advantage

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a centenary perspective

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A welcome from the Editor ...

"Welcome to the Winter issue of *Advantage*, the magazine of the Centre for Competitive Advantage in the Global Economy.

In this issue, Vera Troeger looks at the impact of maternity benefits on the career opportunities of female academics and finds that the generosity of maternity pay can positively impact the career path of women in academia and help close the gender pay gap.

On the centenary of the Bolshevik Revolution of 1917, Mark Harrison reflects on the Soviet era, an era distinguished not by economic growth or human development, but by the use of the economy to build national power. While opportunities improved for many citizens, Soviet Russia was a tough and unequal environment in which to be born, live and grow old.

Traditionally most work on long run economic performance has focused on growth. New research by Stephen Broadberry shows that improved performance in the economies of poorer countries since the 18th century may be due to these economies shrinking less rather than growing faster. Steve explores this in his article and considers the implications for future growth.

Crime has fallen across many countries since the early 1990s. There are a number of plausible explanations, including police resources, demographic factors, and incarceration rates. New research by Mirko Draca considers the effects of changes in the prices of commonly stolen goods and finds a strong relationship between changes in prices and levels of crime.

Finally, Dr Jennifer Smith explains her work on the Migration Advisory Committee which has been commissioned by the government to advise on the impacts of the UK's exit from the European Union."

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The Soviet economy: a centenary perspective

By Mark Harrison

In the 1980s the Soviet Union was famously described as "Upper Volta with rockets." This epithet unjustly disparaged the history and culture of the country now known as Burkina Faso. It was also unkind to the Soviet Union, a country that was larger and richer by orders of magnitude.

What was the comparative advantage of the Soviet economy? It lay in the production of national military and economic power for an era of mass armies.

THERE WAS A GRAIN of truth, however: the military capabilities of the Soviet Union were disproportionate to its relative economic strength. A global power, the Soviet Union rivalled the United States in nuclear and conventional forces. Yet its economy, based on a population of similar size, spread across a much larger territory, produced less than half of the GDP of the United States in real terms.

This was a clue. We teach our students that every country has its comparative advantage. What was the comparative advantage of the Soviet economy? It lay in the production of national military and economic power for an era of mass armies. The foundations of this advantage were laid in the first measures of the Soviet state established by the Bolshevik Revolution of 1917, the centenary of which we will mark on November 7 this year.

From the outset, the Bolsheviks admired and followed two models of modern economic organisation, one German and the other American. The German model was of a war economy, implemented in 1915 and 1916 by Walther Rathenau and Erich Ludendorff. In the war economy, there was mobilisation for mass warfare and mass sacrifice, with commodities rationed at fixed prices. The American model, implemented by Henry Ford and celebrated by Frederick Winslow Taylor, was of standardised commodities mass-produced under centralised, hierarchical management. Together, these two models provided the key principles of the Soviet alternative to a market economy.

The emergence of the "Soviet-type economy" described in western textbooks took nearly two decades, from 1917 to around 1934. These years were marked by intense political and social conflict and several U-turns that varied the scope for market organisation and consumer choice. The U-turns give some credence to the idea that the Soviet economy could have developed along more than one alternative path. Even today, after all, "varieties of communism" persist, from China and Cuba to Venezuela and North Korea. ▶

Mass education released women from drudgery in fields and factories, opened up the world of office work, and enabled them to live respectable lives.

Despite the variation, continuities can be found from the first years of the Bolshevik Revolution. Most obvious was centralised single-party dictatorship. The party leaders shared beliefs that formed their perceived self-interest and how best to promote it. They saw the world as hostile, and their country as a fortress besieged by enemies and penetrated by spies. When not at war, they prepared for war. Steadily and incrementally through the early vicissitudes, including the years of relative relaxation in the 1920s, they built the capacity of the state to select and direct personnel, to protect supply chains, and to filter and channel information. They subverted their neighbours, eventually imposing communist regimes on them. Having secured them as allies, they invaded them more than once under the banner of "defending the gains of the revolution." Their confrontational actions continually generated evidence that would serve to validate their beliefs.

If we turn to outcomes, we find that Soviet institutions raised the level of output, but not its underlying growth rate. They profoundly changed the composition of expenditure, repressing consumption to finance industrial and military projects. One result was a vast military industry, organised for the mass production of armaments. In conventional branches, this complex was largely laid down in the 1930s; by the outbreak of World War II the Soviet Union rivalled Germany as one of the world's two leading suppliers of weapons. Atomic bombs, space missiles, and radio-electronics were added during the war.

In contrast to Russia before and after, the Soviet distribution of personal income and wealth was relatively equal. Consumption inequality was probably greater, and may even have exceeded income inequality. Every person could count on an income, but income did not decide personal access to goods and services, which depended on political and social status. The once-familiar images of queues outside Soviet stores depict the people who had money but lacked status; status was required to spend money without waiting in line.

Under the Soviet system, millions of lives were damaged or destroyed by periodic famines, episodes of mass killing, and continual, pervasive repression. At the same time, under the same system, millions of lives were advanced. The beneficiaries are identified most easily in demographic terms. One group that gained was young women. The Bolsheviks, who aimed to promote national capabilities, saw women as a potential resource, but shackled by illiteracy and lack of education. Mass education released women from drudgery in fields and factories, opened up the world of office work, and enabled them to live respectable lives. Women continued to suffer from job segregation, a glass ceiling, and the "double shift" of paid work and home work, but still the change in their lives was profound.

A second group of beneficiaries was children. Before the Revolution, one in six children died before the age of five years. After worsening in the troubled early years of Soviet rule, this proportion improved dramatically. The main factors were simple but forceful measures for public sanitation, infection control, and antisepsis in childbirth and surgery. By the 1950s, life expectancy at birth had risen from less than 30 years to more than 60. After that, improvement stopped.

In contrast, a third group made no gains. These were people of middle age. The Soviet Union made little use of the new science of non-infectious and degenerative diseases. From the 1890s to the 1980s, the life expectancy of men and women aged 40 barely changed.

The Soviet Union was a product of global wars and of the technologies of the twentieth century. In the same century, many other countries made similar social and economic gains with more consent and less violence. On its centenary, the Soviet economy should be remembered but not mourned. ◀

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How much do children really cost? Maternity benefits and career opportunities of women in academia

By Vera E. Troeger

New research finds that the generosity of maternity pay can positively impact the career path of female academics and help close the gender pay gap.

"MAY" CHILDREN, HOLIDAY BABIES and post-tenure pregnancies: these are some of the labels attached to women's choices of having children in an academic environment. Academic women seem to share a common burden in scheduling their maternity plans: to survive in academia and advance through the faculty ranks, women tend either to give birth during vacation time or to postpone their motherhood status to the end of their probation period and the achievement of tenure. The end result is, generally, an under-representation of women in higher academic positions (also known as the "leaking pipe problem"), lower salaries, lower research outcomes and promotion, lower fertility, and higher rates of family dissolution – while family and children seem to have either no impact or even a positive effect on the patterns of men's performance in the academic ranks. Thus, motherhood and professional achievements appear as conflicting goals even for women in academia, an environment that is usually praised for its flexibility in terms of working hours and thus family friendliness. ▶

The UK Higher Education Statistics Agency (HESA) provides useful data underlining both the "leaking pipe" and gender pay gap in British academia.

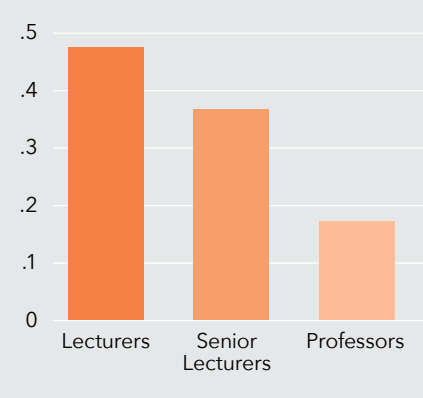
Across all academic disciplines, not even one in five professors is a woman and less than a third of academics in the highest salary bracket are female. Of course the argument that both promotion and salary should follow performance can and should be made. But even if we believe that these decisions are purely based on academic merits, we have to ask ourselves: Why is it that women in academia are notoriously underperforming? And what can and should be done about it?

The vast majority of studies on gender and academic achievements point to the lower mobility of women (mostly due to family responsibilities), child rearing burdens and women's preferences for academic disciplines that have low publication records as possible explanations of gender differences in higher education systems. Other studies link the gender gap in academia to women's 'gender-related' attitudes such as women's propensity to choose teaching rather than research institutions.

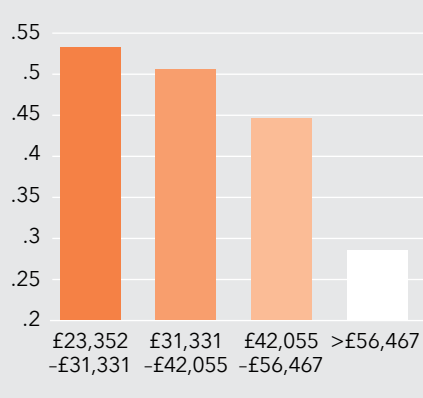
Previous research also argued that children and maternity breaks and the lack of family friendly policies negatively affect the career path of women in academia. Compared to their male colleagues, who are more likely to benefit from family formation and fatherhood, women pay a huge prize for having children in academia in the form of lower promotion rates, higher exit patterns and personal vicissitudes such as family dissolution and divorce. More generally, the probability of exit from academia is higher for women at the early stage of their career, which usually coincides with their fertility age, while the lack of family oriented policies disproportionally disadvantages women's professional and personal conditions. Yet, to date, we do not know whether the status of female academics has improved over recent years, nor do we have updated information on maternity and parental provisions for faculty members in the UK system.

Figure 1: the "leaking pipe problem" and gender gap in pay at UK HIEs

The leaking pipe problem



The gender gap in pay



Across all academic disciplines, not even one in five professors is a woman and less than a third of academics in the highest salary bracket are female.

We seek to fill this gap by analysing higher education institutions in the UK and their provisions on a number of maternity leave arrangements. We examine the effect of such maternity provisions on career achievements of women, e.g. promotion to full professor, and salaries. We find that the generosity of maternity pay as well as the availability of child care positively affect career opportunities as well as income of female academics.

Most of the universities provide extra Occupational Maternity Pay (OMP) that tops up the SMP (Statutory Maternity Pay) in the first 39 weeks of maternity leave. The eligibility criterion to access the OMP usually depends on the length of service and both the payments and the eligibility criteria may vary among the institutions.

Arguably the best indicator for the generosity of maternity benefits is the number of weeks full salary replacement is paid[1]. We expect that if women can take more time out of work – without income cuts – they are advantaged in terms of adapting to their motherhood status without being pressured by income concerns or the need to multitask administration, teaching and research tasks. This increases the probability that women will return to their research position without having to take a career break and with possibly minor effects on research and publication activity.

Indeed, examining the generosity of maternity pay across 182 HEIs reveals a large variance which cannot only be explained by different financial constraints faced by the university[2]. For example, the number of weeks for which full salary replacement is granted varies from 0 (e.g. Leeds Metropolitan University) to 26 weeks in HEIs such as Oxford, Manchester, Birkbeck College and the Royal College of Arts. Places as diverse as Warwick, Essex, Bristol, Exeter, Kent, Bath, Leeds, Birmingham

City, Bangor, Heriot-Watt, Strathclyde Universities or Goldsmith College only grant eight weeks of fully paid maternity leave, while HEIs such as Keele University, Heythrop College or Cambridge University pay mothers 18 weeks of full salary replacements.

The UK Higher education sector provides a useful start to empirically investigate the link between maternity provisions, productivity, and career paths. Firstly, unlike in other countries, such as Germany, Norway, Sweden or Denmark, maternity policies vary greatly across UK HEIs because the statutory regulations present a benchmark (minimum) standard of maternity benefits and universities usually top up these basic provisions to different degrees. Secondly, the university sector allows gathering very good data on hiring, promotion and career paths.

We collected data on parental leave regulations and childcare provisions for 182 institutions of which we could match 149 to data on composition of academic staff from the Higher Education Statistics Agency (HESA).

Universities with a very generous occupational maternity pay on average double the number of female professors compared to HEIs with minimal maternity benefits.

Whether more generous maternity provisions impact career paths of female academics seems to be an incredibly important question that has serious policy implications. We address the "leaking pipe" and gender gap in salary questions by analysing whether better maternity provisions affect the share of female full professors, and the share of women in the highest salary bracket.

Strikingly we find an unambiguously strong relationship between the generosity of maternity pay and an increase in the share of female professors across all disciplines[3]. Universities with a very generous occupational maternity pay on average double the number of female professors compared to HEIs with minimal maternity benefits. This effect, however, is much stronger for research intense institutions than for primarily teaching institutions as is shown in figure 2[4].

In addition, in house childcare provision increases the share of female professors by up to a third. Our results suggest similar, albeit weaker patterns, for female salaries in academia: more generous maternity leave provisions lead to a higher share of female academics with an income in the highest salary bracket. We find no relationship between maternity/paternity leave provisions and career opportunities of male academics.

These aggregated results have to be taken with some caution and more work has to be done to identify the effects of maternity leave provisions at the individual level[5]. However, these findings point towards the possibility that the generosity of maternity pay can positively impact the career path of female academics and help close the salary gap. Of course generous maternity schemes impose a cost on universities' budgetary allocation. However, if the academic community, and more broadly society, are interested in generating equal opportunities beyond just window dressing and keeping female human capital in the production process we have to ask ourselves how we can generate an environment that allows women to maintain productivity and keep up with their male colleagues despite child rearing and family responsibilities. ▶

Figure 2: Generosity of maternity pay and career progression

Our research does not necessarily support the idea of infinitely generous and long maternity leaves, yet it is in line with previous results on the trade-off between length and generosity. Our findings suggest that a combination of limited but generous maternity benefits coupled with institutionally provided child care might help to deplete the leakage in the pipe.

We can possibly draw inferences from the UK higher education sector more broadly. Our research shows that more generous maternity pay can help keep female talent in the labour market thereby increasing productivity. The UK suffers from a productivity gap compared with other highly developed economies and it ranks very unfavourably both in terms of generosity of statutory maternity pay and public spending on parental leave provisions compared to other EU and OECD countries. There seems to be room for improvement: more generous parental leave policies could help close the productivity gap and thus pay for themselves in the long run. ◀

Our research shows that more generous maternity pay can help keeping female talent in the labour market thereby increasing productivity.

Footnotes

[1] We also analyse other generosity measures such as the number of weeks for which the OMP tops up the SMP and the so called full weeks equivalent which measures for how many weeks on average full salary replacement is paid.

[2] In a companion paper we explain this variance and find that larger, more research intense universities, with a (previous) larger share of female full professors and a low student-to-staff ratio implement more generous maternity packages.

[3] When we break down the analysis across different disciplines we find stronger relationships between the generosity of maternity pay and career advancement for the natural and social sciences than for the humanities.

[4] Research intense universities have a much stronger screening process at hiring stage and have therefore stronger incentives to keep highly productive female academics by providing more generous maternity pay.

[5] We have collected individual data for 10,000 female academics in the UK on child rearing histories, individual career paths and productivity, the results show similar patterns.

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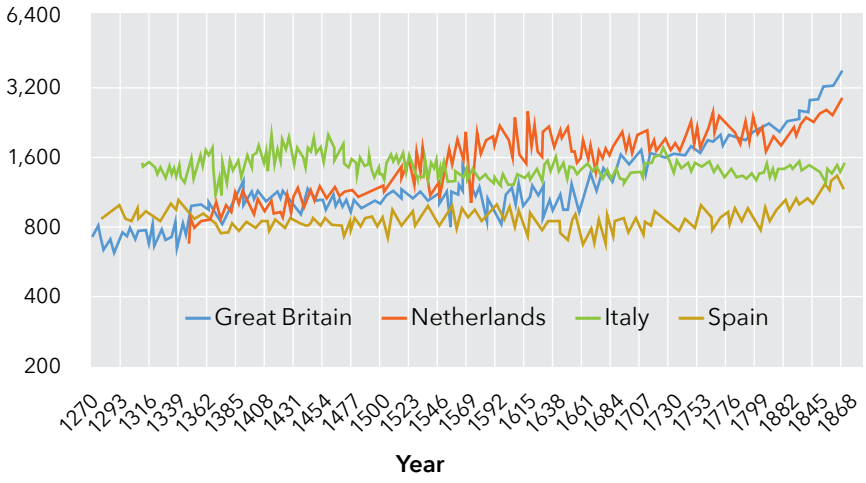
Growing, shrinking and long run economic performance

By Stephen Broadberry and John Wallis

To date, most work on long run economic performance has focused on 'growing', but recent work for the post-1950 period has suggested that economies vary at least as much in how they 'shrink' as in how they grow.

DESPITE THESE FINDINGS on the volatility of GDP per capita in poor countries, there has been little research into why the economies of poorer countries shrink so often or by so much. Furthermore, economic historians have not systematically investigated the possibility that improved long run economic performance since the eighteenth century could have been due to these economies shrinking, or falling back, less rather than growing faster. In new research, we show that to understand economic performance over the long run, we need to explain a reduction in the rate and frequency of shrinking rather than an increase in the rate of growing (Broadberry and Wallis, 2017). ▶

Figure 1: Real GDP per capita in Britain, the Netherlands, Italy and Spain 1270-1870 (1990 international dollars, the logarithm of GDP per capita)



Empirical evidence on the importance of shrinking

Figure 1 plots per capita GDP for four European economies over the period 1270-1870. For Italy and Spain, there was a clear alternation of periods of positive and negative trend growth over periods of a decade or more, with growth booms typically followed by growth reversals, leaving little or no progress in the level of per capita incomes over the long run. Per capita GDP therefore fluctuated without long run trend before the mid-nineteenth century. For the cases of Britain and the Netherlands, although there were alternating periods of positive and negative growth until the eighteenth century, there was also a clear upward trend over the long run, with the gains following the Black Death being retained, and the growth reversals eventually disappearing with the transition to modern economic growth in the eighteenth century. As periods of negative growth became less frequent and as the rate of shrinking decreased in Northwestern Europe, Britain and Holland overtook Italy and Spain.

Economic performance over time is the aggregation of short run changes measured at the annual level. In three data sets covering the period from the 13th century to the present, we show that better long run economic performance has generally occurred not so much because of an increase in the rate of growing, but more because of a decrease in the frequency and severity of periods of decline.

Explaining why some economies shrink more

These empirical results suggest two social patterns. One pattern is societies with high growing rates, high shrinking rates and high shrinking frequencies, resulting in less, little, or no growth over the long term. This pattern has dominated human history for the last 10,000 years. The other pattern is societies with low growing rates, low shrinking rates and low shrinking frequencies, resulting in slow but steady growth over the long term. This second pattern appeared only after 1700, and then only in a handful of societies. This raises an obvious question: can we find corollary patterns in the historical record?

We consider some possible factors: structural change from an agricultural sector dependent on the vicissitudes of the weather to a more stable service sector; technological change, transforming downturns from an absolute decline in output to a slower rate of positive growth; demographic change with fertility control leading to the avoidance of over-population and diminishing returns. But taken together, these factors do not provide a full explanation. More important is the rise of the rule of law.

North, Wallis and Weingast (2009) analysed how societies create and sustain social order, with important implications for the nature of rules. Violence arises not just during periods of formal warfare between states, but also during periods of civil conflict, and social orders attempt to limit such violence. Coalitions of powerful individuals can manipulate economic privileges to create rents, and to the extent that those rents are adversely affected by violence, they have a credible incentive to reach agreements not to use violence. Those agreements operate within narrow ranges of circumstances, and outside those ranges, agreements break down and economies shrink. North, Wallis and Weingast call this the "natural state". Here, rules have to recognise the privileges of powerful elites, and one of those privileges is that rules apply differently to elites, and also differently to different elites. The rules that emerge in a natural state are 'identity rules' whose form and enforcement differ according to the organisational identity of individuals. While identity rules may persist, they are essentially a solution to short run problems that exacerbate long run instability. Identity rules treat different elites differently and therefore, as elite identities change over time, how the rules apply will differ among elites. When circumstances change sufficiently, existing institutional agreements cannot solve problems of elite coordination. The result is disorder and violence, which leads in turn to shrinking.

Long run development, without growth reversals, therefore requires the transition from a world of identity rules to a world of impersonal rules, which are applied equally to all. Such institutional change is always difficult to bring about, however, because it requires the most powerful elites to give up their privileges. When challenged by new elites who have accumulated more wealth, it is easy

Economic performance over time is the aggregation of short run changes measured at the annual level.

to understand the reluctance of established elites to give up their power to bias rule enforcement in their favour. The resort to violence that often accompanies such struggles, and leads to shrinking, is also easy to understand. However, it is also possible to envisage a peaceful way out of such an impasse. This is due to the "paradox of privilege". Business relationships which would be viable in an impersonal rule society may not be viable in an identity rule society, simply because there is no mechanism for the most powerful elites to credibly commit to an agreement that could be enforced against them in the courts (which will always rule in their favour in an identity rule society). The most powerful elites may therefore be excluded from new highly profitable business ventures simply because the better informed but less powerful elites cannot risk signing a contract with them, since if a dispute arises they know the courts will rule in favour of the more powerful. In such circumstances, elites may find it worthwhile to give up their position of legal privilege to be able to participate in highly profitable economic projects. Such transitions seem to occur only rarely, which explains why the process of development spread so slowly after its first appearance in Britain during the Industrial Revolution. It also explains the continuing vulnerability of many poor economies in the developing world to episodes of shrinking. ◀

Growth reversals in the modern world

Many African countries have experienced growth reversals. Previous periods of rapid growth across Africa have often been followed by phases of economic decline which have erased many of the gains countries have achieved in per capita income. Africa's transition to modern economic growth will require a break in the boom-and-bust pattern which has characterised its economic performance during much of the 20th century.

Post-independence political conflict resulted in several growth reversals in Nigeria. In 1958 the World Bank claimed that Nigeria's prospects for growth based on its agricultural exports (including palm oil, cocoa, ground nuts, cotton and rubber) were good, but they depended on 'Nigerians' success in eliminating tribal or regional antagonisms and maintaining reasonably high standards in public administration' (World Bank 1958). The Biafran War of the late 1960s reversed earlier gains, and GDP per capita fell to below its 1950 level (Iyoha and Orioaki 2008). The oil boom of the 1970s led once again to

positive growth, but oil revenue had little lasting impact on per capita GDP, which declined in the 1980s and remained stagnant throughout the 1990s (Collier and Gunning 2008). Since 2000, oil production and expansion in agriculture and services have led to a period of renewed economic growth, but the country remains overwhelmingly dependent on its energy sector.

Contrasting examples of this are seen in Korea, Taiwan and Singapore which had 30 to 35 years of rapid growth from the early 1960s to the late 1990s when the Asian Crisis intervened after which these economies started growing again. Or the UK, where between 1947 and 1973 the economy grew consistently over a 26 year period with growth declining for only one to two quarters within this period.

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North, Douglass C., John J. Wallis and Barry R. Weingast (2009), *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*, Cambridge: Cambridge University Press.

Explaining falling crime in the UK

By Mirko Draca

A simple answer? Crime rates have fallen across many countries since the early 1990s.

IT HAS BEEN HARD TO PINPOINT a decisive reason for this fall in crime with factors such as investments in police, changes in incarceration rates and demographic factors such as abortion and even the level of lead pollution all having been considered.

The economic model of criminal participation turns on the issue of the 'rationality of criminals'. Is criminal behaviour driven by personal, psychological factors or is it based on an economic calculation?

In my work with Theo Koutmeridis and Stephen Machin, forthcoming in the *Review of Economic Studies*, we tackle a surprisingly overlooked reason for the fall in property crime that provides insights into the rationality of criminals, namely the price of goods. Simply put, the price of goods is a major determinant of the potential gains from property crime. Changes in these prices are therefore key incentives for the decision to participate in crime. Systematic changes in the prices for commonly stolen goods could therefore feed through to drive trends in the aggregate rate of property crime.

In this work we study the link between crime and prices in the context of a new, large dataset that gives the product-level breakdown of items stolen in London from 2002-2012. This evidence establishes that changes in crime and prices are correlated for many different goods. It is further clear from a special sub-group of commodity-related goods (which offer the best experimental conditions for studying prices and crime) that the crime-price relationship is strong and characterised by rapid adjustment.

Further to this, mapping our estimates onto aggregate property crime rates indicates that prices explain a substantial part of the trend over the 2002-2012 period.

In total, while our data covers one city over one decade, this evidence is compelling enough to suggest that prices deserve serious further investigation as the potential main determinant of the major shifts in property crime that have occurred across countries since the 1990s.

'Eyeball Evidence' – it's there to see!!

Our study focuses on the set of consumer goods that make up the typical 'target items' found in the average burglary or theft incident. In addition we also do a close case study of the crime-price relationship for commodity-related goods (metals, jewellery and fuel). This case study serves as a useful 'natural experiment' in the sense that it gives us the cleanest conditions available for analysing how criminals respond to a pure change in the value of goods.

Table 1 shows a breakdown of the biggest individual increases and decreases in theft rates across the goods categories in our data. Mobile phones and bicycles experience large increases in theft during the 2002-2012 period with final shares in the total count of stolen items of 31.6% and 8.8% respectively. Major increases across a range of jewellery sub-categories are also very noticeable. Amongst the goods that have experienced falls in shares are what can be thought of as 'likely suspects': audio equipment, recorded media (CDs, DVDs) and visual electronic goods (TVs, DVD players). This is reflective of the common intuition that these goods have become much less valuable in the past decade as imports from countries such as China have lowered prices very sharply.

Table 1: Changes in Property Crime Shares, Top and Bottom 10 Out of 44 Matched Goods, 2002-2012

Property Type Code	Property Type Description	10-Year Change in Share (%)	Final Share in 2012 (%)
ET	Mobile Phones	8.8	31.6
LA	Bicycles and Accessories	4.6	8.8
JA	Necklace / Pendant	1.9	5.1
JC	Watch	1.3	4.2
JB	Ring	1.0	4.3
JD	Bracelets	1.0	2.9
JE	Earrings	0.5	1.9
TA	Hand Tool – Power	0.5	5.9
GA	Foodstuff	0.3	1.7
ER	Battery / Charger	0.2	0.4
EA	Audio / Radio / Hi-Fi / CD	-8.5	2.8
HA	Records / CDs / Tapes / DVDs	-2.9	0.6
EB	TV/Video / DVD / Projectors	-1.9	2.3
SB	Optical Equipment	-1.0	1.8
TB	Hand Tool – Mechanical	-0.8	1.0
AA	Ladieswear	-0.6	2.6
GD	Drink – Alcoholic	-0.6	2.2
DA	Cosmetics / Drugs	-0.6	3.3
AB	Menswear	-0.5	3.3
AD	Toiletries	-0.5	0.5

Notes: This Table reports property type codes and names in the matched, balanced panel (2002-2012) of MPS data that have experienced the ten highest and ten lowest increases in their share of total crime (the sum of burglaries, robberies and thefts).

Our study focuses on the set of consumer goods that make up the typical 'target items' found in the average burglary or theft incident.

A visual depiction of the price-crime relationship in our data is given in Figure 1 which plots the average 12-month changes in price and crime over the sample period. This again shows the pattern of price-crime changes evident in Table 1, with clear rises for the jewellery categories and falls for Audio and DVD players.

Modelling crime and prices

Figure 2 summarises the basic results from our econometric modelling. It shows the estimates of the relationship between crime and prices for the 44 goods in the matched London data over the 2002-2012 period. The estimate of 0.346 implies that a 10% increase in prices is associated with an approximate 3.5% increase in the count of stolen items for a given good. The next two bars break this down according to crime type, with higher estimates for theft (0.413) than for pooled Burglary/Robbery (0.254).

In the next step, we study the lag structure associated with this relationship. This is important for understanding the speed of adjustment, that is, how quickly crime responds after a change in prices. Figure 2(b) reports the results of a model where we directly allow for up to three months of lagged effects for prices in addition to the contemporaneous effect. The results for this indicate that the effect of prices unfolds quickly – there are no significant effects by the third month such that most of the adjustment occurs in the very short-run. ▶

The bottom line

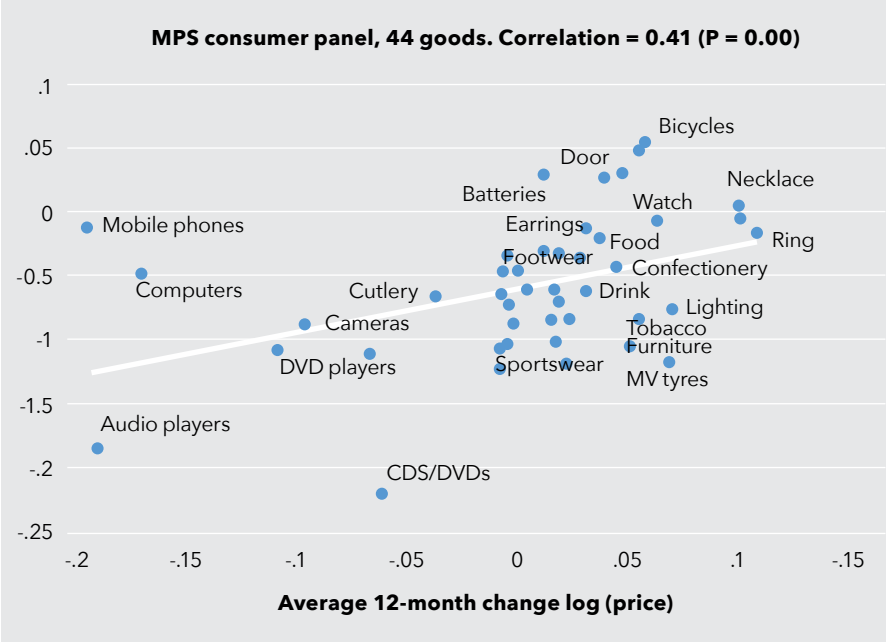
The estimates that we develop tell us about one important component of criminal decisions – the role of returns. As such, they stack up alongside other economic determinants of criminal decisions, such as the role of wages in providing an incentive to 'stay legal'. The point of our study is that previously one major factor explaining the potential 'rationality' of criminals was missing from the analysis.

In terms of the overall contribution of prices to falling crime in this sample we can quantify it as follows: the value of the main basket of stolen goods fell by approximately 1.4 percent per year. When considering the strength of the relationship between crime and prices, this translates into a predicted 0.49 percent per year fall in crime which is about 12.6 percent of the annual drop in crime witnessed over this period.

However, the economic calculations made by criminals do not end there. In addition to these effects induced by the fall in prices there are also a set of effects related to rising wages. The value of the 'inside option' of legal work in the low wage sector increased by about 1.5 percent per year in the period considered. This put even more distance between the potential return to crime and legitimate activity, explaining another 6.6 percent of the drop in crime.

While we cannot conclude that criminals are fully rational actors we can say that incentives explain a significant fraction of criminal activity. A significant path for crime reduction therefore appears to lie in the area of affecting the returns to crime. To coin a new phrase, policymakers need to be 'tough on crime and tough on the incentives for crime'. ◀

Figure 1: Average 12-months changes in log (crime) and log (prices) for matched MPS panel 2001-2012

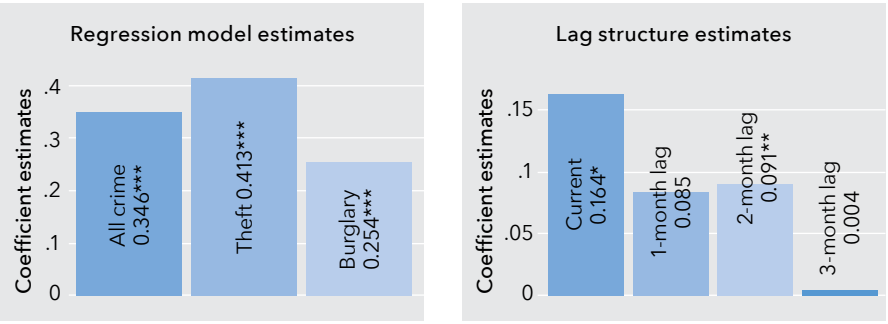


Notes: Average 12-month change over ten years in log (crimes) and log (price) per good across all 44 consumer goods panel. Some labels (mostly on relatively small crime categories) have been omitted for space reasons.

Figure 2: Crime and prices – estimates for 44-good model, 2002-2012

Baseline estimates – total crime and by crime type

Lag structure estimates (total crime)



These graphs illustrate that with regard to all property crime, if the price rises by 10% then you can expect the count of stolen items to rise by 0.346%.

*Notes: Bars represent coefficient estimates from regression models of crime and prices (with prices measured in terms of a price index per good where baseline value equals 100 in January 2002). Panel (b) shows estimates for a model of total crime with contemporaneous prices and three months of lags. *** denotes 1% significance, ** 5 % and * denotes 10%. Specifications include month-good fixed effects and time effects for all periods. For full details of specifications, see Draca, Koutmeridis and Machin (2015).*

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Publication Details

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Brexit and work-related migration for a post-Article 50 UK

By Dr Jennifer Smith

The Migration Advisory Committee (MAC) is an independent, non-statutory, non-time limited, non-departmental public body responsible for providing transparent, independent and evidence-based advice to the government on migration issues.

The MAC is made up of a chair and three other independent economists, and is supported by a secretariat. Since it was set up in 1997 the MAC has published reports on issues such as the impacts of immigration, the limits on immigration under the points based system, Tier 1 immigration, and skills shortages within occupations.

The MAC has been asked to report by September 2018 on a number of substantial and varied questions.

Migration Advisory Committee to advise on post-Brexit migration framework

In July 2017, the Government commissioned the Migration Advisory Committee (MAC) to advise on the economic and social impacts of the UK's exit from the European Union. Unusually, this commission was explicitly linked to the government's industrial strategy, asking "how the UK's immigration system should be aligned with a modern industrial strategy".

The MAC has been asked to report by September 2018 on a number of substantial and varied questions. The overall context is the change in policy that will come about as a result of Brexit: UK policy currently regulates immigration from non-EU countries, and Brexit will give the option of doing so for EU countries too. It is generally acknowledged that the UK will retain free movement with Ireland, so any change in policy (which the MAC work will feed into) will relate to EEA countries excluding Ireland.[1] ▶

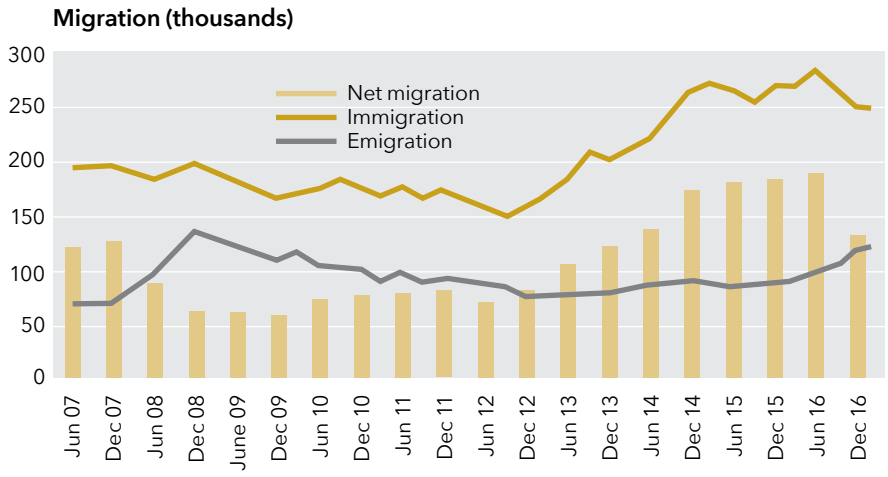
The MAC has been asked to report on:

- Current patterns of EU migration, including delving below the national level to look at migration by sector and across regions.
- The types of skills migrants have and the types of jobs they do, including the skill level, duration and wages of those jobs. The MAC has been asked to look at "non-typical" forms of work by migrants, including self-employment (sole-trader and entrepreneurial), and part-time, agency, temporary and seasonal work and to investigate whether methods of recruitment differ for EU migrants and whether this impacts on UK workers.
- Economic and social costs and benefits of EU migration, and whether it is possible to estimate the impact of any future reduction of such migration (whether policy-driven or otherwise). To discuss how businesses might adjust and what actions might mitigate any adverse effects.
- The impact of migration on investment, productivity, innovation, and competitiveness (relates to the UK's industrial strategy) and the interactions between EU migration and labour market flexibility, skills and training.
- Part of the MAC's normal role is to draw up the Shortage Occupation List (SOL), which is a list of occupations where we judge there to be a labour shortage. The SOL currently provides one route of entry for work-related migrants from outside the EU. Numbers arriving by the SOL route are currently small, largely because it has been restricted by policy to NQF level 6 jobs[2] – but the SOL is nevertheless considered important by businesses. As part of the current commission, the MAC has been asked to investigate whether it would be sensible to extend the SOL to include lower-skilled jobs, post-Brexit.

What the MAC has done so far

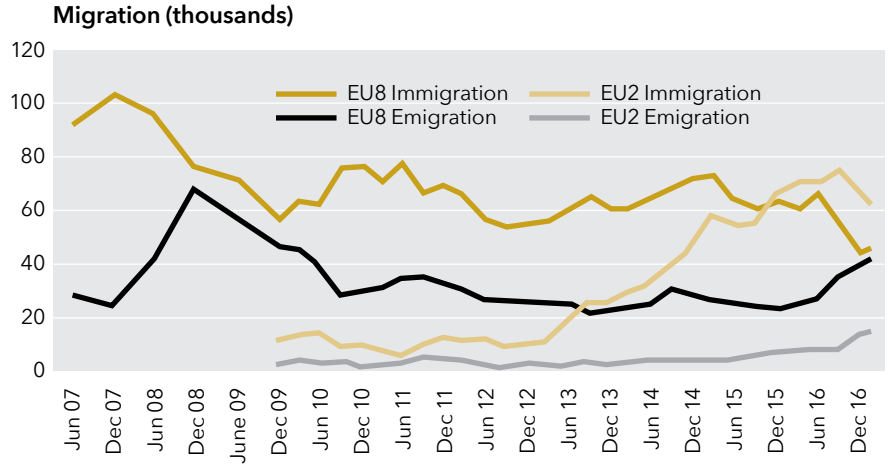
The MAC has been busy since receiving this important commission. In August we issued a Call for Evidence, which has recently closed. This Call was wide-ranging, matching the scope of the commission, and asked for submissions from any and all interested parties with relevant information. The types of information the MAC obtains from such submissions include case studies and evidence from a "witness perspective". The MAC Secretariat is currently working through the large number of (400+) submissions received. As is always the case, information from Calls for Evidence will be included in various ways in MAC work on this commission. We learn from submissions about issues affecting particular sectors, regions, individuals and businesses; and this 'granular' information is invaluable in

Chart 1: EU migration into and out of the United Kingdom



Shows "long-term" migration (LTIM), defined according to international convention as involving residence in a country for at least 12 months. Figures are for 12 month periods (YE = Year Ending, p = Year includes provisional estimates for 2016 and 2017), June 2007 to March 2017. LTIM estimates by citizenship are only available for calendar years and mid years up to YE Dec 2009. Source: ONS LTIM data.

Chart 2: EU15, EU8 and EU2 migration flows



EU15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden; EU8: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia; EU2: Bulgaria, Romania. Source: ONS LTIM data.

directing our attention to factors we might otherwise miss if we relied only on official data and published sources. Our work during the rest of the commission, as well as our writings, will therefore be influenced by what we learn from written submissions. It is also influenced by what the MAC has learned in the face-to-face meetings we have been undertaking with a large number of varied interested parties, including TUC, CBI, various bodies relating to particular sectors including agriculture, architecture and design, construction, engineering and drilling, health and social care including alternative health providers, hospitality, IT, pharmaceuticals, science, technology, regional representatives, embassies, and government departments.

EEA Migration

The current commission asks the MAC to look at EU as well as non-EU migration. A first question, therefore, is: what is the extent of EU migration?

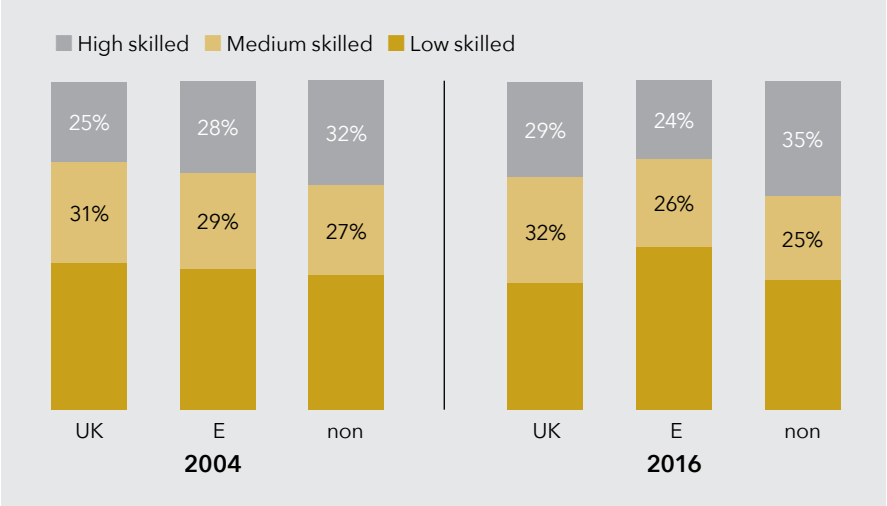
The latest, provisional, data indicate that in the year to March 2017, 248,000 EU citizens arrived in the UK and 122,000 left, so the net inflow from the EU over those 12 months was 127,000 (Chart 1). Over those 12 months to March 2017, EU citizens accounted for 51% of all net immigration to the UK. This continues a trend seen only over the last few years, since 2013, that net immigration from EU countries has exceeded non-EU net immigration.

Since 2016, following the Brexit vote and relatively good growth in EU economies, inflows to the UK have declined somewhat.

Between 2012 and 2015, the UK experienced a notable rise in net immigration from the EU. Since 2016, following the Brexit vote and relatively good growth in EU economies, inflows to the UK have declined somewhat. In an accounting sense, the decline in EU migration is due to both declining immigration and rising emigration (Chart 1) – in particular, lower immigration from, and more return migration to, Central and Eastern European countries (EU8 and EU2) (Chart 2).

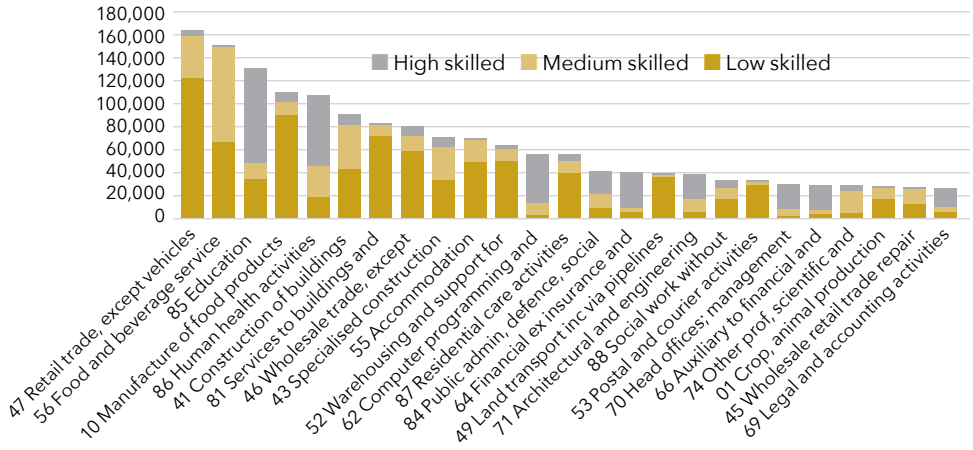
The source of migrants into the UK varies over time. Immigration restrictions were lifted for Romania and Bulgaria (EU2) in January 2014 and immigration from those countries rose rapidly, with net migration from EU2 countries exceeding EU8 since then (Chart 2). However, the "old" EU (EU15) remains an important source of migrant labour flows into the UK: in recent years, net migration from EU15 has been similar to that from EU8 and EU2 combined. ▶

Chart 3: Occupations by skill level, 2004 and 2016



Source: MAC (2017) using LFS 2016 and LFS 2004.

Chart 4: Skill level (by occupation) of EU migrants, 2016



Shows 25 sectors (3-digit industries) employing the most (by number) EEA (excluding Ireland) migrants. Source: MAC (2017) using LFS 2016.

A key issue for the MAC is EU migration into less-skilled jobs

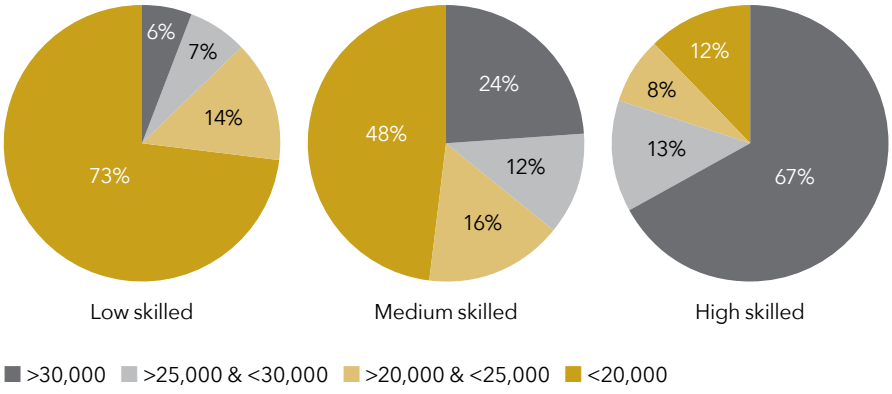
The proportion of EEA migrants in low-skilled occupations has risen over the last decade. Chart 3 shows the skills distribution of the stock of working migrants in 2004 and 2016.[3] EU nationals were the only group to experience an increase in the share of low-skilled, from 43% in 2004 to 49% in 2016. Currently, EU migrants are more likely than non-EU and UK-born workers to be in low-skilled work. Correspondingly, the proportion of EU migrants in high-skilled work is now lower than for non-EU and UK workers: in 2016, 24% of EU migrants were in high-skilled jobs, compared to 29% of UK-born and 35% Non-EU migrants.

It will be important for the MAC to evaluate the impacts of any reduction in low-skilled EU migration across sectors: some industries and businesses would be affected far more than others. Chart 4 shows the numbers of EEA migrants and their skill levels (based on occupation) in different sectors. Sectors with high shares of low-medium-skilled EU migrants include Restaurants and Catering, Farming, Accommodation, Construction, Wholesale, Retail, Transport, Distribution, Postal Services. In contrast, Education and Health have large numbers of EU workers but these are mostly higher-skilled.

Sectors and businesses are likely to react in a variety of ways to a reduction in low-skilled migration. On the one hand, a reduction in the supply of low-skilled migrants might push up wages and costs to businesses, which could translate into higher prices to consumers. On the other hand, a reduction of fairly cheap low-skilled migrants could force businesses to substitute labour for capital, boosting productivity.

Policy will have to plot a route between satisfying some business demands to maintain current levels of migrant labour availability and the stated government aim of introducing measures that will enable control of EU migration. The difficulty of achieving both is illustrated by the fact that EU migrants in low-skilled occupations work for substantially lower pay than is required under current policy for non-EU migrants to gain work visas. The current median salary for EU migrants in low-skilled occupations is less than £16,000 per year. Only 6% of EU migrants in low-skilled occupations meet the current minimum salary threshold of £30,000 per annum required to be granted a visa under Tier 2 (General) (Chart 5).

Chart 5: Earnings by occupation – EU-born workers in the UK



Source: MAC (2017) using LFS 2016.

Conclusion: Challenges ahead

The MAC is looking forward to meeting the challenge of delivering thorough analysis of evidence and issues relating to post-Brexit options for migration policy. Businesses will have to face the challenges of changes in many areas of their organisation, including recruitment, training, and investment, as well as potential alterations in regulatory and international trading environments. Changes in migrant flows will affect individuals and communities. Many parts of the UK economy will face costs of adjusting to Brexit; the MAC intends that its forthcoming work highlights the best ways forward through these challenges. ◀

The Author

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Reference

MAC (2017), "EEA-workers in the UK labour market – briefing note", www.gov.uk/government/uploads/system/uploads/attachment_data/file/636286/2017_08_08_MAC_Briefing_paper.pdf

Footnotes

[1] There are three EEA countries not in the EU (Iceland, Liechtenstein and Norway), and Switzerland is also included in this group since, although it is in neither the EU nor the EEA, it is in the single market and Swiss citizens have freedom of movement into the UK. Migration flows relating to non-EU EEA countries are low, so we commonly use the shorthand terms "EU" and "non-EU".

[2] NQF is the National Qualifications Framework. NQF6 is equivalent to degree level.

[3] The skills of migrants are evaluated according to their occupation and the average qualification level of workers in that occupation. Low-skilled occupations consist of NQF2 and below; Medium-skilled occupations consist of NQF3 and 4; High-skilled consists of NQF6+.

Parting shot

"On a test of economic literacy, I would not expect to be able to reject the null hypothesis of no difference between the average politician and a penguin."

AS AN ECONOMIST who writes about economic policy, I expect to be ignored or, at best, patronised, by policymakers. I know that governments much prefer policy-based evidence to evidence-based policy. I expect politicians to be opportunist, short-termist and have IQs much smaller than their egos. On a test of economic literacy, I would not expect to be able to reject the null hypothesis of no difference between the average politician and a penguin. So, the unedifying nature of the political debate over Brexit comes as no surprise.

I am, however, both shocked and surprised at the behaviour of Chris Heaton-Harris, MP for Daventry and a Government Whip who wrote to University Vice-Chancellors demanding details of all courses that contain material relating to Brexit. This was a sinister and threatening act quite contrary to the traditional norms of academic freedom. In future, we can no doubt expect Professors of Economics who point out that the evidence very clearly states that there are serious economic costs attached to Brexit will be labelled as 'enemies of the people'.

With this in mind, I approached CAGE's fringe events on 'Challenges to the British Economy' at the Conservative and Labour party conferences with a great deal of apprehension. Yet, as it turned out, both events were highly successful and were characterised by civilised interaction with the audiences who were prepared to engage and to argue rather than just shout. They were, it seemed, 'policy wonks' rather than 'headbangers'. Just for a few moments we were back in the world we have lost. If only, … ◀

Nicholas Crafts
Director of CAGE

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Research at CAGE examines how and why different countries achieve economic success. CAGE defines success in terms of personal well-being as well as productivity and competitiveness. We consider the reasons for economic outcomes in developed economies like the UK and also in the emerging economies of Africa and Asia. We aim to develop a better understanding of how to promote institutions and policies which are conducive to successful economic performance and we endeavour to draw lessons for policymakers from economic history as well as the contemporary world.

Research at CAGE examines how and why different countries achieve economic success.

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