

## Migration: some circular reasoning

**L**abour migration is a crucial piece in the jigsaw puzzle of globalisation; yet it is frequently misunderstood. Debate is often couched as though the only foreign workers were those who arrive in search of a job, bring their families along, and never go home again. In fact, as **Amelie Constant and Klaus Zimmermann** reveal in a new CEPR discussion paper, migrants often shuttle back and forth to their home country many times over the years; and this phenomenon of 'circular migration' is sometimes driven by surprising factors.

As the plot of many a Victorian novel testifies, a century or so ago, poverty-stricken labourers would leave their homelands by ship, clutching a few belongings, in search of a new life in the New World, never to be seen by their loved ones again.

Today, modern transport allows migrants to travel long distances, fast; a globalised financial system lets them send money home easily; and cheap telecommunications keep them in touch with their friends and family back home. All these factors feed the phenomenon of circular migration.

Short-term migrants who come to take a job for a while, and then return home, are attractive to governments keen to exploit the economic benefits of a wave of adaptable, short-term workers, without struggling with the social challenges - and costs - of integrating minority communities over the long term.

Both the European Commission and the US Congress have considered designing policies to encourage this pattern of short-term, reversible migration. Constant and Zimmermann believe their research could help the politicians to decide which factors are important.

The German Socioeconomic Panel is a regular survey, which tracks individual migrants, recording whether they are still in Germany, or have returned to their home country - and how many times they have travelled back and forth. The authors use data from the period 1984 to 1997, and focus on the most common groups of 'guestworkers' as they are known - those

from Italy, Spain, Greece, the former Yugoslavia, and Turkey.

They find that more than 60 per cent of the guestworkers studied were not long-term, permanent arrivals, who made a new life for themselves in Germany; but 'repeat labour migrants', working in Germany for a while, then returning to their home country, and then coming back to Germany months or years later.

Constant and Zimmermann use the data to investigate what criteria make migrants more likely to be in this 'repeat' group, rather than longer-term arrivals.

One important determinant seems to be age: younger workers are less likely to engage in this practice of repeated circular migration.

Another key factor is at first glance more surprising: workers who have been granted German citizenship are actually more likely to have left the country repeatedly - though they have not generally spent more years away from Germany than other migrants. The authors suggest that this is because once they are granted German citizenship, migrants know that they can freely come and go, leaving the country and returning again without fearing that they will be denied entry.

This echoes the findings of an earlier paper by Porter (2003), on the behaviour of Mexican workers in the Californian economy. Porter showed that in the early 1980s, undocumented Mexicans stayed an average of around 3 years working in California, before they returned home. Over the next decade, border controls were tightened significantly, however. By the late 1990s, illegal Mexican workers were staying on average 9 years before going back across the border: because they could not be sure whether they would ever be able to return.

It seems ironic that tighter border controls, or firmer restrictions on movement, should increase the duration of migrants' stay in their host country; but Constant and Zimmerman's findings underline this point. They show that guestworkers who are citizens of the European Union, and hence have free movement, tend

### IN THIS ISSUE

- Migration: some circular reasoning
- Politicians: the (square) root of all evil?
- Open economy micro
- E Pluribus Unum



to come and go more frequently than their counterparts from Turkey and the former Yugoslavia, who, like the Mexicans in California, cannot be sure whether they will be allowed to get back into the country.

Three other factors are found by Constant and Zimmermann to make workers less likely to engage in the process of repeat migration. The first is completing higher education in Germany. Having invested in studying for a degree from their host country, migrant workers tend to try and put it to use, by staying put.

Secondly, those migrants who had saved up and bought a house in Germany were less likely to return repeatedly to their country of birth. And thirdly, and potentially most contentiously in policy terms, migrants who had been allowed to bring their families to join them in Germany were less likely to return home again after a few years.

As globalisation liberates capital to flow freely across international borders, there is likely to be a growing clamour for workers to be allowed to follow, and governments will have to decide how much liberty to allow to foreign migrants from poorer countries keen to join their workforce.

Encouraging guestworkers to come and go on a relatively short-term basis is likely to be an increasingly tempting solution. It allows more developed economies to plug skills-gaps, and recognize the determination of foreign workers to seek a better-paying job abroad, without bringing the potentially heavy social and economic demands of permanent mass immigration.

However, Constant and Zimmermann's research on the experiences of German guestworkers over more than a decade suggests immigration policies can often have unintended consequences: for example, tighter restrictions on freedom of movement can simply persuade the workers who do arrive to stay for longer, for fear of never being allowed back into the country. As globalisation advances, and demands for migration become more pressing, it will become increasingly important to understand the complex motives that determine migrants' behaviour, instead of assuming they take a single, once-and-for-all decision.

**DP6438: Circular Migration: Counts of Exits and Years Away from the Host Country by Amelie Constant, Klaus F Zimmermann**

## Politicians: the (square) root of all evil?

Voters in democracies all over the world can often feel they have too many politicians. In France and Italy, they are probably right - whereas in the USA, they could benefit from having a few more. That's what CEPR Researchers **Emmanuelle Auriol** and **Robert Gary-Bobo** suggest, based on a simplified statistical model of a democracy which helps to answer the question: what is the optimal number of representatives?

In a new Discussion Paper, the authors use the so-called 'reduced form approach' to construct a stripped-down, mathematical representation of a political system and calculate what size of legislature would best represent the preferences of the population.

They begin by imagining that the rules in this ultra-simplified state are chosen by a group of Founding Fathers, who have the job of designing the best political system - one that will maximise the utility of the population.

Like the American Founding Fathers, these imaginary ones are assumed to have the best interests of the population at heart; but unlike them, they will also have a battery of statistical techniques at their fingertips.

The Founding Fathers are forced to make up the rules behind a 'veil of ignorance'. This is a conceptual device designed by the liberal theorist John Rawls, meaning in

this case that the imaginary Founding Fathers do not know what position they will hold in society, once the constitution is enacted. In other words, they cannot do what dictators the world over are fond of doing, and design a constitution to suit themselves, knowing that they will be the rulers.

Another rule is that the Founding Fathers do not know in advance what the political preferences of the population are likely to be - because the constitution should be built to last for centuries, and opinions could change radically over time.

Not only that, but they understand that nobody can know what everyone else wants. If it were possible for one individual to know the preferences of the whole electorate, the Founding Fathers might simply decide to put a benevolent dictator in charge of everything, instead of going to the trouble of paying representatives.

Faced by these constraints, the authors focus on the question of how many representatives would be needed to reflect the preferences of the population. Here, the imaginary Founding Fathers are confronting issues faced by real constitution-designers everywhere. There will have to be enough representatives to provide an accurate reflection of the varied opinions of the general public, but not so many that they would become a heavy financial burden on taxpayers.

First, Auriol and Gary-Bobo use a method called a 'limiting argument', from Bayesian statistics, to single out the optimal mechanism for political decision-making among representatives, given uncertainty about future preferences.

Using this approach, they single out a decision-making rule called a 'sampling Groves mechanism' as the best way of turning disparate preferences into political decisions.

The optimal number of political representatives will then be a question of finding the right statistical sample-size to make the rule deliver the best outcome in terms of utility.

The authors use statistical methods to investigate this issue. They calculate the welfare gains the Groves mechanism would deliver, if the preferences of the entire population were sampled (the 'first-best surplus'). Then they compare this to the outcomes if only a subset of the population – the representatives – were included in the sample; and each representative had to be paid.

On this basis, the authors arrive at an equation for the number of representatives which shows it to be a function of the square root of the population. Other factors influencing the optimal number of representatives are the heterogeneity of political views in society and the cost of maintaining a representative.

With this equation in hand, the authors examine the actual numbers of representatives for 111 countries in the real world. Then they also include estimates of how heterogeneous the population's preferences are, and how expensive is the legislature.

In general, they find the equation fits reality reasonably well – and they use it to estimate that there should be approximately 475 elected representatives for a population of 100 million people.

On this basis, the United States has far too few representatives – it should have 807, instead of 535. France and Italy, on the other hand, are shown to have too many.

For Americans, having too few representatives should be a cause for concern, because it may mean that some groups among the population are not having their views reflected in decision-making in Washington.

And the authors argue that having too many representatives is not simply a question of paying more taxes to support them, or being forced to sit through too many boring speeches. They provide tentative evidence that countries with 'too many representatives' may be more prone to corruption, and to entangling businesses in red tape. Put simply, the more representatives there are, the greater their output is likely to be: in rules and regulations, and other potentially meddlesome acts.

Auriol and Gary-Bobo use mathematical modelling to step back from the messy cut and thrust of day-to-day politics, and isolate what the job of the executive and the legislature should be, if democracy is stripped back to its bare bones. This approach, while highly stylised, allows them to uncover important questions about the working of democracies in the real world.

**DP 6417: On the Optimal Number of Representatives by Emmanuelle Auriol and Robert J Gary-Bobo**

## Open economy micro

One of the persistently intriguing puzzles of economics is to explain why Thomas Malthus got it wrong. Malthus, writing at the dawn of the eighteenth century, was convinced that the human population would inevitably increase faster than the food-supply – and as a result, humanity was doomed to an overcrowded and hungry existence.

What he failed to foresee was the extraordinary technological leap of the industrial revolution, which would unleash rapid increases in income and, eventually, lead population-growth to fall back, leaving plenty to go around.

Not every economy escaped from the 'Malthusian trap,' of an ever-increasing population fighting over limited resources. The Industrial Revolution created what has become known as the 'great divergence': some countries experienced a sudden, once-and-for-all jump to a much faster rate of growth, while others continued stagnating. Some economies, especially in Sub-Saharan

Africa, are still stuck in the Malthusian trap two centuries later. The gap in per capita GDP between the richest regions of the world and the poorest exploded – from 3 to 1 in 1820, to 18 to 1 by 2000.

The question of why this 'great divergence' occurred is a hotly disputed one, where history, economics, political science and even geography meet. Jared Diamond's popular book, *Guns, Germs and Steel* offers one answer, involving diseases, domestic animals and plant species; while a new book, Gregory Clark's *A Farewell to Alms*, has provoked a furore by pointing to cultural, and even quasi-Darwinian explanations.

One answer widely espoused by economists is the idea that there are 'multiple growth regimes': whether because of their geographical endowments, or history, or even their culture, countries are segregated into a number of separate 'clubs', where different economic rules apply. They may be trapped in a group of slow-growing, subsistence economies; or lucky enough to

have jumped into a 'convergence club' of fast-growing countries, feeding off each other's success.

Only when their income or human capital (education or skills) reach a certain threshold – perhaps because of an influx of foreign capital, or overseas aid – are countries catapulted from one of these clubs, into another. Otherwise, output can simply stagnate for many years or even centuries, as it did in England before the Industrial Revolution.

In a new CEPR Discussion Paper, **Oded Galor** rejects the idea of multiple growth regimes, and describes an alternative approach, of 'unified growth theory,' which seeks to provide a more powerful explanation, by reconciling this idea of different 'clubs' of economies, clustered at a certain stage of development, with the evidence that occasionally, they manage to jump from one group to another.

Galor believes economists should be looking for, 'a unified theory that would unveil the underlying micro-foundations of the entire growth process and would capture in a single framework the epoch of Malthusian stagnation that characterised most of human history, the contemporary era of modern economic growth, and the driving forces that triggered the recent transition between these regimes.' Putting the rich and the poor in separate categories, as under a multiple growth regime approach, doesn't help to show how one stage might give way to another.

In another CEPR paper, written jointly with **Quamrul Ashraf**, Galor sets out one such theory, in which culture – specifically, the openness of societies to cultural diffusion from outside – is the key to the pace of economic development.

Ashraf and Galor argue that during the agricultural stage of development, the societies that flourished were those that were relatively impervious to the diffusion of ideas and ways of life from outside. They tended to be better at assimilating outsiders, making them conform to long-established norms, and better at accumulating and exploiting skills and local knowledge.

If technology changes little for hundreds of years, the most successful societies are those that can build up knowledge and pass it on from generation to generation.

Later, however, as the industrial revolution got underway, adaptability and the absorption of new technologies became much more important. The closed, conformist societies that had prospered in the agricultural age were ill-equipped to respond to rapidly-changing circumstances. More culturally diverse economies, open to the diffusion of new ideas and different ways of life from outside, leapt ahead.

So it wasn't a specific set of cultural ideas – Max Weber's 'Protestant Work Ethic,' or the Enlightenment ideals of the Reformation – that was important for fostering rapid economic development, it was the general receptiveness of some societies to fresh thinking from outside.

Ashraf and Galor offer a number of historical examples to illustrate their theory, from the success of China during centuries of being closed to the outside world; to technological developments in culturally diverse Baghdad during the Islamic Caliphate of 750-1258.

They then construct an economic model to show how cultural openness, partly influenced by the geographical openness of a country, affects when, and how successfully, societies take off from Malthusian scarcity to industrial plenty.

So under unified growth theory, the shift from Malthusian population-growth to technological innovation, to education and slower birth-rates, is one long, inevitable process: all part of development. But the moment that process begins and the speed at which it happens, will depend on history, geography and culture.

Multiple growth regime theory suggests there are 'thresholds' of income or population which countries must reach before they can jump to the next stage of development. Galor argues instead that it is changes in the rate of population growth, income or, in this case, cultural diffusion that matter.

The reason such enormous gaps between the per capita income of different countries have arisen, he argues, is not because they are clustered in groups to which different rules apply, but because of differences in the timing of their take-off from stagnation to sustained growth.

This unifying approach is not only an attempt to give a new perspective on economic history, but has important ramifications for how to tackle contemporary economic problems. If Ashraf and Galor are right, a range of apparently irrelevant factors – such as a country's culture – will be crucial to its development. Securing new flows of capital, in aid and foreign investment, to the world's poorest countries will never be enough to lift them out of the Malthusian trap.

**DP 6427 Multiple Growth Regimes – Insights from Unified Growth Theory by Oded Galor**

**DP6444 Cultural Assimilation, Cultural Diffusion and the Origin of the Wealth of Nations by Quamrul Ashraf and Oded Galor**



# E Pluribus Unum

In a new CEPR discussion paper, Michael Ehrmann, Marcel Fratzscher, Refet Gurkaynak and Eric Swanson use data from eurozone bond markets to test whether monetary union has really succeeded in integrating European financial markets.

The authors also examine how far the sovereign bond markets of France, Germany, Italy and Spain have begun to move together since monetary union. The governments of the four countries have significantly different fiscal positions, and hence varying probabilities of defaulting on their debts – Germany had a debt-to-GDP ratio of 38% in 2003, while Italy's was 97%, for example. If investors still harboured even the tiniest doubts about the long-term viability of the euro-project, or the possibility of one or more countries being forced to exit the single currency, that would be expected to show up in differing yields on government bond markets.

It is clear that in general yields have both declined, and converged. But the authors carry out a more detailed analysis of day-to-day movements in yields, to examine whether gaps emerge in short-term movements.

One of the reasons for creating a single currency was to change markets' perceptions of Europe's economies. No longer would Germany be the sole bastion of monetary rectitude; no longer would Spain and Italy spend their way out of trouble, or devalue their currencies to restore competitiveness. The European Central Bank would bring anti-inflation credibility – and discipline – to all twelve (now thirteen) member-countries.

Longer-term bond yields are a good indicator of how the markets judge the inflationary prospects in an economy, so the authors tackle the question of inflation expectations by analysing how long-term yields in the European bond markets have shifted.

They find evidence of significant convergence. Before EMU, long-run rates in Italy were four times as variable as those in Germany and France; but after EMU, they became much better anchored. Spain, too, has seen inflation expectations steady considerably.

Yields on five-year bonds have also converged substantially: in fact, the only slight differences the authors detect are on ten-year yields, which are marginally higher for Italy in particular.

The authors examine what they call 'conditional' movements in bond yields: the way the debt markets respond to particular snippets of economic news. They analyse the response of yields in the four countries to surprises within their own economies – and to events in the US and UK, as well as the eurozone as a whole.

There seems to have been a 'remarkable' degree of convergence between the bond markets, as measured on this basis. The strongest integration took place just before and just after the inception of monetary union in 1999, but the process of convergence continued until 2003 or 2004. Immediately after monetary union, there were still some differences in the way bonds for the different countries responded to shocks; but now they are responding identically.

Having demonstrated that the eurozone's bond markets are now behaving almost indistinguishably over short time periods, the authors turn to measuring how investors' expectations of inflation in the eurozone member-countries have altered since monetary union.

By examining daily movements in bond markets, Ehrmann et al.'s study provides strong evidence that, to the extent that monetary union was aimed at pinning down long-term inflation expectations across the eurozone, it has been a resounding success.

There is now essentially a single, unified euro-area bond market, notwithstanding the different macroeconomic characteristics of individual member-countries. Convergence has been not just on the level of bond yields, but even in their rapid, day-to-day movements and the way they respond to economic shocks.

As the authors remark, however, the impressive integration of financial markets has so far not been mirrored in Europe's real economies. Their findings show that ECB monetary policy is being transmitted to Europe's businesses and consumers through the markets in a relatively consistent way, but domestic economic circumstances vary widely, raising the question of whether financial market convergence will eventually lead to economic convergence too.

**DP 6456 Convergence and Anchoring of Yield Curves in the Euro Area by Michael Ehrmann, Marcel Fratzscher, Refet Gurkaynak and Eric Swanson**

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