PAPER WALLS ARE EASIER TO TEAR DOWN: PASSPORT COSTS AND LEGAL BARRIERS TO EMIGRATION

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Abstract

New data collected on passport costs in 127 countries reveals enormous variation. One in every ten countries have passport costs exceeding 10 percent of annual per capita income. High passport costs are found to be associated with poor governance, especially in terms of the quality of the bureaucracy, and with lower levels of migration. Countries which place legal restrictions on the rights of women to emigrate are also found to have lower migration rates. This suggests scope for developing countries to receive greater migration benefits by tearing down the paper walls they place around their own citizens.

1. Introduction:

The importance of international migration for development has received increasing attention from both the research and policy communities. The United Nations Global Commission on International Migration recently issued a comprehensive report calling for greater consultation and cooperation between states and greater attention to the rights and integration needs of migrants once they arrive (GCIM, 2005). The World Bank has devoted its 2006 Global Economic Prospects report to remittances and migration, and emphasizes the importance of competition and regulation for lowering the cost of sending money transfers. Ambitious calls for greater freedom of movement under GATS Mode 4 negotiations, temporary worker programs, and other forms of bilateral or global cooperation have become part of the global policy debate.

However, far less attention has been given to barriers that countries place in the way of their own citizens who wish to emigrate. The right to emigrate is enshrined in Article 13 of the Universal Declaration of Human Rights[i], but there remains a sizeable number of countries who place legal restrictions on exit, especially in the case of women. Even when no legal restrictions are in place, countries can put a sizeable burden on potential migrants through the imposition of large passport fees, and cumbersome procedures for obtaining a passport. However, little is known about the size of such fees across countries or their importance for migration.

This paper presents new data collected on passport costs in 127 countries around the world and documents the large amount of heterogeneity in costs across countries. The

cost of a passport is found to range from \$0 to \$333[ii], and from 0 percent to 125 percent of annual per capita national income. Passport costs as a share of national income are higher in poorer countries, and in countries with worse measures of governance, in particular, in countries with poor bureaucracy. High passport costs are found to be associated with lower levels of migration, suggesting scope for increasing migration through domestic policy reform.

Evidence on the time costs of obtaining a passport shows differences across countries as to whether or not a passport can be obtained by post rather than in person, and in the time taken for processing a passport. High fees for expedited service are indications of the demand for more rapid processing in many countries. In addition to passport costs, this study documents legal restrictions on exit, such as requirements that citizens obtain exit visas or that women receive the permission of their husband or father to travel. Countries with restrictions on travel are shown to have lower rates of migration than countries of similar population and income levels without such restrictions.

Overall the evidence does suggest that there are real barriers placed in the way of emigration in a number of countries. Countries that wish to benefit from remittances, diaspora, technology transfer, return migration from trained nations, and other developmental impacts of migration can start by tearing down the paper walls they put around their own citizens.

The remainder of the paper is structured as follows: Section 2 presents summary statistics on the passport data, Section 3 examines the relationship between passport costs and measures of governance and Section 4 then relates the per capita migrant stock of a country to passport costs and other determinants of migration. Section 5 summarizes the evidence on the time costs involved in obtaining a passport, Section 6 documents a number of legal restrictions on emigration and their relationship with migrant stock and Section 7 concludes.

2. Passport Costs around the World

Data on the cost of a passport in the country of issue was collected in October 2005. The principal form of collection was through faxes, emails and telephone calls to the consular offices of each country having an embassy or consulate office in the United States. Other sources of information included websites of passport authorities, telephone calls and faxes to the relevant government ministry in charge of issuing passports in countries, and through staff in World Bank country offices. Passport costs were collected in local currency, and converted into United States dollars at the prevailing interbank exchange rate.[iii] After several follow-up attempts, data were able to be collected for passport costs in 127 countries.

In many countries there is not a single passport cost. Passport costs may differ for children and adults, for first-time passports compared to renewals, and for expedited service compared to regular service. Several countries also offer the options as to the duration of the passport (for example, 1, 5 or 10 years) and as to the number of pages

(e.g. 1000 Rupees ($22.29) for a 36 page book or 1500 Rupees ($33.44) for a 60 page book in India).[iv] Since the availability of these additional features differs across countries, an attempt to standardize was made, by collecting the price of a first-time adult passport valid for five years duration, of the standard number of pages and obtained via the standard processing period. When the country only issues a 10-year passport, this is the price reported.[v]

The cost collected contains the cost of the passport itself, but not the cost of paying for photographs, birth certificates, or other such documents which are required along with the passport application. These other costs are harder to measure, but at least some of them are likely to be high in poor countries with weak bureaucracies. For example, UNICEF (2005) reports that more than half of all births in developing countries are unregistered. In such cases, obtaining a passport will first involve getting a birth record.

The full list of countries and passport costs are provided in an Appendix. Figure 1 is a histogram of passport prices. It shows a wide variation in passport costs across the world. The majority of passports cost less than US$50, with a median cost of $38.60, the prevailing cost in Guatemala and Samoa. However, a number of countries charge over $100 and others charge less than $10. Table 1 lists the ten least expensive and ten most expensive countries. There is substantial geographic and economic heterogeneity amongst these. Passports are free in Armenia, only $4.74 in Swaziland and $4.83 in Luxembourg. Turkey, Lebanon and Chad are the most expensive, with a 5-year passport

in Turkey costing $333. Turkey does also offer a one-year passport for $130.53, and Lebanon offers a one-year passport for $40.

[FIGURE 1 HERE]

[TABLE 1 HERE]

Figure 2 shows that there is a general tendency for passport costs to rise with per capita incomes: an OLS regression of log passport cost on log income per capita shows that a 10% increase in per capita national income is associated with a 1.1% increase in the cost of a passport. The slope is significantly different from zero at the 5 percent level (T-statistic of 2.34). However, Figure 2 also shows a large amount of variation around the OLS line, showing substantial differences in passport pricing policies across countries with similar income levels.

[FIGURE 2 HERE]

One might expect high passport costs to have much less affect on ability to migrate in high-income countries than in low-income countries. In particular, the cost of a passport relative to income may determine whether individuals are able to migrate or not. We therefore standardize passport costs by per capita Gross National Income in 2004, taken from the World Development Indicators of the World Bank.[vi] Table 2 then lists the 23 countries in our sample in which a passport costs 5 percent or more of annual per capita income. The most expensive passport relative to income occurs in the Democratic Republic of Congo where a passport costs 125 percent of per capita income.[vii] Eleven out of the fourteen countries where passport costs are 10 percent or more of annual per capita income are located in Africa. Nevertheless, other African countries manage to maintain

low costs: passport costs are only 1.4% of per capita income in Ghana, 1.17% in Kenya, 0.3% in Swaziland and 0.12% in Botswana.

[TABLE 2 HERE]

3. What determines passport costs?

Passport costs which are high relative to income are likely to act as a barrier to the ability of citizens to migrate. The question which then arises is why they are so high. One possible explanation is that passport costs are high relative to income in poorly governed countries. This may be due to poor capacity to efficiently carry out bureaucratic procedures, a repressive desire to stop citizens traveling, or to the inability to collect government revenue through standard taxation procedures. To investigate the relationship between passport costs and government, we employ the Governance IV indicators for the year 2004 from Kaufmann, Kraay and Mastruzzi (2005).[viii] They present indicators for the following six dimensions of governance:

1) *Voice and Accountability:* a measure of political, civil, and human rights, including the ability of citizens to participate in selection of a Government and media independence.

2) *Political Stability and lack of Violence:* a measure of the likelihood of the government in power being overthrown by violent or unconstitutional means.

3) *Government Effectiveness:* a measure of the quality of public service provision, and the competence of the bureaucracy.

4) *Regulatory Quality:* a measure of the incidence of market unfriendly policies and excessive regulation.

5) *Rule of Law:* a measure of the quality of contract enforcement, the incidence of crime, and the quality of the judiciary.

6) *Control of Corruption:* a measure of the use of public power for private gain, including both petty and grand corruption.

Each of the indicators is scaled to have a mean of zero and standard deviation of one, with higher scores representing better governance. Regulatory quality and government effectiveness appear to best capture the idea that costs may be high due to poor capacity to efficiently carry out bureaucratic procedures and an inability to collect government revenue through other taxation. The voice and accountability measure captures the alternative view that costs are high due to government repression.

Table 3 presents the results of regressing the log of the cost of a passport on a quadratic in log per capita income and on these measures of governance. The governance measures are quite highly correlated with one another, with a single principal component explaining 88 percent of the variance in the six variables.[ix] We therefore include each measure separately before including them jointly.

[TABLE 3 HERE]

Columns 2 to 7 of Table 3 show that each of the different governance measures has a negative coefficient when entered separately, and all are significant except for voice and accountability. This shows that higher passport prices relative to income are associated with worse governance, and that this appears more related to incompetence of the bureaucracy and over-regulation than to direct government repression. The largest

magnitudes are seen for government effectiveness and regulatory quality, measuring the quality of the bureaucracy. A one standard deviation improvement in government effectiveness (for example, moving from Chad's level to Brazil's level) is associated with a 0.433 log point lower log passport cost.[x] At the mean log cost of 3.64, this equates to a 14 percent drop in the passport cost. Passport costs relative to income are also higher in countries with less political stability and more corruption. When we include all of the measures together in column 8, only regulatory quality is significant at the 5% level.

An alternative explanation for the high costs of passports in some countries is that they are a way of extracting rents from the migration of highly skilled (high income) workers. If policymakers set passport costs high in order to extract income from such workers, we should see higher passport costs in countries with high levels of skilled emigration. To test, Column 9 of Table 3 includes the highly-skilled emigration rate, taken from Docquier and Marfouk (2005). The coefficient on high-skilled migration is insignificant, and the sign shows that, if anything, countries with higher skilled migration levels have lower passport costs.[xi] This result continues to hold in column 10 once governance controls are also included. The evidence therefore does not support the view that high passport costs are set in order to extract rents from highly skilled high income migrants.

4. Are High Passport Costs a Barrier to Migration?

The previous two sections have shown that passport costs are high relative to per capita income in some countries, and that one explanation for high passport costs is poor governance. We now turn to examining whether high passport costs act as a barrier to

migration. We employ migration stock data based on country of birth from version 4 of the bilateral migration stock database of Parsons, Skeldon, Walmsley and Winters (2005). This quantifies migration stock based largely on the population censuses taken in 2000/01.[xii] We then calculate emigration stock as a percentage of each countries population in 2000.

Passport costs are clearly of most direct relevance for legal migration. The migration data we use includes both legal emigrants, and illegal emigrants who fill in census forms in their destination countries. While many illegal migrants enter without any documents, others enter legally on tourist visas and then overstay. The cost of a passport will be one factor in whether a potential migrant chooses this latter method. Likewise, in theory the cost of a passport will enter into the decision of whether to migrate legally or illegally. Therefore we concentrate our analysis on the impact of passport costs on the total emigrant stock, regardless of whether or not it is legal.[xiii] We will then examine robustness by looking at legal emigration flows.

Figure 3 plots the relationship between the proportion of emigrants a country has and its passport costs. The figure is truncated at passport costs of 20% of per capita income, effectively dropping the six most expensive countries in Table 2.[xiv] There is a clear negative relationship, with countries with higher passport costs having fewer emigrants. The only country with emigrant share above 10 percent of the population among those countries with passport costs above 5 percent of per capita income is Bosnia and

Herzegovina, a clear outlier on the graph. The high emigrant share for this country is likely a result of large refugee migration as a result of the civil war in the mid-1990s.

[FIGURE 3 HERE]

Table 4 then examines how robust the relationship seen in Figure 3 is to the inclusion of other determinants of migration which may also be correlated with passport costs. Column 1 shows that the negative relationship seen in Figure 3 is significant, although passport costs only explain a small fraction of the variation in migration. Column 2 adds log population, log national income per capita, and government effectiveness as controls. The addition of these controls causes the coefficient on passport costs to fall in magnitude, but it remains significant. This helps in part account for the concern that passport costs are just proxying for other barriers to exit caused by poor government effectiveness, such as the cost of obtaining birth certificates or health certifications.

One potential concern is that the relationship in Figure 3 appears nonlinear, and one may wonder whether all the results are being driven by countries with extremely high passport costs. We explore this nonlinearity in two ways. Column 3 of Table 4 drops countries in which passport costs are higher than 20 percent of per capita annual income, and shows that the magnitude of the coefficient on passport costs actually increases in absolute value. Columns 4 and 5 add a quadratic term in passport costs as a percentage of per capita annual income. Both specifications show evidence for a nonlinear effect, with a stronger effect of passport costs on emigrant stock when passport costs are below extremely high values. For countries with passport costs less than 20 percent of national income, we estimate that lowering passport costs by one percent is associated with a 0.75

percent increase in emigrants per capita. Countries with very high migration costs have less impact from a one percent decrease, since costs still remain very high. They therefore require greater reductions in costs to boost migrant numbers.

[TABLE 4 HERE]

This analysis has examined the relationship between the stock of emigrants a country has and its current passport cost. The advantage of the emigrant stock measure is that it is based on national census and household survey data in many countries around the world. It therefore captures most of the world's legal and illegal migration. The disadvantage of this measure is that if passport costs change at different rates across countries over time, then today's passport prices may not be reflective of the relative prices prevailing at the time of emigration. Detailed migration flow data is even rarer than migration stock data[xv], and so we restrict our analysis to legal emigration flow into the four traditional settlement countries of the United States, Canada, Australia and New Zealand.[xvi] The total migration flow into these four countries in 2004 is then expressed as a percentage of the sending countries 2004 population. The correlation between the emigrant stock of a country and the flow into these four countries for our sample is 0.833.

Table 5 then repeats Table 4, using legal emigrant flow rather than total emigrant stock as the dependent variable. The median flow into the four traditional settlement countries in 2004 was only 0.02% of the sending country population. Passport costs as a share of per capita annual income are found to be significantly related to legal emigration flows, in a nonlinear fashion. The size of the estimated effect is quite large: among countries with passport costs less than 20% of per capita annual income, dropping from the 75th

percentile of passport costs (2.5% of income) to the median (0.77% of income) is associated with a 0.024% increase, or doubling, of the emigration flow.

[TABLE 5 HERE]

Tables 4 and 5 have shown that countries with higher passport costs relative to income have lower stocks and flows of emigrants per capita, and that this finding is robust to the inclusion of a number of additional variables such as income and governance which might be correlated with both emigration and passport costs. Nevertheless, one should still be cautious not to interpret this result as necessarily showing that higher passport costs cause less migration to take place. A possible concern may be that the number of migrants a country has determines the government's decision on how much to charge for a passport.[xvii] A large number of migrants may be able to exert political pressure on governments to keep passport costs low, or alternatively governments may see high passport costs as a way of extracting taxes from a large pool of migrants.[xviii] Further research is needed to understand the political economy of passport pricing.

5. Time Costs and Passports

In addition to financial costs, there are also large differences across countries in the time costs involved in obtaining a passport. For 42 countries we were also able to collect information on whether a first-time passport must be obtained in person, or whether it could be obtained by mailing the appropriate documents and fees. A quarter of the countries providing this information allow the passport to be obtained by mail (examples include Brazil, Mauritius, the Philippines, New Zealand, and Sri Lanka). The majority of countries require their citizens to present themselves in person to apply for a passport.[xix]

While there may be security reasons for requiring this, it does involve an additional cost for the potential migrant. This is particularly the case in countries where passport-issuing offices are only located in major cities, and so individuals living outside major cities must travel possibly long distances to apply for their passport. As an example, prior to the decentralization of passport issuing, citizens of Nepal had to travel to Kathmandu to obtain a passport. For people living in some areas of Nepal, this required crossing mountain ranges, clearly providing a major barrier to obtaining a passport.

The second type of time cost faced is the time taken for a passport to be issued after applying for it. This too varies widely across countries. The following are the reported processing times for a standard passport issue in selected countries: El Salvador 45 minutes, Pakistan 8 days, New Zealand 10 days, Australia 10 days, Ireland 2 weeks, Ghana 1 month, Bulgaria 1 month, India 5 weeks, South Africa 6 weeks, United States 6 weeks. Many countries offer the option of an expedited processing time for an extra payment. For example, Ghana charges 50,000 cedis ($5.45) for 1 month, 500,000 cedis ($54.45) for one week, and 1,000,000 cedis ($108.90) for 1 day's waiting period. Bulgaria charges 30 leva ($18.33) for one month's processing time, and 150 leva ($91.65) for one day's processing time. Long waits may also give rise to corruption with passport issuing officials accepting bribes for faster processing. For example, witnesses in a Parliamentary hearing in Namibia testified that many of the passport issuing officials would frequently shut their offices for personal business, leading to months long waits for passports and bribes of four times the cost of a passport for faster service (Philander, 2005). Although we are unable to quantify the impact of long waiting times on migration,

the existence of fees up to 20 times the regular price for more rapid service does show that there is certainly demand for more efficient processing.

6. Legal Barriers to Emigration

In addition to price barriers, citizens in several nations also face legal barriers to obtaining a passport and to traveling out of their country. Table 6 details the 17 countries which place restrictions on the ability of women to legally obtain a passport or to travel out of their country. These restrictions take the form of preventing unmarried women traveling without the permission of their father or adult relative, and of married women traveling without the permission of their husband. Such legal restrictions coupled with societal pressures reduce the ability of women to migrate alone from such countries. For example, in Kuwait, where Egyptians and Syrians are among the major Arab migrant groups, Shah (2004) reports that there were twice as many migrant male Arabs as migrant females, and that only 12 percent of female Arab migrants were in the labor force, compared to 66 percent of Arab men. Most females were not working and accompanying family members. This contrasts strongly with female Asian migrants to the Gulf, who more often migrate alone as housemaids and for whom 77 percent were working.

[TABLE 6]

In Table 7 we examine whether the presence of these restrictions on the freedom of women to emigrate is associated with a country having fewer migrants per capita.[xx] Since we were unable to obtain passport costs for many of the countries with restrictions, we do not look at the joint impact of passport costs and restrictions, but instead in Column 1 regress migrants per capita on a dummy variable for whether the country restricts women

from emigrating, per capita income, the log of population, and the government effectiveness measure which was a prime determinant of passport costs. In Column 2 we also check how sensitive the results are to adding a squared term in per capita income and population. The results show that these restrictions *are* associated with less migration. Countries which restrict the rights of women to migrate have 5 to 6 percent less migrants per capita than countries with similar income, population, and governance levels which do not have these restrictions.

[TABLE 7 HERE]

Table 8 details countries where two other forms of legal restrictions on movement are in force. The first is a set of countries which requires citizens to obtain government permission or an exit visa in order to be able to travel. While permission may be granted in most cases in some of these countries, the process of requiring this permission introduces additional costs and uncertainty into the migration decision. A second type of legal restriction occurs in several countries with compulsory national service, which restrict the rights of travel of citizens of national service age who have not completed their service requirements. Since the age of national service closely corresponds to the age range at which individuals have the greatest propensity to migrate in many countries, these restrictions may prevent the young and mobile from being able to reap the rewards of migration.

[TABLE 8]

7. Conclusions

This paper documents for the first time the enormous variation in the cost of obtaining a passport across countries. One in every ten countries are found to have passport costs which exceed 10 percent of annual per capita income. Passport costs are found to be higher in richer countries, and high relative to income in countries with poor governance. The regulatory quality and government effectiveness are the strongest correlates, suggesting that costs are high due to inefficient government bureaucracy and over-regulation. There is less evidence to support high passport prices being used as a way to extract rent from highly skilled high income emigrants.

These high passport costs are strongly associated with lower emigration rates. Lowering passport costs relative to per capita income by one percentage point is associated with a 0.75 percentage point increase in emigrants per capita. The paper also documents the existence of other barriers to exit, including time costs, and legal barriers such as restrictions on women getting passports or leaving the country unaccompanied. Countries which restrict the rights of women to emigrate are found to have 5 to 6 percent less migrants per capita than countries with similar levels of income and governance which don't have these restrictions.

As a result, this paper has shown that there is policy latitude on the part of many migrant-sending countries to enhance the ability of their citizens to emigrate. Reduction of the cost of a passport, faster processing times, and the removal of any legal restrictions on

emigration offer the potential for reaping additional gains from migration. It seems likely that such restrictions are more likely to bind for poor emigrants than for richer emigrants, so that removing them will enhance the opportunities for poorer individuals to migrate. While there is considerable controversy regarding the overall impact of skilled migration, due to brain drain concerns, there is more consensus that an increase in unskilled migration is of benefit to sending countries, particularly when the large gains in income for the migrants themselves are considered (see GCIM, 2005, World Bank 2005).

Although this paper shows that many countries have the opportunity to increase migration by lowering passport costs, doing so will require policymakers to act to reform the existing system. While such a process can be difficult if currently bureaucrats are enjoying rents from the current system, many stand to gain from such a reform. This paper can perhaps provide a first step in building the base for such reforms by providing evidence as to the costs of the existing policy, and by allowing greater transparency in comparing costs to other countries.

This paper also focuses attention on two elements of the cost of migration. There has been considerable attention devoted recently to the costs of sending remittances and the potential gains to be had from lowering these costs.[xxi] The formal costs of migrating have received much less attention, and there is considerable scope for further research which examines the role of formal migration costs in determining migration numbers and on the impact of policy changes in these dimensions.

8. References:

Docquier, Frédéric and A. Marfouk (2005) "International migration by educational attainment (1990-2000) - Release 1.1" in C. Ozden and M. Schiff (eds). *International Migration, Remittances and Development*, McMillan and Palgrave: New York.

Gibson, J, D.J. McKenzie, and H. Rohorua (2006) "How Cost-elastic are Remittances? Evidence from Tongan Migrants in New Zealand", *Pacific Economic Bulletin* 21(1): 112-28.

Global Commission on International Migration (2005) *Migration in an interconnected world: New directions for action*, Report of the Global Commission on International Migration, www.gcim.org.

Kaufmann, D., A. Kraay and M. Mastruzzi (2005) "Governance Matters IV: Governance Indicators for 1996-2004", Mimeo. The World Bank

Parsons, C.R, R. Skeldon, T.L. Walmsley and L.A. Winters (2005) "Quantifying the International Bilateral Movements of Migrants", Mimeo. The World Bank and the Development Research Centre on Migration, Globalisation and Poverty at Sussex University.

Philander, F. (2005) "Shady Deals Revealed at Home Affairs", *New Era* October 10, 2005, http://allafrica.com/stories/200510100439.html [accessed November 1, 2005].

Shah, N.M. (2004) "Arab Migration Patterns in the Gulf", pp. 91-113 in *Arab Migration in a Globalized World*, International Organization for Migration (IOM): Geneva.

UNICEF (2005) *The State of the World's Children 2006*. New York, NY: UNICEF.

U.S. Department of State (2005) "2004 Country Reports on Human Rights Practices", Bureau of Democracy, Human Rights and Labor, United States Department of State, Washington D.C. http://www.state.gov/g/drl/rls/hrrpt/2004/index.htm [accessed November 1, 2005]

Walmsley, T.L. and L.A. Winters (2003) "Relaxing the Restrictions on the Temporary Movements of Natural Persons: A Simulation Analysis," CEPR *Discussion Paper* No. 3719.

World Bank (2005) *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*. World Bank: Washington D.C.

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[i] See http://www.unhchr.ch/udhr/lang/eng.htm

[ii] Unless indicated otherwise, all prices given in this paper are in terms of October 2005 United States Dollars.

[iii] Obtained from www.oanda.com and www.xe.com.

[iv] In addition, the same type of passport varies slightly in price across different districts in Belgium and the Netherlands due to small district level administrative fees charged. We use typical prices for these countries, provided by the Embassies.

[v] One justification for not dividing the 10-year passport price in half is that potential migrants must pay the full cost of the passport upfront.

[vi] 2003 GNI data was used for a few countries where 2004 GNI was not available.

[vii] Note that in the Democratic Republic of Congo, a passport has an official price of US$80, but the going price for an ordinary citizen is US$150 (Source: World Bank resident mission).

[viii] We use data for 2004, since it is the latest available and appears the most relevant year for looking at 2005 passport costs. However, these governance measures typically do not change a lot from year to year, so similar results would be obtained using the average over 2000-2004.

[ix] Principal components finds only one eigenvalue greater than unity (5.28), suggesting that one dimension is indeed sufficient to explain these different measures.

[x] Recall that the governance variables are scaled so that they have standard deviation one. Hence the coefficient shows the impact of a one standard deviation change in governance.

[xi] Of course one concern with including this control is that it may be endogenous, if high passport prices deter skilled migration. However, we would expect skilled migrants to be able to meet the costs of a passport much more easily than unskilled migrants, and so it is likely that endogeneity is much less of a concern here than it would be if we were to look at rent extraction from all migrants, or from unskilled migrants.

[xii] Since this data is based on census records, it does a reasonable job of capturing migration, even from very poor countries. It is likely to undercount seasonal and illegal migrants to the extent that they are not captured in censuses. However, many censuses still capture a large share of illegal migrants, so this database captures a large share of all migration.

[xiii] A practical reason for doing this is that census data does not allow separation of migrants into legal and illegal categories.

[xiv] Of these countries, Nepal has a 2.2% migrant share, while the other countries have migrant shares under 1% (data on migrants unavailable for Ethiopia).

[xv] Many countries do not break down country of origin beyond the top ten or so sending countries.

[xvi] Migration flow data collected from the Office of Immigration Statistics, Department of Homeland Security in the United States; Citizenship and Immigration Canada in Canada; the Department of Immigration and Multicultural and Indigenous Affairs in Australia; and the New Zealand Immigration Service in New Zealand.

[xvii] A large absolute number of migrants may also enable economies of scale in the production of passports, lowering the marginal cost of producing a passport in terms of staffing time and office expenses.

[xviii] Although we have shown that the level of highly skilled migration is not associated with higher passport costs, providing some evidence against this possibility.

[xix] I tried adding a dummy variable for allowing passports to be mailed in to columns 1 and 2 of Table 5, for the 42 countries for which this data was available. This subset of countries had few African or Asian countries, and the coefficient on the posting dummy was negative and insignificant. That is, for the mostly European and Latin American countries in the sample, countries which allowing passports to be obtained by post, if anything, had insignificantly lower emigration rates.

[xx] Gender disaggregated migration data is not available at a sufficient level of detail to permit testing whether these restrictions have a greater effect on female migration, as one would expect.

[xxi] See Gibson, McKenzie and Rohorua (2006) for a calculation of the gains from lowering remittance costs.

Appendix: Passport Costs Around the World

Country	Cost in USD	Cost as % pcGNI	Country	Cost in USD	Cost as % pcGNI	Country	Cost in USD	Cost as % pcGNI
Albania	46.46	2.23	Fiji	42.52	1.58	Norway	152.34	0.29
Angola	50.00	4.85	Finland	48.31	0.15	Oman	12.95	0.16
Antigua and Barbuda	18.52	0.19	France	72.46	0.24	Pakistan	25.11	4.19
Argentina	25.20	0.70	Gambia, The	17.49	6.03	Palau	50.00	0.73
Armenia	0.00	0.00	Germany	86.95	0.29	Papua New Guinea	31.00	5.34
Australia	115.22	0.43	Ghana	5.45	1.43	Peru	62.41	2.60
Austria	83.33	0.26	Greece	65.34	0.39	Philippines	8.95	0.76
Azerbaijan	23.83	2.50	Grenada	37.41	0.99	Poland	31.72	0.50
Bahamas, The	29.85	0.20	Guatemala	38.60	1.81	Portugal	59.00	0.41
Bahrain	31.83	0.26	Guyana	6.30	0.64	Romania	30.66	1.10
Bangladesh	22.83	5.19	Honduras	35.00	3.40	Russian Federation	13.99	0.41
Barbados	62.66	0.68	Hong Kong, China	41.24	0.15	Rwanda	91.20	41.45
Belgium	95.41	0.31	Hungary	23.85	0.29	Samoa	38.60	2.08
Belize	15.27	0.39	Iceland	83.44	0.22	Saudi Arabia	79.99	0.77
Benin	45.55	8.59	India	22.29	3.60	Senegal	27.51	4.10
Bhutan	17.77	2.34	Indonesia	21.73	1.91	Seychelles	88.69	1.10
Bolivia	64.03	6.67	Ireland	90.58	0.26	Singapore	35.44	0.15
Bosnia and Herzegovina	143.72	7.04	Israel	47.37	0.27	Slovak Republic	30.76	0.47
Botswana	5.34	0.12	Italy	55.81	0.21	Slovenia	45.97	0.31
Brazil	39.91	1.29	Jamaica	39.48	1.36	South Africa	23.57	0.65
Bulgaria	18.33	0.67	Japan	86.47	0.23	Spain	19.58	0.09
Burkina Faso	45.60	12.70	Kenya	5.37	1.17	Sri Lanka	24.58	2.43
Burundi	45.82	50.91	Korea, Rep.	44.26	0.32	St. Kitts and Nevis	11.11	0.15
Cameroon	91.20	11.40	Lao PDR	46.02	11.80	St. Lucia	22.22	0.52
Canada	73.34	0.26	Lebanon	200.00	4.02	St. Vincent and the Grenadines	22.22	0.61
Central African Republic	54.72	17.65	Lesotho	11.41	1.54	Swaziland	4.74	0.30
Chad	156.40	60.15	Lithuania	20.91	0.36	Sweden	63.52	0.18
Chile	73.08	1.49	Luxembourg	4.83	0.01	Switzerland	92.38	0.19
China	37.50	2.90	Malaysia	79.57	1.71	Tajikistan	37.40	13.36
Colombia	29.50	1.50	Malta	33.51	0.27	Tanzania	44.25	13.41
Congo, Dem. Rep.	150.00	125.00	Mauritania	36.65	8.70	Thailand	24.39	1.00
Congo, Rep.	65.66	8.53	Mauritius	22.88	0.50	Tonga	43.48	2.40
Costa Rica	20.00	0.43	Mexico	82.11	1.21	Trinidad and Tobago	23.97	0.30
Croatia	129.73	1.97	Micronesia, Fed. Sts.	50.00	2.51	Tunisia	28.70	1.10
Cyprus	52.13	0.30	Morocco	32.62	2.10	Turkey	333.57	8.90
Czech Republic	8.04	0.10	Namibia	24.44	1.03	Ukraine	33.97	2.70
Denmark	145.67	0.36	Nepal	68.40	26.30	United Kingdom	74.28	0.22
Dominica	37.04	1.01	Netherlands	56.94	0.18	United States	97.00	0.23
Ecuador	78.00	3.58	New Zealand	49.44	0.24	Vanuatu	45.35	3.38
Egypt, Arab Rep.	24.90	1.90	Nicaragua	23.75	3.01	Venezuela, RB	20.51	0.51
El Salvador	9.14	0.40	Niger	45.58	19.82	Vietnam	12.57	2.29
Estonia	11.46	0.16	Nigeria	38.79	9.95	Zambia	16.78	3.73
Ethiopia	34.24	31.10						

**Figure 1: Histogram of Passport Prices**
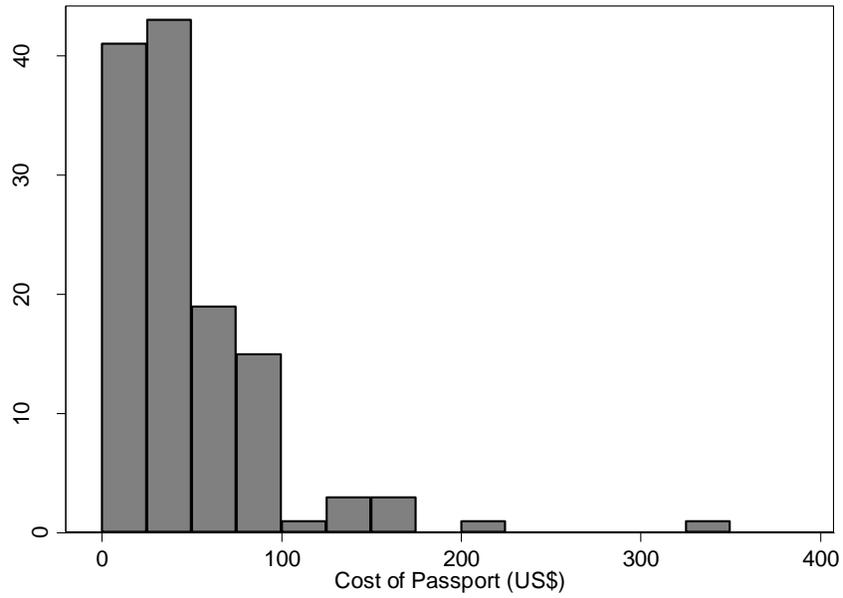
**Figure 2: Passport Costs and Per Capita Income**
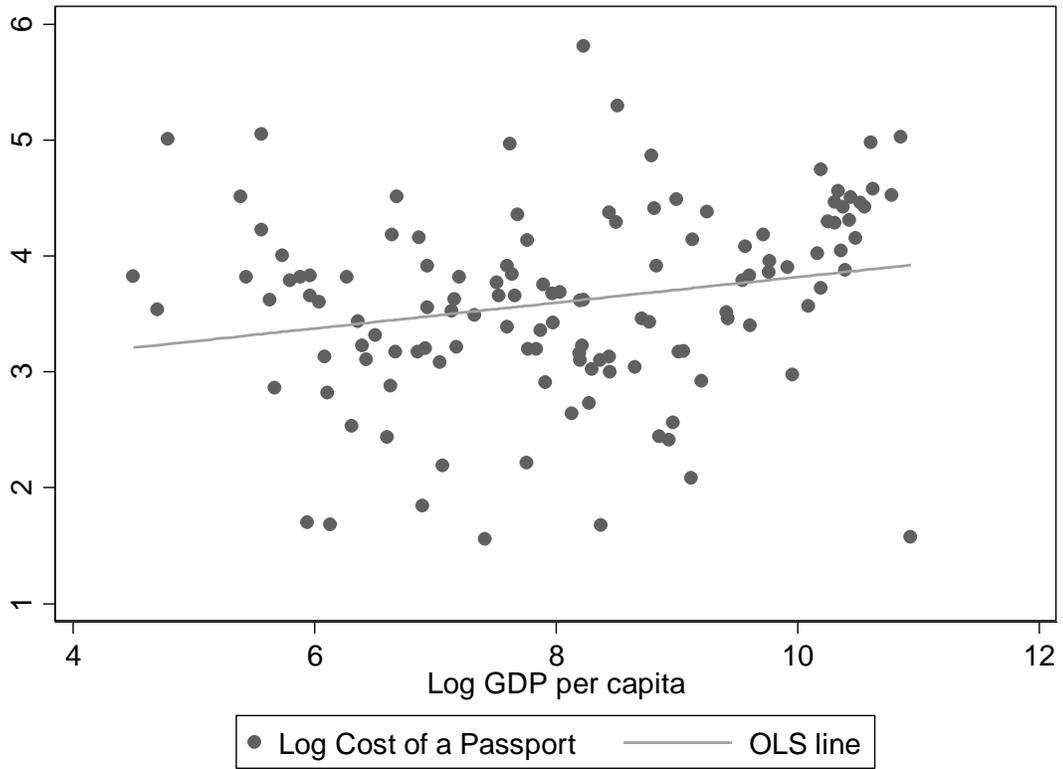
Figure 3: Higher Passport Costs are Associated with Less Emigrants
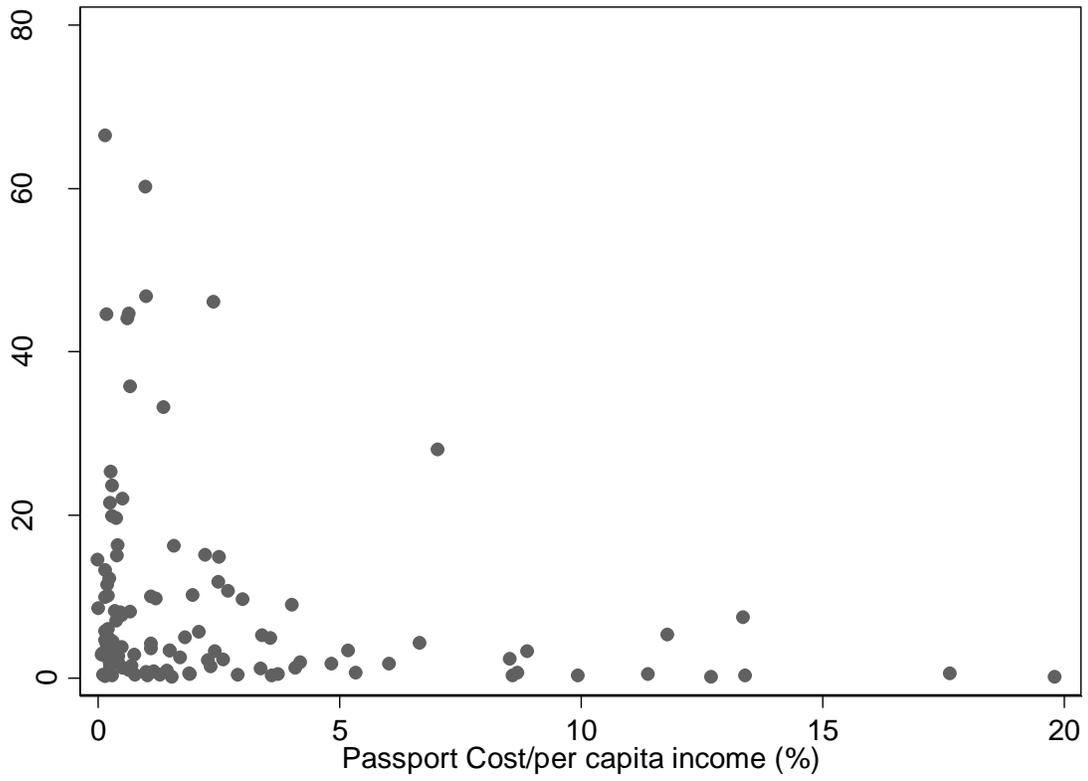
Table 1: Least and Most Expensive Passports (Cost in US Dollars)

Least Expensive Ten Countries		Most Expensive Ten Countries	
Armenia	0.00	Turkey	333.57
Swaziland	4.74	Lebanon	200.00
Luxembourg	4.83	Chad	156.40
Botswana	5.34	Norway	152.34
Kenya	5.37	Democratic Republic of Congo	150.00
Ghana	5.45	Denmark	145.67
Guyana	6.30	Bosnia-Herzegovina	143.72
Czech Republic	8.04	Croatia	129.73
Philippines	8.95	Australia	115.22
El Salvador	9.14	United States	97.00

Table 2: Countries where a passport costs 5% or more of annual per capita income

	% pcGNI		% pcGNI
Democratic Republic of Congo	125.0	Cameroon	11.4
Chad	60.2	Nigeria	10.0
Burundi	50.9	Turkey	8.9
Rwanda	41.5	Mauritania	8.7
Ethiopia	31.1	Benin	8.6
Nepal	26.3	Republic of Congo	8.5
Niger	19.8	Bosnia and Herzegovina	7.0
Central African Republic	17.7	Bolivia	6.7
Tanzania	13.4	The Gambia	6.0
Tajikistan	13.4	Papua New Guinea	5.3
Burkina Faso	12.7	Bangladesh	5.2
Lao PDR	11.8		

pcGNI = annual per capita Gross National Income

Table 3: Do Countries with better Governance have lower passport costs?
Dependent Variable: Log(Passport Cost)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Log GNI per capita	-1.288	-1.221	-1.115	-1.675	-1.454	-1.326	-1.577	-0.916	-1.189	-0.900
	(2.78)***	(2.62)***	(2.47)**	(3.39)***	(3.21)***	(3.01)***	(3.36)***	(1.59)	(2.38)**	(1.53)
Log GNI per capita squared	0.087	0.088	0.085	0.123	0.112	0.105	0.120	0.077	0.081	0.077
	(2.98)***	(3.04)***	(3.06)***	(3.64)***	(3.75)***	(3.85)***	(3.79)***	(1.97)**	(2.58)**	(1.92)*
Voice and Accountability		-0.190						0.029		0.039
		(1.54)						(0.22)		(0.31)
Political Stability			-0.328					-0.303		-0.278
			(3.34)***					(1.80)*		(1.51)
Control of Corruption				-0.331				0.318		0.357
				(2.11)**				(1.09)		(1.08)
Rule of Law					-0.414			0.195		0.141
					(2.56)**			(0.47)		(0.32)
Regulatory Quality						-0.511		-0.472		-0.481
						(3.39)***		(2.12)**		(2.17)**
Government Effectiveness							-0.433	-0.269		-0.291
							(2.57)**	(0.98)		(1.00)
High Skill Emigration Rate									-0.369	-0.160
									(1.22)	(0.44)
Constant	8.099	7.536	6.851	8.880	7.866	7.323	8.334	5.868	7.795	5.800
	(4.55)***	(4.10)***	(3.84)***	(4.93)***	(4.54)***	(4.14)***	(4.79)***	(2.78)***	(4.12)***	(2.70)***
Observations	126	126	126	125	126	125	126	125	123	123
R-squared	0.13	0.15	0.20	0.16	0.18	0.22	0.18	0.25	0.14	0.25

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%, *** significant at 1%.

Table 4: Do Countries with Higher Passport Costs have less Emigrants?
Dependent Variable: Emigrants per capita (%)

	(1)	(2)	(3)	(4)	(5)
Passport Cost as % of GNI	-0.272	-0.156	-0.544	-0.757	-0.422
	(4.09)***	(2.37)**	(2.34)**	(3.95)***	(1.51)
Passport Cost as % of GNI Squared				0.011	0.005
				(3.17)***	(1.17)
Log of Population		-3.700	-3.688		-3.671
		(5.64)***	(5.68)***		(5.63)***
Log of GNI per capita		2.193	1.823		1.805
		(1.71)*	(1.28)		(1.25)
Government Effectiveness		-3.840	-4.023		-3.734
		(1.97)*	(2.01)**		(1.89)*
Constant	9.452	50.391	54.142	10.372	53.635
	(7.39)***	(3.67)***	(3.61)***	(7.10)***	(3.54)***
Trimmed Sample	no	no	<20%	no	no
p-value for test of joint significance:				0.000	0.083
Observations	124	124	119	124	124
R-squared	0.04	0.45	0.45	0.06	0.45

Notes:
Robust t statistics in parentheses
* significant at 10%; ** significant at 5%, *** significant at 1%
Column 3 trims countries with passport costs which are above 20% of per capita national income

Table 5: Do Countries with Higher Passport Costs have less Emigrant Flow?
Dependent Variable: Emigrant flow per capita to USA, Canada, Australia and New Zealand in 2004 (%)

	(1)	(2)	(3)	(4)	(5)
Passport Cost as % of GNI	-0.002	-0.001	-0.014	-0.006	-0.007
	(2.60)**	(1.36)	(2.92)***	(4.01)***	(2.62)**
Passport Cost as % of GNI Squared				0.000	0.000
				(3.63)***	(2.66)***
Log of Population		-0.051	-0.050		-0.051
		(4.13)***	(4.17)***		(4.15)***
Log of GNI per capita		0.021	0.000		0.007
		(0.96)	(0.02)		(0.26)
Government Effectiveness		-0.060	-0.057		-0.053
		(1.68)*	(1.56)		(1.46)
Constant	0.118	0.759	0.948	0.128	0.889
	(5.45)***	(2.69)***	(2.87)***	(5.47)***	(2.81)***
Trimmed Sample	no	no	<20%	no	no
p-value for test of joint significance:				0.000	0.032
Observations	127	127	121	127	127
R-squared	0.01	0.28	0.30	0.03	0.29

Notes:
Robust t statistics in parentheses
* significant at 10%; ** significant at 5%, *** significant at 1%
Column 3 trims countries with passport costs which are above 20% of per capita national income

Table 6: Walling their Women in

Married Women require their husband's permission but no restriction on unmarried women
- Algeria (women under 18)
- Democratic Republic of Congo
- Gabon
- Uganda (when travelling with children)

Unmarried Women require their father's permission but no restriction on married women:
- Egypt (women under 21)

Restrictions on both married and unmarried women
- Afghanistan
- Iran
- Jordan
- Kuwait (unmarried women under 21)
- Libya
- Qatar (women under 30)
- Saudi Arabia
- Sudan
- Swaziland
- Syria (women under 18)
- United Arab Emirates
- Yemen

source: Country reports of U.S. Department of State (2005)

Table 7: Do Restrictions on Women reduce Migration?
Dependent Variable: Migrants per capita (%)

	(1)	(2)
Restrictions on Women Emigrating	-5.956	-5.344
	(3.30)***	(3.49)***
Log of GNI per capita	3.001	12.139
	(3.57)***	(3.80)***
Log of Population	-3.073	-19.390
	(5.34)***	(3.18)***
Government Effectiveness	-3.421	-1.456
	(2.38)**	(0.94)
Log of GNI per capita squared		-0.653
		(2.81)***
Log of Population squared		0.535
		(2.89)***
Constant	32.744	125.053
	(3.27)***	(2.40)**
Observations	170	170
R-squared	0.37	0.47

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%, *** significant at 1%

Table 8: Other Legal Restrictions on Emigration

Government permission or an exit visa required for all citizens to travel	*Restrictions on travel of Citizens of National Service Age*
Belarus	Algeria
Cuba	Azerbaijan
Ecuador	Egypt
Equatorial Guinea	Eritrea
Iran	Israel
Laos	Kazakhstan
Libya	Lebanon
Myanmar	Singapore
North Korea	
Ukraine	
Uzbekistan	

source: Country reports of U.S. Department of State (2005)