quad (4)$$

The first term (R) reflects the political rent from being in office, and the second (B) the bribe received this period for allowing the lobbying firms to retain their M_{nt-1} experienced workers. The third term reflects the politician's payoff from the citizen's welfare in period t , and the value function in the last term reflects his discounted welfare once he loses office and reverts to life as an ordinary citizen. In these last two terms, M_{nt} and M_{nt-1} denote, respectively, the number of 'new' temporary workers allowed into the economy in period t , and the number of workers 'retained', i.e., the number of non-repatriable permanent workers. As these last two terms indicate, a citizen's welfare depends on the number of temporary migrants, as well as the total number of non-repatriable permanent migrant workers in the economy.

In contrast, the politician's payoff from rejecting the bribe ($\beta = 0$) and adhering to the voters' rule equals,

$$V_P(\beta = 0) = R + U_N(M_{nt}, 0) + \delta_P V_P(\beta = 0) \quad (5)$$

where $V_P(\beta = 0)$ is the value that the politician associates with being in power. We can now use the preceding equations to solve for $B(M_{nt-1})$, defined as the amount of the bribe that is necessary in order to persuade the politician to allow M_{nt-1} experienced workers to be retained by their employers. The politician will prefer to accept the bribe if $V_P(\beta = 1) \geq V_P(\beta = 0)$, which results in an equilibrium bribe size of

$$B(M_{nt-1}) = U_N(M_{nt}, 0) - U_N(M_{nt}, M_{nt-1}) + \delta_P [V_P(\beta = 0) - V_N(M_{nt}, M_{nt-1})] \quad (6)$$

Therefore the lobby's payoff from (successfully) bribing the incumbent into allowing retention of the M_{nt-1} experienced migrant workers can be written as:

$$G_B(M_{nt-1}) = \pi(M_{nt}, M_{nt-1}) - (B(M_{nt-1}) + \mathcal{L}_t) + \delta_F V_F(M_{nt}, M_{nt-1}) \quad (7)$$

where recall that $\mathcal{L}_t$ is the lobby formation cost that firms must incur prior to offering the government a bribe of $B(M_{nt-1})$ in order to be allowed to retain M_{nt-1} experienced migrant workers, in which case the profit earned by the lobbying firms is $\pi(M_{nt}, M_{nt-1})$ in period t , and $V_F(M_{nt}, M_{nt-1})$ is the present value of lifetime profits, starting next period, anticipated by firms who successfully lobby to retain their migrant workers in period t .

By contrast, the (potential) lobby's payoff from adhering to the voters' threshold voting rule, which requires the politician to maintain a rotating pool of migrant workers, equals

$$G_V(M_{nt-1}) = \pi(M_{nt}, 0) + \delta_F V_F(M_{nt}, 0) \quad (8)$$

Observe that, since the equilibrium voting rule requires the politician to replace all one-period experienced workers with a fresh pool of temporary workers, this last equation can be simplified by observing that, in the 'no-deviation' equilibrium, $M_{nt-1} = M_{nt}$ for all t .¹⁴ Hence, the value function $V_F(M_{nt}, 0)$ is identical to $G_V(M_{nt-1})$, the firms' payoff from not bribing the politician. So the last equation can be written more simply as¹⁵:

$$\begin{aligned} G_V(M_{nt-1}) &= \pi(M_{nt-1}, 0) + \delta_F G_V(M_{nt-1}) \\ \implies G_V(M_{nt-1}) &= \frac{1}{1 - \delta_F} \pi(M_{nt-1}, 0) \end{aligned} \quad (9)$$

Together, the two equations (7) and (8) suggest that when $G_B \geq G_V$ the lobby will successfully bribe the politician into allowing the firms to retain their (now experienced) migrant workers. In other words, if the discounted future profits from retaining the temporary workers for an additional period were sufficiently high, the lobby would prefer to bribe the incumbent politician an amount $B(M_{nt-1})$ in exchange for the right to retain its hired migrants. This enables us to solve for the

¹⁴While the politician could still abide by voters' wishes by setting $M_{nt-1} = M_{nt} < M^{tc}$, it is easy to see that he strictly prefers a temporary migration level of M^{tc} rather than a lower level.

¹⁵Note that a similar simplification cannot be made for equation (7), since, post-'deviation' (i.e., after M_{nt-1} workers have been retained), the equilibrium number of 'new' temporary workers allowed into the economy will not be the same as it was pre-'deviation'. In other words, when the firms' lobby successfully bribes the politician, then $M_{nt} \neq M_{nt-1}$ and correspondingly, the value function $V_F(M_{nt}, M_{nt-1})$ is not identical to the firms' payoff from successfully bribing the politician, $G_B(M_{nt-1})$.

time consistent level of temporary labor migration, which is given by the number of temporary migrants admitted into the country such that the lobby is just indifferent between bribing and not bribing, i.e. solve for the M_{nt-1} which equates G_B and G_V . Formally, M^{tc} is defined by: $G_B(M^{tc}) = G_V(M^{tc})$.¹⁶

We are now in a position to summarize our results in the following proposition.

PROPOSITION 1: *There exists a Markov perfect equilibrium where (a) the citizen-voters re-elect any incumbent politician iff at the beginning of any period t he admits $M_{nt} \leq M^{tc}$ new migrant workers into the country and repatriates all experienced workers (i.e. $M_{et} = 0$) (b) the politician allows the lobby to retain its M_{nt-1} experienced workers iff he receives a bribe $B \geq B(M_{nt-1})$ and (c) the firms form a lobby and offer a bribe $B \geq B(M_{nt-1})$ iff $G_B(M_{nt-1}) > G_V(M_{nt-1})$.*

Two possible outcomes are described in the proposition above. In the “bribing” equilibrium, the incumbent politician accepts a bribe from the lobby in return for letting firms retain their foreign migrant workers. In the “temporary migration” equilibrium, where the incumbent politician refuses the bribe and is re-elected each period, there is a rotating pool of temporary migrant workers in the country. Both these equilibria demonstrate a striking degree of policy persistence. Once an incumbent politician allows a large enough number of temporary migrants, then no politician can muster the political will to throw them out in the next period. Conversely, so long as the number of temporary migrants admitted in any given period does not exceed a threshold, firms choose not to lobby the politician to allow them to retain their workers.

The existence of two equilibria raises the question of *political failure*. In particular, can political constraints result in an inefficiently low level of temporary labor migration? We answer this question in the proposition that follows.

PROPOSITION 2: *For an equilibrium level of temporary migration, M^{tc} , there exists a higher level of temporary migration, $M' > M^{tc}$, which Pareto-dominates the equilibrium.*

In any equilibrium, the incumbent politician in each period allows an inefficiently low level of temporary labor migration, in the sense that there exist other (higher) levels of temporary migration that all parties would prefer. However, the inability of citizen-voters to exercise intertemporal control over the politician means that these levels are not politically sustainable. Put

¹⁶It is also tedious but straightforward to check that G_B cuts G_V from below, i.e., $G_B \leq G_V$ according as $M_{nt-1} \leq M^{tc}$.

another way, the proposition suggests that the socially optimal level of temporary labor migration is not politically feasible.

3.2.2 Integrated labor markets

We show next that a qualitatively similar analysis holds for the case of integrated labor markets also, although the relevant magnitudes may be different. Recall that in an integrated labor market, the inter-firm mobility of the permanent worker (who has been in the country for over two periods) is the same as that of the native worker. Hence the permanent migrant has the same productivity, and earns the same wages, as a native worker. Thus firms can earn extra profits, in the form of the rents from migrant workers, only temporarily, while the worker is an ‘experienced’ worker (so that he is non-repatriable, but his wage has not converged to that of native and permanent workers).

In the integrated labor market case, the politician’s payoff from accepting the bribe ($\beta = 1$) is

$$V_P^I(\beta = 1) = R + B + U_N^I(M_{nt}, M_{nt-1}, 0) + \delta_P V_N^I(M_{nt}, 0, M_{nt-1})$$

where the terms correspond to the analysis for the segmented markets, with the difference that the citizen’s utility $U_N^I(M_{nt}, M_{nt-1}, 0)$ depends on the number of temporary, experienced and permanent migrant workers in the economy.

Similarly, the payoff to the politician from rejecting the bribe is, as in the segmented markets case,

$$V_P^I(\beta = 0) = R + U_N^I(M_{nt}, 0, 0) + \delta_P V_P^I(\beta = 0) \quad (10)$$

Note that, in the integrated market case, because $\pi_I(M_{nt}, M_{nt-1}, 0) \neq \pi_I(M_{nt}, 0, M_{nt-1})$, hence $U_N^I(M_{nt}, M_{nt-1}, 0) \neq U_N^I(M_{nt}, 0, M_{nt-1})$.¹⁷ Hence the minimum bribe necessary, to get the politician to allow firms to retain their experienced workers, is

$$B_I(M_{nt-1}) = U_N^I(M_{nt}, 0, 0) - U_N^I(M_{nt}, M_{nt-1}, 0) + \delta_P [V_P^I(\beta = 0) - V_N^I(M_{nt}, 0, M_{nt-1})] \quad (11)$$

Therefore, the lobbying firms’ payoff from successfully bribing the politician is:

$$G_B^I(M_{nt-1}) = \pi_I(M_{nt}, M_{nt-1}, 0) - (B_I(M_{nt-1}) + \mathcal{L}_t) + \delta_F V_F^I(M_{nt}, M_{nt-1}, 0) \quad (12)$$

where the terms are defined exactly as in the corresponding terms in the segmented market case above.

¹⁷In particular, note that firms’ profits with M permanent workers are no higher than in an economy with $N + M$ native workers.

The lobby's payoff from adhering to the voter's threshold voting rule of a rotating pool of migrant workers equals,

$$G_V^I(M_{nt-1}) = \frac{1}{1 - \delta_F} \pi_I(M_{nt-1}, 0, 0) \quad (13)$$

As in the segmented market case, M_I^{tc} is defined by $G_B^I(M_I^{tc}) = G_V^I(M_I^{tc})$. Of course, the precise value of M_I^{tc} will differ from that in the segmented markets case, since the firm lobby's payoffs, and the politician's willingness to be bribed, depend on the length of time that firms can extract wage rents from the migrant workers. We explore this further in section 4 below.

3.2.3 Comparison

The above propositions demonstrate the existence of Markov perfect equilibria in countries with either a segregated or an integrated labor market. While the nature of the equilibria are similar, there is an important difference between the two societies. In particular the above proposition suggests that countries with integrated labor markets will have a higher number of temporary labor migrants. The intuition is that in segregated labor markets, the lobbying firms continue to earn rents from retaining the foreign workers. For any given number of temporary migrants, this makes the lobby willing to offer a much larger amount as bribe to the politician. Therefore, as compared to a country with a segregated labor market, citizen-voters in an integrated labor market respond by endogenously choosing a voting rule which allows fewer workers than in a segregated labor market. We discuss this below.

4 Temporary Labor Migration Programs: An Evaluation

Some countries are better suited than others to take advantage of temporary labor migration programs. Moreover, not all temporary labor programs are equally sustainable. In this section we use our theoretical framework to:

- (i) identify country characteristics which make temporary labor migration programs particularly attractive and,
- (ii) evaluate existing temporary labor migration programs as well as some recent policy proposals.

To facilitate discussion we will often refer to some of the more important temporary labor migration programmes, as summarized in Table 1.

I. Employer Assignment and the (im)Mobility of Guest Workers

One of the more striking aspects of most temporary labor migration programmes has been the fact that the guest workers are tied to specific employers (see Table 1). This tie-in of guest workers with specific employers has been true of the *Bracero* programme in the U.S., the *Kafala-Visa* programme in Kuwait, Singapore's *Employment R* programme and the *Auslaenderausweis B* program in Switzerland among others. While not strictly a temporary labor migration program, the *H-1B* program in the United States assigns foreign workers to specific employers and makes mobility across employers costly (Ruhs, 2002). Clearly such restrictions on the mobility of guest workers within the host country labor market restrict the wages and freedom of movement of the guest worker. However, of more direct interest to us is whether this employer-guest worker 'tie-in' is a good thing from the host country's point of view.

Our theoretical framework provides an unambiguous negative answer. Restrictions on the mobility of guest workers limit the size of sustainable temporary labor migration, M^{tc} , and make the host country worse off. Armed with our theoretical framework, the intuition is simple. An increase in the ability of a temporary worker to move across employers will increase the bargaining power of an experienced worker. This increased bargaining power of the experienced foreign worker (if not repatriated) will reduce the economic rent that firms are able to appropriate from him. In turn this reduces the firms' payoff from lobbying the politician to retain the foreign workers. This suggests that a migration policy that strengthens the bargaining power of experienced migrants reduces the firms' profits (and desire) to lobby intensively to retain them. Ipso facto, it increases the time-consistent temporary migration level into the country.

More striking is the result that any policy which encourages greater labor mobility is at least potentially a Pareto-improvement. To see this we first observe that there is an obvious benefit to the migrant worker from a higher wage. Further notice that the country's citizens also benefit from the increase in national income that follows this higher level of sustainable temporary labor migration. Perhaps less obviously, even firms benefit. At first glance, this may appear puzzling, since the amount of surplus they can extract from the retained experienced workers is being reduced. However, the key point is that, in equilibrium, that surplus is not being extracted anyway, since there is a constant turnover of temporary migrants. And the level of that temporary migration is higher than it would have been with lower labor mobility. We summarize the above discussion in the following.

PROPOSITION 3: *An increase in foreign worker mobility in the host country is a Pareto-improving*

policy reform since it increases (i) foreign worker wages θw , (ii) the time-consistent level of migration M^{tc} and (iii) aggregate firm profits Π .

PROOF: See Appendix.

Therefore, our theoretical framework unambiguously suggests that any policy that increases guest-worker mobility within the host country is likely to benefit all parties - and should be made a priority.

II. Country Characteristics and Temporary Migration

We now use our theoretical framework to identify country characteristics that are likely to make temporary labor programmes more or less feasible. We focus on the following parameters – (a) the nature of the domestic labor market - whether it is segmented (S) or integrated (I) (b) the disutility to the natives from foreign migrants (temporary or permanent) $H(M_n, M_p)$ and (c) the administrative ability of the government to enforce the repatriation of temporary workers.

(a) *Guest Workers in Segmented versus Integrated Labor Markets:* Consider, first, the impact on the time-consistent level of migration of whether the country's labor market is segmented or integrated. In line with the empirical evidence available in the economics literature, we assume that migrant worker wages gradually increase in both kinds of labor markets (see Bauer, Lofstrom and Zimmerman, 2000). However, our assumption is that wages increase slower and differentials remain persistent in segmented rather than integrated labor markets. For example, most studies suggest that migrant worker wages gradually converge to native levels in the U.S. (and even more sharply in Australia, Canada and New Zealand) - suggesting that they have a relatively integrated labor market. While generalizations about Europe are more difficult, several studies suggest that there are persistent wage differentials between natives and migrants, which suggests that European labor markets might be better described as segmented labor markets.¹⁸

In the previous section we demonstrated the existence of Markov perfect equilibria in countries with either a segmented or an integrated labor market. Recall that the nature of the equilibria are similar across countries with the differing labor markets. There is however, an important difference which becomes clear on comparing the bribe required to retain migrant workers in the segmented labor market case $B_I(M_{nt-1})$ with that in the integrated labor market case $B_I(M_{nt-1})$.

¹⁸Most of these studies are based on German data and show only very slow convergence (see Dustman (1993) and Schmidt (1997)). Winter-Ebmer (1994) suggests large and persistent wage differentials for guest workers in Austria.

OBSERVATION 1: *On comparing an integrated labor market with a segmented labor market, observe that for any given level of temporary migration $\hat{M}_{nt-1}$, we have (i) $B_S(\hat{M}_{nt-1}) < B_I(\hat{M}_{nt-1})$, (ii) $G_B^S(\hat{M}_{nt-1}) > G_B^I(\hat{M}_{nt-1})$. Together (i) and (ii) imply that the time-consistent level of migration in a country with an integrated labor market is greater than the time-consistent level of temporary labor migration in a country with a segmented labor market, i.e. $M_I^{tc} > M_S^{tc}$.*

In particular our analysis has suggested that countries with an integrated labor market will have a higher number of temporary labor migrants. The intuition is that in segmented labor markets, the lobbying firms continue to earn rents from retaining the foreign workers. For any given number of temporary migrants, this makes the lobby willing to offer a much larger amount as bribe to the politician. Therefore, as compared to a country with a segmented labor market, citizen-voters in an integrated labor market respond by endogenously choosing a voting rule which allows fewer workers than in a segmented labor market.

The consequences of different labor markets on economic assimilation have been studied elsewhere. Much less examined by economists has been the implications of differences in social assimilation on guest worker programs. We turn to it next.

(b) *Socio-Cultural Assimilation and the Impact on Worker Migration*: Culture matters. As we noted earlier, much of the political resistance to migrant workers has cultural underpinnings.¹⁹ Given this cultural suspicion of migrant workers, it becomes crucial to understand the impact of cross-country differences in the ability to *assimilate* immigrants. A country's ability to assimilate immigrants is a function of its socio-cultural structure, its immigration history as well as on migrant characteristics - be they economic, linguistic, ethnic or cultural. In this section, we analyze the effect of changes in the underlying parameters on the equilibrium values of the level of migration, and relate that to the available stylized facts on policies governing temporary labor migration.

Recall that we have characterized citizen attitudes towards migrant workers in terms of the heterogeneity-aversion function, $H(M_n, M_p) = h.(M_n + M_p)^2 + A.(M_p)^2$. The following observation draws on the distinct aspects of assimilation, as captured by the parameters h and A . First, is the country's tolerance for the greater socio-cultural heterogeneity, h - the idea being that Japan's tolerance of foreigners may be different from the United States, e.g., it may be that $h_{japan} > h_{u.s.}$. The second parameter, A , can be viewed as an index of the country's ability

¹⁹For instance, Pritchett (2006) endorses Rosezweig's (2004) argument "that much of the political opposition to migration comes from the "cultural clash" arguments that perceives unassimilated foreigners as a social (if not physical) threat".

to assimilate foreigners. Arguably, a country which is a cultural “melting-pot” such as the U.S. assimilates immigrant workers faster than countries on Continental Europe such as France (or Japan), suggesting that $A_{europe} > A_{usa}$. Drawing a distinction between these two aspects of cultural assimilation helps to explain patterns in the levels of time-consistent migration that may seem, at first glance, inconsistent.

OBSERVATION 2: *Consider three otherwise identical countries i , j and k , where $h_i > h_j = h_k$ and $A_i = A_k > A_j$ such that $H_i > H_k > H_j$. Then there exist parameters such that the time consistent level of temporary migration is given by $M_i^{tc} \approx M_j^{tc} < M_k^{tc}$.*

The above observation (which we prove in the appendix) is quite striking. It suggests that there may be a non-monotonicity in the relationship between the overall disutility from foreign migrants and the levels of temporary migration. The intuition for the above is best conveyed by observing that for a given level of inherited experienced workers, the key decision faced by the government/politician is whether to accept the lobby’s bribe to retain the experienced workers or not. One determinant of that decision is the extent to which the citizen’s utility is affected by the politician’s decision to retain the workers. It is straightforward to observe that migration levels will be relatively low in country i , which has high heterogeneity-disutility parameters h_i and A_i . For those societies (country j above) for which the rate of assimilation is high (i.e. $A_j \rightarrow 0$) the citizen’s welfare loss is relatively low when experienced workers are retained. Accordingly, the corresponding bribe necessary to compensate the politician will be correspondingly lower. Hence the sustainable level of temporary worker migration will also be lower. In contrast consider country k . Migrants are not easily assimilated in this society. Therefore, the bribe necessary to compensate the politician for letting firms retain their workers is much higher. Accordingly, the time-consistent level of migration is much higher here.

(c) Enforcement and the “Targeting” of Temporary Labor Migration Programs:

There is considerable variance in the importance of temporary migrant workers across the globe. Temporary foreign workers constitute a significant part of the workforce in countries such as Bahrain, Kuwait, Saudi Arabia, Singapore and (more recently) Hong Kong and Taiwan. Moreover, these temporary migrants work in a number of sectors. In sharp contrast, both the size (as a percent of the population) as well as the scope (i.e. spread across sectors) is very different in most OECD countries such as Austria, Canada, Germany and the U.S., where temporary worker programs are typically small in size and targeted at specific sectors. For example, relatively low skill sectors such as agriculture and construction have been targeted by temporary labor migration

programs in countries such as Germany, Switzerland, Canada, U.K. and the United States. In contrast, more recently there have been temporary labor programs targeted at attracting relatively high skill workers for employment in sectors such as IT, in the U.S., Germany or Japan.

So why do countries in South-East Asia (and the Gulf States) seem to be better positioned than others to capture ‘big bills lying on the sidewalk’ through encouraging temporary migration? The difference in the size of the programs is best understood in the context of our model by examining cross-country differences in enforcement. In particular, let α denote the probability of repatriation of a temporary worker at the end of the first period. It is not difficult to argue that the forcible repatriation of foreign workers is much easier in countries such as Singapore or Kuwait than in Germany or the United States, i.e. $\alpha_{asia} > \alpha_{oecd}$. This higher α may be because of an authoritarian, and illiberal society. This observation, that difficulties in enforcing repatriation make it difficult for liberal democracies to sustain temporary labor migration programs that help both foreigners and themselves, has also been made by Ruhs (2002) and most pointedly by Kremer and Watt (2005).²⁰

The other main difference is that temporary labor migration programmes are narrowly targeted to specific sectors in the (typically more democratic) OECD countries, while they are typically more broad-based in the Asian and Gulf States. This difference in “scope” is not just because of the size, but because of an additional element. To elaborate, the mobility of labor has income distribution effects. We however, deliberately suppressed these effects by treating all citizens as identical. This was in order to isolate reasons for the political resistance to the migration of labor which are *not* common to (for instance) the international mobility of goods and capital. Nevertheless, income distribution considerations have to be uppermost when it comes to designing politically sustainable temporary worker programs. Democracies will always encounter greater political resistance to any policy that has distributional consequences - making broad based policies difficult to pass.

5 Conclusion

Many countries in the developed world are likely to face a dilemma in the future. On the one hand their aging populations, and rising social security payments, are likely to demand importing a younger workforce from the developing world. This paper explores a neglected channel that may prevent lowering of barriers to labor migration - namely, concern about the country’s culture and

²⁰Kremer and Watt (2005) go on to suggest that, thus, ‘programs with temporary non-renewable visas might make introducing foreign private household workers more palatable.’

identity. We suggest that a policy of encouraging greater amounts of temporary labor migration may provide a way out.

Despite its potential to boost world income, any policy aimed at encouraging even temporary worker migration will face political limits. In particular we demonstrate that governments may fail to encourage worker migration even if such a policy results in large economic gains, has no distributional impact and where the repatriation of workers can be costlessly enforced. If distributional concerns are set aside, we argue that countries best positioned to take advantage of the globalization of (temporary) labor migration are those that are (i) relatively good at the economic assimilation of foreign workers but (ii) poor at their socio-cultural assimilation and where (iii) both the monetary and utility costs of deporting overstaying workers are low. Furthermore, we point out that simple alterations in worker-employer tying requirements can help matters. In particular, any policy that places restrictions on the mobility of the foreign worker across firms hurts the host country and makes it more difficult to sustain a credible temporary worker migration program.

Appendix

We begin by recapping the sequence of events in the dynamic game defined by the interaction between citizens, firms, and the politician. At the beginning of period t , voters observe the state variable M_{nt-1} , and choose a voting rule. (We set $M_{n0} = 0$). Define the voting rule $\mathbf{v}_t$ as a function which associates a probability of re-election of the incumbent politician with every policy action undertaken by the politician, which can be specified as a vector comprised of two elements - M_{et} , and M_{nt} . In other words, the voting rule $v_t(M_{nt}, M_{et})$ specifies, for any combination of M_{et} and M_{nt} , the probability of re-election of the politician. Next, the firms which have migrant workers from the previous period decide whether to incur the lobby formation cost, $\mathcal{L}$, in order to bribe the politician. If they do form a lobby, then they choose the bribe B to offer the politician, if he chooses to allow them to retain their migrant workers. The politician then chooses the migration policy (M_{nt}, M_{et}) for that period. At the end of period t , voters follow their voting rule in choosing whether to retain the incumbent or to unseat him in favor of the challenger.

For ease of notation, we drop the subscripts/superscripts referring to segmented/integrated markets.

To establish the claims in proposition 1, we proceed in three steps. First, we compute the equilibrium paths that are implied by the equilibrium strategies described in proposition 1. In particular, we distinguish between two cases: when the state variable, M_{nt-1} , takes a ‘high’ value, versus when it takes a ‘low’ value. Next, we compute lifetime utilities for the players, under the various equilibrium paths that might emerge. Finally, we use these lifetime utilities to verify, for each player, that his chosen strategy is optimal, given the strategies of the other players. This must be true for any history, and hence the strategies constitute a Markov-perfect equilibrium of the game between the voters, firms/lobby, and the politician.

Step I: Equilibrium paths: There are two possible equilibrium paths implied by the strategies in proposition 1. In both paths, the voters choose the voting rule $v(M_{nt} \leq M^{tc}, \text{ and } M_{et} = 0) = 1$, else $v(M_{nt}, M_{et}) = 0$. In other words, the probability of re-election for the incumbent is 1 if he follows a policy of repatriating all the temporary workers who had arrived in the previous period (i.e., all workers who are repatriable), and also limits the number of new arrivals to no more than M^{tc} . Else, with probability 1, he is removed from office in the election held at the end of that period. This implies that, in order for the firm lobby to get their preferred policy implemented (i.e., to retain their experienced workers), the bribe they would have to pay the politician is given by $B(M_{nt})$, in equations (??) and (??).

Path A: $M_{nt-1} > M^{tc}$; Path B: $M_{nt-1} \leq M^{tc}$.

In path A, given the citizen's voting rule - $v(M_{nt} \leq M^{tc}, \text{ and } M_{et} = 0) = 1$, else $v(M_{nt}, M_{et}) = 0$ - and that $G_B(M^{tc}) > G_V(M^{tc})$, (since $M_{nt-1} > M^{tc}$) hence the firms form a lobby which offers the politician a bribe of $B(M_{nt-1})$. The politician accepts the bribe, and allows the firms to retain their experienced workers, i.e., he sets $M_{et} = M_{nt-1}$ and $M_{nt} = M^{tc}$. (We make the standard assumption that, if the politician is indifferent between two policies, he chooses the one that voters prefer. Hence, since his bribe is no higher with higher M_{nt} , (since new migrants are randomly assigned to firms, the gain to the members of the firm lobby is negligible) and his utility as a citizen is the same as other citizens', hence he chooses the level of temporary migration to be the same as he would have with no bribe, i.e., he chooses $M_{nt} = M^{tc}$). He is then replaced by the challenger in the election at the end of the period. Next period, the experienced workers become permanent (non-repatriable) workers, and the game begins anew with M^{tc} inherited experienced workers.

In path B, given the citizen's voting rule - $v(M_{nt} \leq M^{tc}, \text{ and } M_{et} = 0) = 1$, else $v(M_{nt}, M_{et}) = 0$ - and that $G_B(M^{tc}) \leq G_V(M^{tc})$, (since $M_{nt-1} \leq M^{tc}$) hence the firms choose not to form a lobby to bribe the politician. (It does no harm to think of the bribe offered as being equal to 0). The politician follows the voters' wishes, and repatriates the experienced workers, i.e., he sets $M_{et} = 0$, and $M_{nt} = M^{tc}$. He is then re-elected in the election at the end of the period. Next period, the game begins anew with M^{tc} inherited experienced workers.

Step II: Lifetime utilities: In path A, the utilities of the firms, citizen and the politician are as follows. The politician receives a bribe that is just enough to compensate him for the foregone ego rents, and his reduced utility as a citizen, so that his lifetime utility is: $U_P = \frac{1}{1-\delta_P}(R + U_{Nt}(M_{nt}, 0, 0))$. The citizen's lifetime utility is: $U_{Nt}^j(M_j^{tc}, M_{nt}, 0) + \frac{\delta_P}{1-\delta_P}U_{Nt}^j(M_j^{tc}, 0, M_{nt})$. The lobbying firms' lifetime profits are: $\pi_j(M_j^{tc}, M_{nt}, 0) - (B_j(M_{nt}) + \mathcal{L}_t) + \frac{\delta_F}{1-\delta_F}[\pi_j(M_j^{tc}, 0, M_{nt})]$, where $B_j(M_{nt})$ is calculated as in equations (??) and (??).

In path B, the politician repatriates the experienced workers, and maintains a rotating pool of M^{tc} temporary workers, and stays in power forever, so that his lifetime utility is: $U_P = \frac{1}{1-\delta_P}(R + U_{Nt}(M^{tc}, 0, 0))$. The citizen enjoys a lifetime utility of: $\frac{1}{1-\delta_P}U_{Nt}^j(M^{tc}, 0, 0)$ and the firm lobby has lifetime profits: $G_V^j(M_{nt}) = \frac{1}{1-\delta_F}\pi_j(M^{tc}, 0, 0)$.

Step III: Optimality of Strategies: We now evaluate the optimality of the proposed strategies

of the politician, the firm and the voters. Consider each in turn, assuming the others are playing their equilibrium strategies. We start with the politician, and recall that the probability of his re-election is 0 or 1, depending on whether he repatriates the experienced workers or not. By definition of $B_j(M_{nt})$, the politician's gain from accepting a bribe B is given by $B - B_j(M_{nt})$. Hence his strategy is optimal. Next, we consider the firms' decision on whether to form the lobby and bribe the politician. Given that the politician allows the firms to retain their experienced workers iff he receives a bribe $B \geq B_j(M_{nt})$, the firm's gain from forming a lobby, and offering a bribe of $\hat{B}$, is given by: (i) $\frac{1}{1-\delta_F}\pi_S(M_S^{tc}, 0, M_{nt}) - \frac{1}{1-\delta_F}\pi_S(M_{nt}, 0, 0) - \hat{B} - \mathcal{L}_t$ when $\hat{B} \geq B_j(M_{nt})$, i.e., the bribe is accepted; and (ii) $-\mathcal{L}_t$ when $\hat{B} < B_j(M_{nt})$, i.e., the bribe is not accepted. From (ii), it is clear that it is only worthwhile to form the lobby if the lobby will offer a bribe of at least $B_j(M_{nt})$. From (i), it is clear that, for all $\hat{B} \geq B_j(M_{nt})$, the gain is strictly decreasing in $\hat{B}$, since none of the other terms changes as $\hat{B}$ increases. Further, the threshold value for the bribe, $B_j(M_{nt})$, also uniquely determines whether the politician will accept the bribe, as well as determining with probability 1 whether or not voters will re-elect the politician. Neither of these is affected as $\hat{B}$ changes, on either side of $B_j(M_{nt})$. Hence the optimality of the firms' strategy, to form a lobby to offer the lowest bribe necessary to persuade the politician to retain their experienced workers, only when $G_B^S(M_{nt}) \geq G_V^S(M_{nt})$.

Finally, consider the optimality of the citizens' voting rule. Note that if the politician does not follow the citizens' "instructions" to (i) repatriate the experienced workers, and (ii) only allow in M^{tc} new workers, then the voters remove him from office with probability 1. Can voters do better by re-electing the politician with some positive probability even when he does not follow their instructions? The effect on the incumbent politician would be to increase his lifetime utility from accepting a bribe of size B , i.e., $U_P^j(\beta = 1)$ would rise, and hence $B_j(M_{nt})$ would fall. (See equations (??) and (??)). This makes it more likely that the lobby can successfully bribe the politician to retain their experienced workers. In turn, this means that either repatriation will no longer occur for some values of M_{nt} , under the new voting strategy, or equivalently, M^{tc} will be lower, so that voters would be worse off. A similar analysis establishes that a strategy that re-elects, with probability less than 1, a politician who follows the voters' instructions, would also reduce $B_j(M_{nt})$ and make the voters worse off.

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