Migration into resource-rich Gulf economies

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1 Introduction

The Gulf countries have the highest proportion of migrant workers in the world. The immigrants send a large amount if remittances back home, ranking the Gulf countries in the world top of remittance-sending countries. The 4 mill Indians in the Gulf, for example, remit some 20 b USD pr year. This labour inflow combined with forex outflow has major implications for the labor markets and the economy in general in the Gulf economies. Our main concern is the political economy of migration policies. We focus on two economic dimensions: a) the number of migrants coming into the country and b) the amount of remittances. These economic dimensions translates more or less directly into policy dimensions. The number of migrants are regulated by permits. The amount of remittances may be determined by the migration assimilation policy and the policy towards migrants' family members. We discuss how the migration policy depends on the structure of the economy and on the political influence of various groups. We develop a two goods macro model with traded and non-traded goods with two types of individuals, citizens and migrants. Citizens earn income from wages, profits and oil rents and spend their income on traded and non-traded goods domestically. Migrants earn wage income and spend some of it domestically and remit the rest. The first and obvious effect of migration is that wages drop, hence citizens depending solely on wages will lose. Profit earners and oil rent earners will benefit as the price of non-traded goods drop. The effect of migrant workers' remittances is that the value of a given oil-rent increases when part of it is remitted out of the economy. This is to the benefit of oil rent earners. Profit earners and wage earners, however, lose from more remittances. These conflicts of interest between the various groups have several implications. Hence, the migration

policy will go in the direction of a large number of temporary guest workers (high remittances) if the oil rent earners, e.g. sheiks, dominate the policy. The policy will go in the direction of assimilated permanent guest workers (low remittances) if the profit earners, e.g. bourgeoisie, dominates. The policy will go in the direction of fewer migrants if workers dominate the policy.

These results may explain the differences in migration policy between different oil rich economies. Of particular importance is the sharing of oil rents and the political influence of the working class. In particular, support for migration will be low among workers, unless the same workers also have a share of the oil rents.

The results also contain predictions with regards to expected policy changes if and when the Gulf economies go in more democratic directions. These consequences may in turn determine the demand demand for democratization in the first place.

If democratization implies that citizens workers get to decide, migrants may be expelled. If democratization implies equal sharing of oil rents, however, migrants may be invited in even larger numbers. Lastly, if democratization implies that the bourgeoisie middle-class will be the dominating group then migrants may be invited to settle down, lowering remittances and stimulating the domestic economy. Democratization of the Gulf economies will therefore have important effects for migrant sending countries like India.

2 Migrants in the Gulf

Before the discoveries of oil, there were few foreign people in the Gulf region. The development of the oil sector led to rising demand for labor. As the national population was small and lacked the necessary skills to take advantage of the oil discoveries, they imported labor from abroad. The job opportunities in the Gulf region attracted

millions of migrants, who today constitute the majority of the workforce.

While the Gulf countries allow a great number of foreign workers to enter their countries, obtaining citizenship is nearly impossible. Non-citizens are very poorly protected and receive no government support. While most citizens are employed in well-paid jobs in the public sector, foreign workers are generally employed in low-paid private sector jobs with very poor working conditions.

The import of foreign workers is organized through the kafala (sponsorship) system. This means that foreign workers are recruited by a kafeel, i.e. a sponsor, who normally is their employer. They are given an entry visa and a temporary residence permit tied to their sponsor, meaning that the sponsor is financially and legally responsible for the stay of the worker. If the workers break the contract they must leave the country immediately.

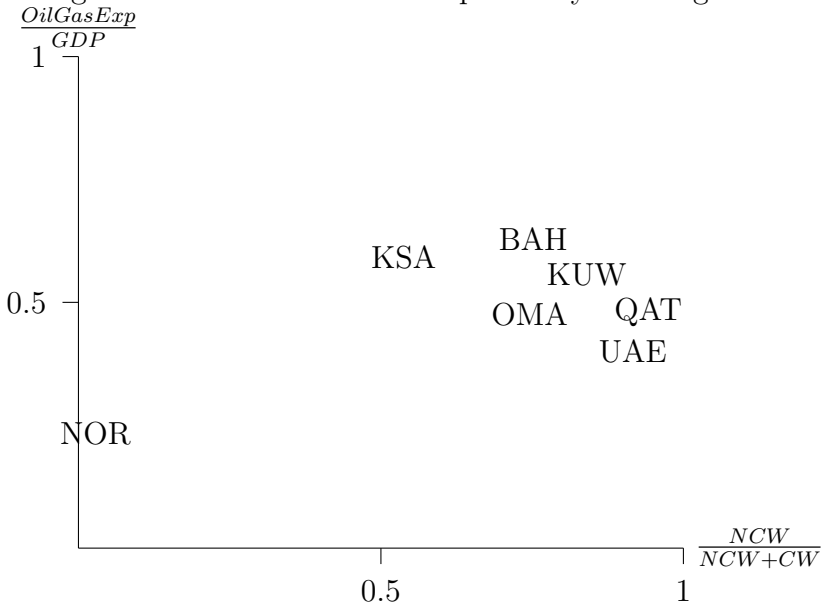
The intention of making the residence permits temporary was to bring labor into the country during economic booms which was easily expelled during slumps. The permits normally have a duration of two years, but they are renewable, providing employers with some degree of stability and limiting training costs.

This system has been widely critized by human rights groups, who argue that it leads to exploitation and abuses. Human Rights Watch (2011) write in their country summary for Saudi Arabia that "this system fuels abuses such as employers confiscating passports, withholding wages and forcing migrants to work against their will". Bahrain abolished the system in 2009, and Kuwait has announced it will do the same. Still, living and working conditions for migrants in these countries are very poor. In particular, domestic workers are excluded from the labor law and suffer severe exploitation. The other Gulf countries have not announced any plans to abolish the sponsorship system.

Patterns and trends in the Gulf countries

Despite efforts to differentiate the economies, the GCC countries are still highly dependent on natural resources, in particular exports of oil and gas. The ratio of oil and gas exports to GDP ranges from 0,40 in the United Arab Emirates to 0,63 in Bahrain. Figure 1 illustrates this in relation to the fraction of non-citizen workers to the total workforce, which is measured along the x-axis. It is clear from the figure that all GCC countries are in the upper right area of the diagram, meaning that they both have a high ratio of oil and gas exports and a high proportion of non-citizens in the workforce. The fraction of non-citizens in the workforce ranges from 0,54 in Saudi Arabia to 0,94 in Qatar. We have also placed Norway for comparison. It is clear that the Gulf countries are in a different category.

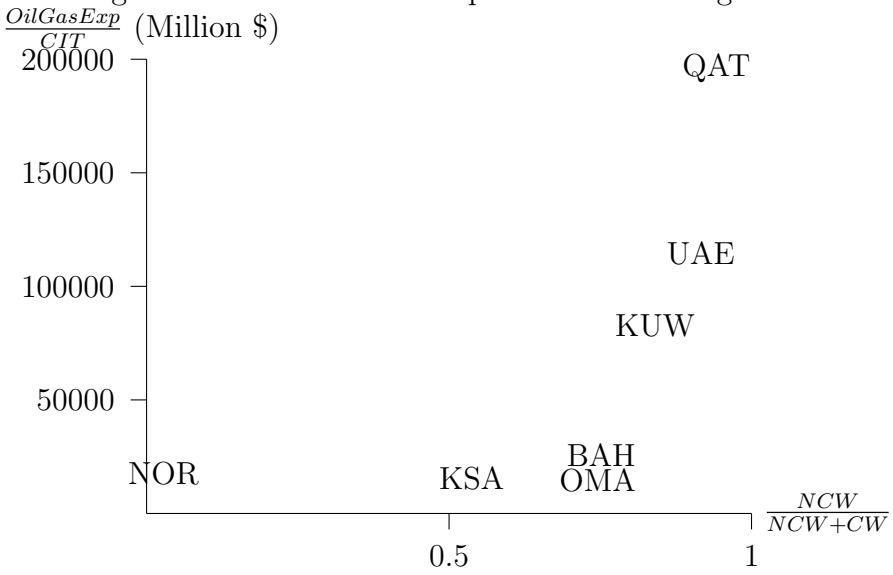
Figure 1: Natural resources dependency and migrants



Sources: GCC Statistical bulletin 2010, Volume Eighteen
Statistics Norway 2008

As the Gulf countries differ widely in their GDP and population sizes, it might

Figure 2: Natural resources per citizen and migrants



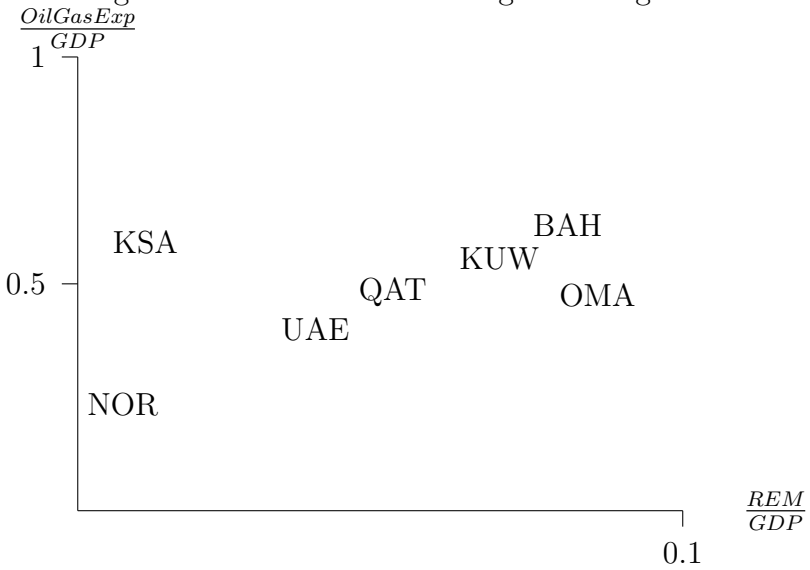
Sources: GCC Statistical bulletin 2010, Volume Eighteen
Statistics Norway 2008

be informative to replace the ratio of oil and gas exports to GDP with oil and gas exports per citizen as in Figure 2. We see that this shows a different pattern. While Bahrain and Saudi Arabia were in the top of the diagram, they are now at the bottom. Bahrain is the smallest exporter of oil and gas, but because it also has a small GDP, it ends up in the top part of the diagram in Figure 1. Saudi Arabia, on the other hand, is by large the biggest exporter of oil and gas, but since it also has a large population it end up in the bottom of the diagram in Figure 2.

Figure 2 shows a rising pattern, where the richest countries in terms of oil and gas exports per citizen are also the countries with the highest fraction of non-citizens in their work-force. We choose to look at exports per citizen rather than per inhabitant because only citizens are given a share in the national wealth.

In Figure 3 we look again on the fraction of oil and gas exports to GDP, but this time we compare it with the fraction of remittances to GDP. We see that the

Figure 3: Remittances as foreign exchange use

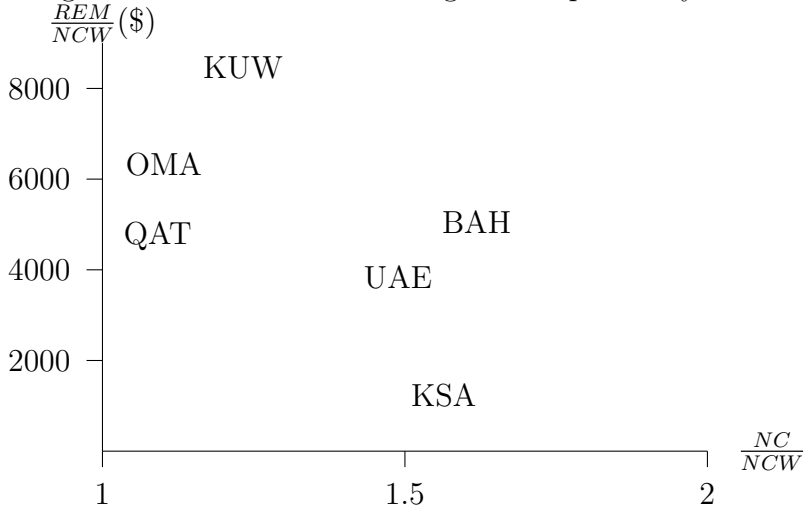


Sources: GCC Statistical bulletin 2010, Volume Eighteen
IMF 2008
Statistics Norway 2008

amount of remittances sent out of the Gulf countries is very high. As a fraction of GDP it ranges from 0,01 in Saudi Arabia to 0,09 in Oman. One should keep in mind that the Saudi GDP is very high, so while the fraction of remittances to GDP is relatively low in Saudi Arabia compared to the other Gulf countries, remittances are very high in absolute numbers.

Finally, Figure 4 measures remittances per non-citizen worker in US dollars on the y-axis, and the fraction of non-citizens population to non-citizen workers on the x-axis. The latter fraction can be interpreted as migrants' dependency ratio, or the size of the average migrant family. When this ratio is equal to one, each non-citizen is a worker, while when it is equal to two, each migrant brings one non-working family member on average into the country. We see that migrants' dependency ratio is very low in all Gulf countries, ranging from 1,09 in Qatar to 1,62 in Bahrain.

Figure 4: Remittances and migrants dependency ratio



Source: GCC Statistical bulletin 2010, Volume Eighteen
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There also seems to be a pattern that migrants with a low dependency ratio send more in remittances.

The above figures have indicated some important features of the Gulf countries. To sum up, these economies are highly dependent on natural resources, they have a very high fraction of non-citizens in their workforce, and the non-citizen workers send a lot of remittances out of the countries. In the following sections we will try to work out the effects these features have on the welfare of the citizens in these countries.

While migrants contribute to domestic production and demand, they also channel demand out of the country by sending money back home. The inflow of migrants push wages down and increases demand pressure. The more money they send out the lesser is the demand pressure on domestic prices. The costs and benefits for a particular citizen will depend on that citizen's sources of income and consumption pattern. In the following we build a model that highlights the effects on various

citizens' welfare via shifts in functional income distribution and purchasing power, as the number of migrants change and as their remittance-sending behavior changes.

3 Model

In the model there are two types of goods: Non-tradeable goods, which we label X_N, are produced at home; while tradeable goods, M, are imported in its entirety. The traded goods are purchased at fixed world market prices and are financed by the value of oil exports net of remittances. Oil is produced at zero cost.

There are two kinds of people: Citizens (N_c) and non-citizen guest-workers (N_g). Both worker types supply labor inelastically in total amount L_c and L_g respectively, and receive a wage w. Both L_c and L_g are measured in efficiency units (where one citizen worker has unit efficiency). While the wage is the only income of the guest-workers, citizens may also get a share of total profits in the non-tradeable sector, and a share of the income from oil exports. A citizen individual i will have income

$$y_i = w_i + \pi_i + z_i, \qquad i = 1...N_c \tag{1}$$

where w_i, π_i, and z_i denote the individual's income from wage, profit and oil rents respectively. The average citizen consumer has income given by:

$$y_c = w_c + \pi_c + z_c, \quad w_c = \frac{wL_c}{N_c}, \quad \pi_c = \frac{\Pi}{N_c}, \quad z_c = \frac{Z}{N_c} \tag{2}$$

so that $\sum_i y_i = N_c y_c$. While citizens are assumed to spend all their income on consumption, non-citizens may send a part of their income to their home country

as remittances r. Income left for consumption is $y_g = w - r$. Thus, total income spent in the domestic economy is given by

$$Y = N_g y_g + N_c y_c \tag{3}$$

Citizens and non-citizens have identical Cobb-Douglas preferences given by

$$u_i = B c_{Ni}^{\alpha} c_{Ti}^{1-\alpha} \tag{4}$$

where c_{Ni} and c_{Ti} denote consumer i's consumption of non-tradeable and tradeable goods respectively. Maximizing utility subject to the budget constraint $p_N c_{Ni} + c_{Ti} \leq y_i$, where p_N is the price of non-traded goods, we get the demand functions:

$$c_{Ti} = (1 - \alpha) y_i \tag{5}$$

$$c_{Ni} = \frac{\alpha y_i}{p_N} \tag{6}$$

We have normalized the system by setting the price of traded goods to one. It follows that we by choosing an appropriate scaling B can derive utility by the indirect utility function

$$v_i = y_i p_N^{-\alpha} \tag{7}$$

Total demand is given by:

$$C_T = \sum_j c_{Tj} = \frac{(1-\alpha)Y}{p_T} \tag{8}$$

$$C_N = \sum_j c_{Nj} = \frac{\alpha Y}{p_N} \tag{9}$$

Production in the non-tradeable sector, which uses labor as its only input, is given by equation (10). The workers have productivity b.

$$X_N = b(L_c + L_g) = bL \tag{10}$$

L denotes total labor supply. Profits are given by $\Pi = \left(p_N - \frac{w}{b}\right)X_N$. We imagine that there is some degree of market power in the domestic market, so that p_N is set with a mark-up μ over marginal cost: $p_N = (1+\mu)\frac{w}{b}$. Using this, we can write profits as:

$$\Pi = \tau X_N p_N, \qquad \tau = \mu/(1+\mu) \tag{11}$$

where τ is the profit share of total sales.

In equilibrium we have that markets clear and trade is balanced so that

$$M = Z - R \tag{12}$$

$$C_T = M/P_T \tag{13}$$

$$C_N = X_N = b(L_c + L_g) \tag{14}$$

Note that these equations alone determine the fixed supply of the two consumption goods and changes in demand will only affect wages, relative prices and hence welfare.

4 Analysis

We are interested in understanding how the welfare of different individuals is affected by changes in migration and remittances. Recall that the indirect utility function is given by $v_i = y_i p_N^{-\alpha}$. We see that the welfare of citizens depends on their real income given by income relative to the true cost of living index. In other words, what matters to citizens is what happens to their purchasing power.

Any change in migration or remittances works via changes in the two essential supply factors that determine domestic consumption. C_T is determined by L, and C_N is determined by M. Such changes affect both income and relative prices. Solving the system (1)-(**??**) we can express the key variables p_N, w and Π in terms of the determined imports M and labor stock L:

$$p_N = \frac{\alpha}{1-\alpha}\frac{M}{bL} \tag{15}$$

$$w = (1-\tau)\frac{\alpha}{1-\alpha}\frac{M}{L} \tag{16}$$

$$\Pi = \tau\frac{\alpha}{1-\alpha}M \tag{17}$$

Taking log differences of the indirect utility function, and using equations (1), and (15)-(17) we find the total effect on utility as a weighted sum of effects on the labor stock and imports.

$$\begin{aligned}\hat{v}_i &= \hat{y}_i - \alpha\hat{p}_N \\ &= \frac{w_i}{y_i}(\hat{M} - \hat{L}) + \frac{\pi_i}{y_i}\hat{M} - \alpha\left(\hat{M} - \hat{L}\right) \\ &= \left(\alpha - \frac{w_i}{y_i}\right)\hat{L} + \left(\frac{z_i}{y_i} - (1-\alpha)\right)\left(-\hat{M}\right) \qquad (18)\end{aligned}$$

We have the following proposition:

Proposition 1 *An individual will benefit from more remittances if and only if his oil rent share is large* ($z_i/y_i > 1-\alpha$). *He will benefit from migration if and only if his wage share is low* ($w_i/y_i < \alpha \Leftrightarrow (z_i+\pi_i)/y_i > 1-\alpha$).

In order to gain intuition for the first result note that when remittances increase the relative price of non-traded goods decrease, as there is increased shortage on traded goods. While wages and profits decrease proportionately with this price, the purchasing power of oil rents increases.

An individual with $z_i > (1-\alpha)y_i$ has oil rents income that is larger than his traded goods consumption. If we imagine that the individual pays for his consumption of traded goods with oil rents, part of the rents will be used for non-traded goods consumption. It follows that he will afford higher consumption of non-traded goods.

An individual with $z_i < (1-\alpha)y_i$, however, use his profit and wage income in part to pay for his traded goods consumption at relative price $1/p_N$. After a reduction in p_N he will have to lower his consumption of traded goods.

The second result follows by similar reasoning: The purchasing power of rents *and* profits in terms of traded goods is unaffected by migration. So as long as

$(z_i + \pi_i) > (1 - \alpha)y_i$ an individual use less than his profit and oil income to pay for traded goods. With more migration wages and nontraded prices drops and the purchasing power will go up. If the wage share is large however the wage income will in part pay for traded goods and more migration lowers the purchasing power.

From the proposition it also follows that any individual who benefits from remittances will also benefit from migration. The reverse is obviously not the case, and some individuals who benefit from migration will like to see remittances as low as possible.

Based on the proposition we can also conclude that a worker who relies entirely on wage income would be hurt by increases in migration and remittances. A sheik who relies entirely on income from oil rents will benefit from both. A capitalist-entrepreneur will benefit from migration but be hurt by remittances. A question is whether a capitalist will resist migration if the migrants remit. Denote the increase in labor supply by dL and denote the drop in imports by dM and assume that the additional migrants remit their entire wage income such that $dM = -wdL$. Then it follows from (16) that

$$dM = -(1 - \tau)\frac{\alpha}{1 - \alpha}\frac{M}{L}dL \tag{19}$$

$$\hat{M} = -(1 - \tau)\frac{\alpha}{1 - \alpha}\hat{L} \tag{20}$$

Inserting in (18) and setting $\pi_i/y_i = 1$ we get

$$\hat{v}_i = \alpha\tau\hat{L} \tag{21}$$

Hence, a profit earner increases his welfare even if migrants remit their entire wage. But the welfare gain is smaller than in the case of no remittances, in which case the welfare gain is given by $\hat{v}_i = \alpha\hat{L}$.

The difference between the two depends on the profit share τ. The higher the profit share the smaller the welfare loss from remittances. A high profit share implies a low wage which means a small outflow of remittances.

Buying support

Summing up the results so far we have shown that workers lose from increases in migration and remittances, sheiks benefit from both, and entrepreneurs benefit from migration but are hurt by remittances.

Keeping the Gulf economies in mind, where all oil revenues are controlled by the emir/king, one might imagine that the king may influence the support for migration (and remittances) by distributing oil wealth. How much oil rents does the emir have to transfer to a worker in order to gain his support? We know that the position of this individual as regards to migration and remittances will depend on how much oil rents he receives relative to his wage. Note that when the individual has no profit earnings, the condition for benefiting from remittances is equivalent to the condition for benefiting from migration, i.e. $\frac{z_i}{z_i+w_i} > 1-\alpha \Leftrightarrow z_i > \frac{1-\alpha}{\alpha}w_i$. Thus, a transfer $z_i = \frac{1-\alpha}{\alpha}w_i$ will make a worker support increases in both migration and remittances. Intuitively, the required proportion of oil rents to wage income depends on the relative expenditure shares. If the individual spends the same amount on both traded and non-traded goods, he simply has to receive the same amount of oil rents as his wage income.

While an entrepreneur will support increases in migration, he will benefit from

remittances only if he receives a transfer of oil wealth such that $z_i/(z_i + \pi_i) > 1 - \alpha$. Solving this for z_i we find the required transfer: $z_i = \frac{1-\alpha}{\alpha}\pi_i$.

Intermediate cases

So far we have considered only three income groups: Workers, entrepreneurs and sheiks. In reality, people often have incomes consisting of different mixes of wages, profits and rents. For a start, consider how the welfare of the average citizen is influenced by changes in migration and remittances. Recall that the income of the average citizen is given by $y_c = w_c + \pi_c + z_c$. We know that without migrants the average citizen spends her wage and profit income on nontraded goods while oil rents are spent on imported traded goods hence, $\alpha y_c = w_c + \pi_c$. Since profit income must be positive, we have that $w_c/y_c < \alpha$. It follows from Proposition 1 that the welfare of the average citizen increases with migration. This effect remains also as migration increases, as w_c/y_c declines with migration.

The welfare of the average citizen also increases with remittances. With no migrants the average consumer spend the oil income on imported goods: $(1-\alpha)y_c = z_c$. When migration increases we know that the wage decreases so that the share of income from oil rents increases. This means that the average citizen consumes less traded goods than her oil rents income can finance. We have that $z_c/y_c > 1 - \alpha$, hence the requirement for a welfare improvement from remittances is satisfied.

Consider also an individual with average profit and wage income, but no income from oil rents. This individual will have interests in-between that of a wage earner and that of a profit earner. When there are no migrants the non-wage income share is given by τ. It follows from Proposition 1 opening the country for migration will increase the welfare if and only if $\tau > (1 - \alpha)$.

As for this individual remittances would never be of benefit, since the purchasing power of both wages and profits decrease with remittances. However, welfare would increase even with inflow of max remitting migrants if $\tau > 1/(1+\alpha)$. This is clear from using $w_c/y_i = 1-\tau$, $\pi_c/y_i = \tau$ and (20) in (18). For e.g. $\alpha = 1/2$ that would require a markup of $\mu > 2$.

Nonlinearities in support for migration and remittances

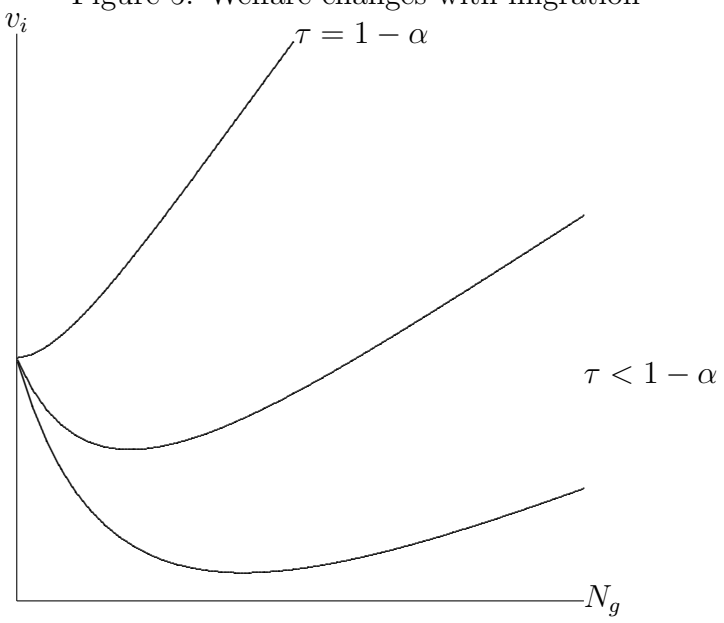
The support for migration depends on the relative importance of various income streams. The relative importance itself varies with migration and remittances. This can lead to nonlinear and ratchet effects in the support for migrants.

From Proposition 1 we know that an individual with a sufficiently low wage share will support more migration. From (16) and (17) we see that the wage share will decline to zero for N_g sufficiently high. Hence, anyone who has another income source than wages will, for sufficiently high migration, benefit from even more migration.

Consider again the individual with average profit and wage income, but no income from oil rents. Recall that such an individual would gain from early migration if and only if the profit share of total sales exceeds the expenditure share of traded goods ($\tau > (1-\alpha)$). It follows from our discussion that when $\tau < (1-\alpha)$ this individual will first oppose migration, but at a later stage find that he benefits from more migration.

Figure 5 illustrates the utility of such an individual for different values of τ relative to α. When $\tau = 1-\alpha$ the utility function starts out flat and then increases in migration. When $\tau < 1-\alpha$ we get curves like the two below, where the lower of these corresponds to a lower τ than the upper. When the profit share of sales is low the wage income effect dominates for a higher level of migration, but as the wage

Figure 5: Welfare changes with migration



decreases this effect will be outdone by the positive effect of profit income.

When the welfare, with respect to migration , for the decisive individual follows a U-shape a sheik who wants to get support for migration has to get the migration level beyond the bottom of the U. From that point and onwards further migration will be supported by the

Democratization

If democratization implies that citizens workers get to decide, migrants may be expelled. If democratization implies equal sharing of oil rents, however, migrants may be invited in even larger numbers. Lastly, if democratization implies that the bourgeoisie middle-class will be the dominating group then migrants may be invited to settle down, lowering remittances and stimulating the domestic economy. Democratization of the Gulf economies will therefore have important effects for migrant sending countries like India.

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