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**Citation:** Mesnard, A. & Auriol, E. (2016). To Control Migration Flows and Defeat Human Smuggling, Sell Visas (092). Washington DC: Center for Global Development.

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# To Control Migration Flows and Defeat Human Smuggling, Sell Visas

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## Abstract

Policy makers in most OECD countries face the challenge that they must fight people smuggling while retaining control of migration flows. Policies designed to increase border controls are not sufficient on their own; the level of enforcement that would eliminate people smuggling entirely would be extremely costly. Further, these policies have unintended consequences in the people smuggling market; they increase the fees charged by smugglers, increase reliance on their services, and increase their cartellization. By contrast, a visa-selling policy can weaken smugglers by decreasing their prices and squeezing their profits. However, eliminating people smuggling only in this way requires cheap visas and necessarily leads to a rise in the numbers of people migrating. An innovative policy of selling visas combined with enforced sanctions on employers and employees for illegal working can control migration flows and put smugglers out of business. Using the revenue generated to finance enforcement allows visa prices to be set at a high level that controls migration flows.

Center for Global Development
www.cgdev.org

CGD Policy Paper 092
October 2016

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# 1   Introduction

In advanced economies there is a strong popular demand for migration control. This is perhaps the main lesson we have learned from the UK referendum on Brexit but it is true elsewhere: a recent poll shows that immigration is now seen by European citizens as the most important issue facing the EU and 85 percent of all EU citizens surveyed in 2015 agree that additional measures need to be taken to fight illegal immigration from outside the EU.[1] As a result of these concerns right-wing parties have recently surged in popularity throughout Europe. In the US illegal immigration is a heated topic too.[2] In the past decades border controls have therefore constantly been reinforced.[3] Yet current migration policies, which combine quotas on visas with reinforced border controls, are fairly ineffective at illegal migration. Their main consequence is to fuel the market for smugglers. Strong restrictions on labour mobility imply that many candidates are obliged to arrange migration with the help of intermediaries who organise air, sea or ground transportation and provide them with forged documents, clothes, food and accommodation during the trip.

Illegal migrants represent sizeable proportions of foreign populations living in high wages countries.[4]The smuggling markets on these two main routes appear to be in the hand of many small smugglers. However, for long haul migration the smuggling market is more concentrated as it involves more sophisticated operations and requires larger and broader networks to transport illegally people over long distance (UNODC 2014). Prices are also higher for long distance migration.[5] This makes human smuggling a lucrative business.[6]

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[1]See http://ec.europa.eu/public_opinion/archives/eb/eb83/eb83_first_en.pdf

[2]See https://ballotpedia.org/2016_presidential_candidates_on_immigration

[3]For instance more than 670 miles of border fences, walls, bollards and spikes decreed by Congress in 2006 has been completed at an estimated cost of $4 billion (plus future maintenance). Similarly the Border Patrol, which was increased from 9,000 agents in 2001 to 20,000 in 2009, costs an estimated $4 billion annually.

[4]In the USA, 11 million of immigrants do not have legal status, representing 3.5 percent of the total population (Morehouse and Blomfield 2010). In the EU15 they were 1.8 to 3.3 million, representing 0.46 percent to 0.83 percent of the population in 2008 (http://clandestino.eliamep.gr/).

[5]For example, crossing to the UK from Afghanistan with fake identification costs above GBP25,000 and from China above GBP40,000. See http://www.havocscope.com/black-market-prices/human-smuggling-fees/

[6]Total income raised by smugglers who operate between Mexico and the US is estimated

Over the years, human smuggling has merged with other types of illegal transnational activities such as drug shipping and prostitution (UNODC 2010). These activities pose a threat to the rule of law in countries of origin, transit, and destination.[7] One concern with the actual restrictive migration policies is that they never explicitly internalize the cost of the negative externalities (loss of human life, corruption, money laundering, violence, terrorism, slavery, etc) imposed by the criminal activities that emerge as a result of the prohibition. The policy makers simply assume that it will work, while the police is dealing with the criminality in a separate way. From an economic perspective this is not efficient. Internalizing the costs of crime implies that the size of the illegal migration business has to be downsized.

This paper proposes legalisation through the sale of visas combined with sanctions against illegal migration, especially at the worksite, to both weaken human smuggling and control immigration. Our analysis shows that the sale of visas at smugglers' price, or higher, will not be sufficient to eliminate smugglers. Indeed prohibition creates a barrier to entry into the market. Criminal organisations rely on this legal barrier, and on violence, to cartelize the industry and to charge high prices. They will therefore respond to the sale of visas by lowering their prices.

In this context, a sale of visas will increase migration flows and widen the skill diversity of migrants. In advanced economies this outcome is difficult to sustain politically as there is a strong popular demand for migration control. We explore how a combination of pricing tools and reinforced controls can be used in a more innovative way to weaken smugglers while achieving pre-defined migration targets. Our policy combines visa pricing tools to push the smugglers out of the market and enforced sanctions, especially against employers of illegal migrants, to limit the subsequent increases in migration flows.

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at 6 billion dollars per year (UNODC 2010). The EU market, which is more fragmented due to its multiple points of entries, is harder to evaluate. Nevertheless it is sizeable and is booming since 2015 with the surge of refugees from Syria, Afghanistan and Iraq.

[7]In Mexico for example, human smuggling is integrated with the drug business and other criminal activities, which lead to high insecurity and became recently one of the main electoral concerns. See the blog of the Huffington Post of the 6th of June, 2016: "Drug Cartels: Where Human Trafficking and Human Smuggling Meet Today."

# 2 A simple framework to analyse human smuggling

## 2.1 Demand for human smuggling services and supply

To understand the effects of current policies on human smuggling, we need to model both sides of this illegal market and study simultaneously how smugglers respond to the policies by offering their services (supply side) and how would-be candidates to migration respond to the policy (demand side). This framework allows us to analyse how the price charged by smugglers (or "fees") respond to different types of policies, which in turn determine the number and the types of migrants.

When migration is undertaken for economic reasons, it is reasonable to consider that the number of workers willing to migrate illegally on a specific route decreases in the price of smugglers' fees, as well as in the risk of crossing borders illegally, and that it increases in the expected pay-offs of illegal migration. We analyze how smugglers compete to capture this demand by offering their services.

A simple economic framework (see more details in Auriol and Mesnard, 2016) shows intuitively that the price they charge for their services increases in their costs of operation. This price will also decrease in the number of smugglers competing on the market, which decreases their market power. So if the market is very competitive, the price will be pushed down until it reaches the minimum threshold price under which smugglers would do negative profits. At the other extreme, if only one smuggler operates on the market, the monopolistic price will be the highest, generating a large rent for the smuggler, with a large mark-up between the fee and marginal costs to operate. In any other intermediary situation characterised by an oligopolistic market, several smugglers will share the rents from the market, which will be higher (with higher prices), the lower the competition between smugglers.

In addition to the nature of competition, another important determinant of the price charged by smugglers is the price elasticity of demand, which increases with the availability of other migration routes or channels open to would-be migrants: as fees increase on a specific route, candidates may choose to cross the borders using further away, more risky routes, or use alternative channels -queuing longer to apply for legal visas, entering the destination countries as tourists, business-men, students or by their own means. Price

elasticity can vary across migrants: some individuals are more captive than others, which is for example the case of poor individuals without strong language or other skills, who have low chances to get temporary visas as tourists, skilled labour or entrepreneurs or to cross the borders by their own means. Using price discrimination, smugglers can charge them higher prices and maximise their rents.

## 2.2 Effects of reinforced controls

This simple market framework allows us to link the supply and demand sides of the markets and study the effects of different types of policies that tighten external or internal migration controls. These policies may target either the smugglers, the undocumented workers, or their employers, or some combination of them having all the same objective of deterring illegal migration.

Increasing border controls diminishes the chances for illegal migrants to cross the borders illegally by their own means, which increases their reliance on smugglers. It also increases the costs for smugglers to operate, which inflates the fees they charge to migrants. Moreover, in a dynamic perspective, destroying smugglers' vessels or dismantling their infrastructure and networks pushes them to restructure their business. In response, they need to strengthen their coordination to operate on larger scale, which reinforces the power of transnational mafias. All these short and long run effects result in higher prices on the smuggling market. This, in turn, should decrease the number of migrants crossing borders illegally with the help of smugglers. Yet, the effectiveness of stricter border control at decreasing the number of illegal migrants strongly depends on the availability of other migration channels or routes, that would-be migrants can choose, and, more generally, on the price elasticity of demand. This is an important point, which has been largely documented during the recent migration crisis in Europe.

Another way of dampening migration flows is through increased internal controls in destination countries, i.e. deportations of undocumented workers or fines to their employers, which decrease the expected pay-offs of economic migration. However, as compared to border controls, these measures have distinct effects on the smuggling market as they push down prices charged by smugglers since they decrease the demand for their services.

What we learn from this framework is that policies targeting the demand or the supply side of the human smuggling market tend to decrease migration

flows. However, they have very different effects on the amount of resources feeding illegal activities if they target the supply side or the demand side. Moreover, the effectiveness of stricter border controls at decreasing the number of illegal migrants strongly depends on the availability of other migration channels. The evidence presented next section illustrates these findings, showing that continuous reinforcements of the Mexico-US border turned out to be costly and mostly ineffective, while the effectiveness of policies targeting the demand side of the market is under-researched and unknown.

## 2.3 Empirical evidence

So what do we know about the effectiveness of migration controls? In the last decades, most OECD countries have continuously increased border controls. This resulted in a huge discrepancy between the resources allocated to enforce external versus internal controls of illegal migration.

Regarding border controls, the most serious quantitative studies combining detailed evidence on flows of illegal migrants and regional statistics on resources allocated to border controls are on the US border with Mexico. In the decades following the Immigration Reform and Control Act on migration, the additional investments allocated to protect the borders did not decrease significantly the flows of undocumented workers to the US. But it had the effect of increasing smugglers' fees. Migration costs were further increased by higher opportunity costs of crossing borders using further away routes (Gathman 2008). And this also increased human losses and other risks entailed by the illegal crossing on more dangerous routes, with the help of smugglers or by own means.

What about internal controls? The example of the US is again illuminative. Hanson (2007) highlights the strikingly low levels of enforcement against illegal migration at the worksite. Between 1999 and 2003 the number of man hours devoted to worksite inspections declined from 480,000 to 180,000 hours and very few employers of illegal migrants are prosecuted: the number of US employers paying fines of at least $5,000 for hiring unauthorized workers were 15 in 1990, 12 in 1994 and 0 in 2004. During the same period, the number of man hours policing the border increased 2.9 times while the number of hours to detect undocumented labour on the worksite was divided by 2.6 and considerable amounts of investments have been allocated to build border fences, walls, and spikes which have been estimated to cost several billion annually.

This is also true for many OECD countries, where borders have been reinforced as a response to political pressures but where internal controls remained extremely lax. For example, in France, in 2008, large firms have a 1.42 percent probability of being inspected each year and small firms face a 0 probability of inspection while at the same time hundred of millions of euros are spent at police patrol at the border, dismantling illegal migrants' camps and deportation measures. Given the sensitivity of public opinions, most of these statistics are coming from patchy reports by different ministries. They are not systematically collected nor analysed to assess the cost-effectiveness of migration controls. But existing evidence points to huge imbalances in allocations of investments into border controls versus internal controls, which are clearly sub-optimal if the sole policy objective were to tighten illegal migration.

# 3  Legalisation

Reinforcing border controls is very costly and is not very effective at further restricting illegal migration flows. Moreover, like any prohibition, migration restrictions generate a demand for illegal services and increase the amounts of resources going into the hands of smugglers, which are feeding illegal activities of all sorts (corruption, money laundering, violence, terrorism, slavery, etc) and strengthening their networks. Given all the negative externalities generated by this illegal market, are there alternative policies?

## 3.1  Free labour migration

A first simple idea is to open borders. This has the obvious advantage of legalising migration flows, hence eliminating human smuggling. This also allows to generate sizeable economic gains for both sending and destination countries. This solution is advocated by an important number of researchers from all fields of social sciences (political scientists Michel Agier and Francois Gemmene, economists such as Michael Clemens) and is justified by strong philosophical, humanitarian, and economic grounds. It also feeds interesting research about the size of migration flows that would be generated and of the associated economic gains. Findings hinge crucially on a few key assumptions, in particular regarding the transferability of institutions and

technologies, the degree of complementarities between native workers and immigrants, the speed of assimilation of immigrants. But the main obstacle to this proposal remains its lack of democratic support in today's societies.

Given this constraint, a more promising approach for policy makers is to consider less extreme solutions, which would allow destination countries to both control migration flows and weaken human smuggling.

## 3.2   Sale of visas

Another idea is to use some market based approach to restrict the number of migrants by selling visas. This idea has already fed many debates in blogs, the general press, and been discussed by prominent economists such as Gary Becker. Its opponents have warned against using such market tools which can generate a new kind of bonded labour between indebted migrants and their employers. The advantages are several: a sale of visas allows to restrict flows to those who are able and willing to pay to enter and participate in the club of rich societies and this may gain more democratic support in destination countries than free migration. From an economic perspective, workers can come legally, instead of having illegal migrants feeding smugglers and the underground economy. They can thus be controlled and taxed, while raising additional resources for the economy through the sale of visas, which can be organised in different ways (for example through auctions). Moreover, legal migrants can officially ask for loans and rely on legal institutions, which should reduce abusive contracts between indebted migrants and traffickers of all kinds.

In spite of these debates, the sale of visas has so far never been seriously considered as a way of fighting against smugglers. In our companion paper (Auriol and Mesnard 2016) we clearly demonstrate that it is difficult to win on all fronts.

One problem raised by this proposal is that selling visas at the same price as the smugglers' fees or higher is not enough to eliminate smugglers. They will indeed respond by decreasing the price they propose for their services. This will attract lower skilled workers who may prefer to pay a lower price by migrating illegally, albeit taking higher risks. Lower prices proposed by smugglers will attract more candidates to migration. This will occur unless the price of visas is set so low that smugglers cannot compete any longer without making losses. It is also possible to set the price of visas above

this "exit" price and still compete with smugglers by capturing part of their demand. As compared to illegal migration, legal migration with a visa is free of risk, and would hence attract many candidates who prefer to pay a premium for a visa rather than using services of smugglers. Since smugglers will always respond by lowering their prices, and at the extreme, be pushed out of business, a sale of visas will necessarily increase the overall flows of immigrants.

## 3.3   A Policy Mix

It is common to oppose these two types of public intervention, legalisation and repression, in political debates. In the US for example, people on the right and Republicans are typically accusing Democrats of being soft on the issue of illegal migration: "While Democrats believe in supporting a path to citizenship for illegal immigrants, Republicans support stronger border patrols and stronger repercussions for those caught in the U.S. illegally, as well as those who employ them or help them falsify documentation."[8]

These public discourses seem to imply a trade-off between controlling the number of migrants flowing into destination countries and legalising migration: either reinforced external controls are put in place to limit migration flows but such barriers to legal migration generate a demand for human smugglers' services; or legalisation through a sale of visas at the "exit price" or higher weakens human smuggling businesses, but this necessarily increases migration flows. Yet our analysis shows that legalisation of migration through the sale of visas and significant investment in reinforced controls are complementary.

An optimal public policy should combine legalisation and tighter controls to reach the two goals of controlling migration flows and weakening human smugglers. To squeeze smugglers' profits, the price of visas has to be set at a low level, which is such that, given their costs to operate, they can no longer propose low-cost services without going bankrupt. But this can be done more easily as smugglers' costs to operate increase or as the demand for smugglers' services decreases. For example, reinforcing police patrols at the border increases smugglers' costs to operate. Or reinforcing sanctions of employers of illegal migrants or deportations of illegal workers dampen

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[8]In Democratic View on Immigration October 2014 by republicanviews.org
http://www.republicanviews.org/democratic-view-on-immigration/

economic pay-offs of illegal migration. This in turn decreases the demand for human smugglers' services and contributes to squeeze smugglers' profits. This is why smugglers are more easily pushed out of business with a Policy Mix.

Our findings show that, with reinforced controls, a sale of visas does not need to be at very low price to push smugglers out of the market. In practice, the "exit price" of visa increases with the resources invested in reinforcing controls. Another advantage of this Policy Mix is that it raises public funds through the sale of visas and additional resources from fines to sanctioned employers.

What about the effects on the skill composition of migration flows? It is easy to show that whatever the selection of migrants under status quo, the Policy Mix we propose will increase their diversity. This means that if smuggled migrants are from the higher bound of the skill distribution, a larger pool of immigrants entering the country following the Policy Mix will include migrants from intermediary skill levels. And if migrants are from the lower bound of the skill distribution the Policy Mix will attract more migrants with higher skill levels. This increased skill diversity can be seen as another advantage for the economy.

Of course which kind of controls are reinforced to limit the increase in the flows of immigrants is not neutral in the policy debate as targeting smugglers, illegal migrants or their employers does not have the same political, well-being and economic effects. Also it does not have the same cost-effectiveness, an important point to which we return below.

# 4   Policy simulations

Since our framework of analysis focuses on the migration market and abstracts from other changes that may occur in the rest of the economy as a consequence of increases in migration flows, the results below are not full-fledged policy simulations. In particular, adjustments on the labour market may dampen the initial incentives to migrate, leading to smaller increases in migration flows following sale of visas than the ones we calibrate. Yet they illuminate the strong complementarities existing between legalisation and enforcing controls and give higher bounds of the predictable changes.

## 4.1 An example: The China-US route

We borrow most of the estimates used in our calibrations from Friebel and Guriev, 2006, and from the scarce information we have on the smuggling industry from case-studies on Chinese smugglers such as Gao and Poisson, 2005. For all our simulations we need some estimates of the degree of risk aversion of would-be migrants, $a$, and of the deportation probabilities $q$, which are typically difficult to observe. Instead, we have some direct evidence from Chinese smugglers reporting their marginal costs to operate at around €8000 to cross the borders to France and higher to the US (Gao and Poisson, 2005), which we estimate to be around $10000 for our simulations.This is an average. Marginal costs vary depending on the type of migrant and of trip undertaken. Some Chinese migrants obtain fake visas and invitations for business trips, which allow them to travel by air. Others have to cross several borders using several intermediary smugglers, which increases the overall marginal costs of the operation.

Using the information on marginal cost, the information on the lower bound of the price paid by Chinese to migrate illegally to the US, that is estimated to be at around $35000 we can infer from our model a range of risk parameters $a$ compatible with a set of deportation probabilities $q$ between 0.2 and 0.7 (see Auriol and Mesnard, 2012).[9] The compatible pairs are presented in the first and second row of Table 1 under the assumption that the number of smugglers network is $N = 2$. We then perform some comparative static exercises on the effects of varying the risk $q$ in the neighbourhood of each chosen value presented in each column. Finally, as there is very little quantitative information on the degree of market concentration, the Appendix analyses the sensitivity of our results when the number of smugglers increases to $N = 3$ or $N = 5$. For example Chin and Zhang, 2002, stress the existence of several smugglers' networks operating in China.[10]

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[9]Given the scarcity of information we have on these illegal activities, on the risk of deportation, and on the risk aversion related to migration decisions, one should take these calibrations as illustrative only.

[10]Comparing results of Table 1 with those in Tables A1 and A2 shows that the efforts required to eliminate the smugglers and maintain migration demand constant are smaller the higher the number of smugglers on the market, an intuitive result. It is indeed less difficult to fight against smugglers when their initial profit is low, which decreases with the level of competition.

Table 1: Policy implications for N = 2.

| degree of risk aversion | $a$ | 0.00000086 | | | 0.00001 | | | 0.00004 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| probability of deportation | $q$ | 0.68 | 0.7 | 0.72 | 0.48 | 0.5 | 0.52 | 0.18 | 0.2 | 0.22 |
| Policy Aim: eradicate smuggling... | | | | | | | | | | |
| exit price | $p$ | 43624 | 46575 | 49954 | 28232 | 29516 | 30924 | 17755 | 18336 | 18957 |
| migration flows (relative increase) | $\Delta D$ | 0.43 | 0.49 | 0.55 | 0.32 | 0.36 | 0.41 | 0.20 | 0.24 | 0.30 |
| ...with zero migration increase: | | | | | | | | | | |
| smuggling costs (relative increase) | $\Delta c$ | 2.73 | 2.50 | 2.26 | 2.67 | 2.50 | 2.33 | 2.70 | 2.50 | 2.32 |
| discount of illegal earnings (rel.inc.) | $\Delta \delta$ | -0.48 | -0.47 | -0.46 | -0.51 | -0.51 | -0.50 | -0.53 | -0.53 | -0.52 |

Note: prices $p$ are in USD.

Row 4 of Table 1 simulates the visa price, $p$ in USD, that would eradicate smugglers following a pure "visa sale" scheme - i.e. not using the available instruments to control migration flows. And row 5 simulates the subsequent relative increase in migration demand, $\Delta D$. Both $p$ and $\Delta D$ increase with the risk of deportation $q$, an intuitive result since the attractiveness of legal migration increases as the risk of deportation increases. For instance we can see in column 1 that with a risk of deportation of 70 percent the exit price (i.e., the price of visas that pushes smugglers out of the market) is close to $50000, while the increase of migration flows following this selling scheme would be 50 percent as compared to the status quo.

We next allow the government to combine sale of visas with repressive instruments to achieve the double objective of migration control and legalisation. We study how the different repressive instruments may be combined with a sale of visas to reach a "0 migration increase" objective while eradicating human smuggling. Policy makers may first consider reinforcing border controls, which increases marginal costs for smugglers to operate. Row 7 of Table 1 shows that the relative increase in marginal costs necessary to reach this objective, $\Delta c$, is substantial, around 250 percent, and decreases with the probability of deportation.

Policy makers could alternatively reinforce the sanctions to employers of undocumented workers, which translates into lower wages offered to undocumented workers. Row 8 of Table 1 shows that this policy would require decreasing the discount factor of illegal wages, $\delta$, by around 50 percent, such that the earnings of workers employed in the illegal sector of the economy falls below 40 percent of those of same skill workers in the legal sector.[11]

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[11]Current studies have estimated this parameter to be at around 0.8 in the US.

## 4.2 Discussion

These simulations show that the additional efforts required to combine a sale of visas with migration control decrease sharply with the risk of deportation, or more generally with any parameter affecting the expected gains from illegal migration. Indeed, when workers have lower expected gains, smugglers have to lower their margin to be able to attract them. It is therefore easier to drive them out of business and control migration flows when either the risk of deportation increases or wages and opportunities to work illegally decrease. In other words, our results highlight strong complementarities between different types of repressive instruments and sale of visas.

Of course, the set of policy objectives policy makers may consider is much broader than the extreme objectives used for the simulations above. In particular, complete legalisation -i.e. eliminating all smugglers from the market- may not be feasible at reasonable costs and having very few small smugglers, badly organised, and operating small scale businesses may not be such a big issue for policy makers. Similarly, societies may not want to freeze migration flows to their existing levels but rather increase them as migrants fuel the economy, boost the demography, increase diversity and innovation. All our model predicts is that it is possible to design a Policy Mix combining repressive instruments and a visa selling scheme to reach the targets that only policy makers and societies can determine. This objective can be set in terms of total number of migrants entering a destination country and their composition (share of legal/illegal ones).

However, in practice the Policy Mix may be difficult to fine-tune as it requires to know the cost-effectiveness of current repressive measures, which may target the smugglers, the illegal migrants, or their employers. Without more systematic quantitative evaluations of migration policies, it will be difficult to simulate the optimal combination of repressive instruments and market tools, which are required to achieve predetermined objectives.

If fine-tuning might be tricky, our results regarding the complementarities of instruments call into question the rationale of current policies. In the past decades border controls have been constantly reinforced in spite of very small effects, at the margin, on migration flows and there are large discrepancies in most OECD countries between the amounts invested in border control versus employer's sanctions. Given these discrepancies and the availability of new technologies, reinforcing systematic controls of undocumented work-

ers at the workplace may offer a more efficient means of dampening illegal labour migration flows than reinforcing border controls. It is striking that despite several attempts to mandate participation by all U.S. employers in the E-Verify program, an Internet-based system designed to check the employment authorization status of employees, participation is still voluntary, with limited exceptions. Small businesses and agricultural employers are strongly opposed to mandatory E-Verify and actively lobby against it. Similarly, within the European Union, representatives of Business Europe are opposed to the Commission's idea that employers should check the validity of residence permits to avoid the risk of being excluded from public contracts and, under certain circumstances, penalised by temporary or permanent closure of their companies in case of failure.

# 5 Current legalisation policies

## 5.1 Migration quotas and visas

We may also consider other ways of multiplying legal channels to migrate. Currently, most countries grant visas to some individuals, who are eligible under specific criteria, and given free rights to enter their territory albeit small administrative fees. These criteria vary depending on the needs of destination economies (for example filling specific labour market shortages) and the push factors in origin countries (for example flows of climatic refugees or political refugees). Rights to settle permanently or not, in combination with more or less extensive set of rights (work, social benefits, family reunion) are thereby given to a selected number of people based on very different grounds -work visas to fulfill labour market shortages, asylum to offer protection to refugees guaranteed by international laws (Geneva convention)- which may be controversial when they relate to ethnicity, religion or "common" history.

Quotas are equivalent to putting a zero price to migrate for some eligible individuals and infinite price to the others. Therefore a system of migration based on quotas also raises important ethical issues. There is a need to justify why certain types of individuals get some rights whereas others do not, which in the case of asylum seekers is quite easy but less easy in other instances. Moreover, from a practical viewpoint, a system of quotas may be difficult to implement as it has to be flexible, determined in a dynamic way to follow the situation of both sending and receiving countries and adjust the number

and type of immigrants to evolving economic and political situations. Last but not least, quotas imply some rationing, which can be organised in various ways: tightening the criteria of eligibility; increasing administrative obstacles (fees, queuing); lotteries, which overcome some of the aforementioned ethical issues. And this generates incentives to migrate illegally for individuals who are not eligible.

## 5.2 Visas for sale

In practice many OECD countries already sell visas of at least two different types. A first type of visas are sold at very high prices to few investors and entrepreneurs in order to boost businesses, capital investments or simply attract revenues. This is for instance the case in Malta (650 000 euros), Australia, United Kingdom (1.5 millions dollars in bonds), United-State of America, (visa EB-5 in exchange of 500 000 dollars productive investment), Singapore (2 million dollars), Netherland, Mauritius, Spain (500 000 euros investment in real estate), Greece (250 000 euros investment in real estate), Portugal (500 000 euros investment in real estate), France (10 million euros), various Caribbean islands...

At the other end of the spectrum, some countries such as Israel, Cyprus, Jordan and Lebanon have been regulating long distance migration of cheap labour through local agencies located in South-East Asian countries such as Philippines and Sri Lanka. These legal intermediaries screen the candidates and organise their shipment for a relatively low price, which is also co-financed by employers to compensate for shortages in labour.[12]

The obvious advantage of these visas is to attract cheap temporary labour force or other scarce resources (capital, investments, or revenue), who are all contributing to the host economies. This clearly shows that selling visas is possible and not incompatible with current existing legal frameworks in most countries. The price of visa can be seen as an entry ticket paid by migrants to participate in these economies. For example Chinese investors obtain the right to enter the European market.

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[12]Canada also offers visas for temporary workers, which are highly successful. In 2011, more than 192,000 foreign workers entered Canada under this Program, see Fact Sheet http://www.cic.gc.ca/english/resources/publications/employers/temp-foreign-worker-program.asp

However, these policies are fundamentally different from our visa selling scheme as they do not aim at weakening smugglers but only at fulfilling specific economic needs. Indeed, if the price of visa is set at a very high level, as is the case with investor visas, it does not compete with smugglers: smugglers offer lower-costs services to illegal migrants and can still capture a very large demand. And pricing temporary work visas relatively low but restricting their number also generates an illegal market for those who are not successful.

## 5.3 An application to the refugee crisis?

Under the current international laws refugees can apply for asylum and legalise their status upon arrival in safe countries. However, the political contexts in many origin countries have created an emergency situation where too many asylum seekers are stuck in refugee camps in origin, transit or destination countries where they are either queuing for a very long time before their claims are processed or undertaking perilous journeys to cross borders illegally. This system is costly and generates a real humanitarian crisis.

Selling visas is not the solution to this crisis which needs to be grounded on other principles than those relevant for economic migrants. However, our proposal improves the situation of refugees as well, as it offers them legal channels to quickly and safely leave their country of origin. The rationale of our policy is again to compete and weaken human smugglers and traffickers by offering legal services to all would-be migrants.

One ethical way to proceed for refugees would be to combine this scheme with refunds of visas (cash transfers) for those who are successfully claiming for asylum ex-post (ex-ante). For the other ones, who are more likely to be economic migrants, the Mix Policy we propose would still offer a better option than using the help of smugglers. Of course, this would only partially alleviate some very important concerns, in particular those related to the subletting of refugee camps to third countries and to abuses of human rights while crossing borders with the help of smugglers. But the funding, political, and international coordination issues about how to share the responsibility of all refugees would remain open.

# 6 Conclusions

In the past decades border controls have been constantly reinforced without significant effects on the flows of illegal migrants. It is also striking that, at the same time, controls of legal status of workers on the worksite have been so little enforced in spite of technological progress of biometry and of e-administration in general.

The current policies clearly reflect a complex political-economy equilibrium. Tough policy declarations concerning deportations of illegal immigrants are orientated towards electors while the absence of inspections on the worksite and of sanctions of employers benefits enterprises. This may explain why human smuggling is a booming business and that many illegal migrants are still exploited by criminal networks, while risking their life and, when successful at crossing borders, risking every day to be deported.

Another policy is possible in the UK like in Europe and it is an emergency to think seriously about it. This policy would involve a reallocation of resources to enforce sanctions against illegal work and the multiplication of legal channels offered to would-be migrants to cross the borders legally instead of illegally. This also involves designing new instruments to break the economic incentives of smugglers to operate and push them out of business. This is what an innovative visa selling scheme open to all candidates to migration can achieve, which would complement existing legal channels offered to selected migrants and asylum seekers and raise additional resources to finance complementary public policies.

Simulations based on scarce evidence and crude parameters borrowed from the economic and sociological literature illustrate the complementarities between such visa scheme and more traditional repressive measures. They offer some calibrations of higher bounds of expected effects on migration flows under alternative scenarios. However, more empirical work and systematic collection of data is needed to assess quantitatively current migration policies and fine-tune the innovative Policy Mix we propose.

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## Appendix: Sensitivity analysis when the number of smugglers on the market varies

For our simulations above we assumed that $N = 2$. We now turn to testing the sensitivity of our results when the market for smugglers is more competitive, assuming successively $N = 3$ and $N = 5$ smugglers' networks. Simulations presented in the tables A1 and A2 show the magnitude of all implied changes. Note that, similarly as above, the degrees of risk aversion and deportation probabilities displayed in the first two rows of each table have been chosen to be compatible with the information $c = 10000$ and the smugglers' fees around \$35000 characterising this route.

Table A1: Policy implications for N=3.

| $a$ | 0.000002 | | | 0.000008 | | | 0.000015 | | | 0.000035 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $q$ | 0.58 | 0.6 | 0.62 | 0.48 | 0.5 | 0.52 | 0.38 | 0.4 | 0.42 | 0.18 | 0.2 | 0.22 |
| $p$ | 33361 | 35069 | 36961 | 27621 | 28819 | 30127 | 23429 | 24319 | 25280 | 17650 | 18211 | 18810 |
| $\Delta D$ | 0.30 | 0.32 | 0.35 | 0.26 | 0.29 | 0.31 | 0.23 | 0.26 | 0.28 | 0.18 | 0.20 | 0.23 |
| $\Delta c$ | 2.68 | 2.50 | 2.32 | 2.66 | 2.50 | 2.34 | 2.65 | 2.50 | 2.35 | 2.68 | 2.50 | 2.33 |
| $\Delta \delta$ | -0.48 | -0.47 | -0.46 | -0.50 | -0.49 | -0.48 | -0.51 | -0.50 | -0.49 | -0.52 | -0.51 | -0.51 |

Note: prices $p$ are in USD

Table A2: Policy implications for N=5.

| $a$ | 0.0000005 | | | 0.000005 | | | 0.000026 | | |
|---|---|---|---|---|---|---|---|---|---|
| $q$ | 0.44 | 0.46 | 0.48 | 0.38 | 0.4 | 0.42 | 0.18 | 0.2 | 0.22 |
| $p$ | 24749 | 25670 | 26663 | 22658 | 23446 | 24291 | 17414 | 17932 | 18481 |
| $\Delta D$ | 0.19 | 0.20 | 0.21 | 0.18 | 0.19 | 0.20 | 0.15 | 0.16 | 0.17 |
| $\Delta c$ | 2.63 | 2.50 | 2.37 | 2.63 | 2.50 | 2.37 | 2.64 | 2.50 | 2.36 |
| $\Delta \delta$ | -0.46 | -0.45 | -0.44 | -0.48 | -0.47 | -0.47 | -0.50 | -0.49 | -0.49 |

Note: prices $p$ are in USD