

Programme of Work

2010 – 2015

We propose a fundamental analysis of the consequences (and causes) of technology and globalisation for economic performance, building on our established expertise but using new types of data, methods and theories. We will explore how our national capabilities of innovation, skills, community and labour market institutions interact with and are changed by these driving forces. Such an analysis is the basis for sound policy recommendations to economic performance in a rapidly changing world. Given our track record we are confident that the future CEP research programme can deliver on this important and timely research agenda.

We have 6 programmes, 15 themes and 43 projects. Globalisation, Productivity & Innovation, Education and Skills, Community, Labour Markets, Macro-Economic Growth (Programme Directors names are in capitals followed by theme leaders).

Theme	Project	Key Question
G. GLOBALISATION PROGRAMME (REDDING, Michaels, Ornelas, Sturm)		
<i>G1 Boundaries of the Firm</i>	G1A Trade and incomplete contracts G1B Trading the untradeable: service trade G1C Effect of offshoring on performance	What determines how much trade is within firms and how much is between firms? What determines trade patterns in services (e.g. how important is physical distance and has this changed over time)? What is the causal impact of offshoring on jobs, wages, productivity and profitability? Will this change in the future?
<i>G2 Globalisation and Inequality</i>	G2A Multi-product firms G2B Labour market frictions, heterogeneous agents and trade G2C Globalisation, technical change and skill demand	How does trade affect inequality when firms produce a wide variety of products? How does trade affect inequality when there is substantial heterogeneity of firms and workers and labour markets have search and other serious frictions? Has trade changed the demand for different skill types and through what mechanisms has this occurred (e.g. via faster technical change)?
<i>G3 Economic Integration</i>	G3A The political economy of regional free trade agreements G3B Exports G3C European integration	How can regional free trade agreements be politically sustained? Do such agreements help support (and are in turn supported by) democracy? Is exporting to nearby countries a “springboard for growth”? Has the eastern expansion of the EU generated better economic performance in Western Europe? Will further expansion continue to do this?

Globalisation Programme

The liberalisation of China and India as well as the fall of the Iron Curtain has more than doubled the global labour force with access to international markets. At the same time information and communication technologies have exposed goods and services that were previously un-traded to the forces of international competition. We think that this has boosted

productivity, but it has also exposed workers in occupations and tasks that were previously insulated from developments elsewhere in the world to greater competition. The processes of globalisation and technological change present a mixture of challenges and opportunities to firms and workers. While countries as a whole gain from international trade, groups within those countries can lose, and the identity of these winners and losers changes as new occupations and tasks are opened up to international trade.

Our programme focuses on the effects of globalisation on firms and workers in advanced and developing countries, on identifying the winners and losers, and on evaluating the public policy response to the threats and opportunities presented by globalisation. Policy is important not only in shaping the response to globalisation but also in influencing its future pace and direction. Globalisation is not an inevitable process: for example, after decades of trade liberalisation nations descended into rounds of tariff escalation during the Great Depression. Another strand of our research is therefore on the political economy of trade policy and the prospects for maintaining the political coalition for further trade liberalisation.

Globalisation has enabled firms to increasingly offshore their purchases of goods and services. Our first major theme (**G1**) examines the determinants and consequences of these new international supply chains, developing new theory and empirics based on “trade in tasks” for multi-product firms. When a firm has decided to purchase components from a foreign country will it outsource or set up an overseas affiliate (**G1A**)? We will extend incomplete contract theory to understand how the boundaries of the firm are re-drawn depending on institutions such as effective property rights (e.g. Antras and Helpman, 2004). Such institutions will determine both the decision to purchase supplies from a particular country and, if components are bought, whether to outsource to a local producer¹ or set up an affiliate. These are likely to have different effects on spreading the benefits of multinational investment (e.g. work by LSE’s John Sutton, 2004, 2007). Examining these issues is only possible because of access to a number of major new firm level panel datasets; for example, new US Customs data will enable us for the first time to separate imports into those within firms and between firms. The ITIS database enables us to map the type (e.g. R&D vs. call centres), degree and location of *services* offshoring for UK firms (**G1B**). We can examine whether some factors such as distance, skills and cultural ties matter more for service trade than goods trade and whether the importance of such factors have declined over time, as proponents of the “death of distance” argue. The micro data enables us to move beyond existing studies to look at the heterogeneity across firms and test important aspects of theory, such as the prediction that firms with stronger capabilities (as indicated by high productivity) should be able to take better advantage of falls in trade costs, being more likely to export, conduct FDI and be integrated. Finally, unlike all other studies of offshoring, we propose to identify the *causal* effect of offshoring on performance (**G1C**) by considering quasi-experiments that potentially exogenously shift offshoring such as lower transport costs through budget air travel and lower communication costs through broadband roll-out (both of which have a spatial dimension).

One important aspect of globalisation is its effect on inequality (**G2**). The existing empirical literature finds relatively little impact of trade on wage dispersion (compared to changes in technology and institutions), but this consensus is largely based on varieties of Heckscher-Ohlin theory which is very restrictive. It is also mostly based on data pre-dating the rise of India and China (Krugman, 2008). Rather than following the current trend of adding wrinkles to the Heckscher-Ohlin model, we propose developing more radical theories to account for some of

¹ For example, weak property rights may discourage investing in a country due to expropriation concerns, but once committed to investing in a country an affiliate may actually be larger because the multinational prefers to produce in-house rather than outsource because it fears being “held up”.

the puzzles in the data. First, we will develop a new framework for examining the distributional consequences of trade liberalisation that matches observed features of imperfect competition in product and labour markets (**G2A**). This framework will incorporate firm heterogeneity, worker heterogeneity and labour market frictions and will build on CEP's classic work on search and matching by Pissarides and Manning. One of the key insights expected from this model will be that trade liberalisation can increase wage inequality and unemployment in both developed and developing countries by inducing the exit of low productivity firms and promoting the expansion of high productivity firms. Second, we will consider multi-product rather than single product firms (**G2A**) which can explain why we observe *within* firm changes in response to falls in trade costs, because firms may systematically switch out of less sophisticated varieties. This will draw on our earlier work showing the importance of multiproduct firms for international trade (Bernard, Redding and Schott, 2007). Third, we consider models where trade itself induces technical change (**G2C**). This could be a reason why researchers (e.g. Machin and Van Reenen, 1998) failed to find much direct effect of trade on skill demand. These theoretical innovations make new demands of the data so we will use a wide variety of sources including several new matched worker-firm databases from Denmark, Norway, France and elsewhere. We will complement this with international site-level panel data on new technologies². We also propose significant econometric development to properly identify the importance in exporting and innovation of sunk costs that can generate complex non-linearities³.

The policy aim of this work is both to identify policies that could raise productivity (see **P1A**, **M1C**) and to understand the groups most "at risk" from falls in trade costs. This is important in developing early warning systems to identify those adversely affected by globalisation and promote the reallocation of resources to other areas of the economy. These transitional issues are usually ignored by trade economists, but are of first-order importance in the policy debate (Rodrik, 2008). Roles for public policy include reducing search and matching frictions in the labour market that can distort the allocation of resources across firms within and between industries (L1A). Education and training policies can also be important in enabling individuals employed in activities that are likely to be offshored to retrain and acquire the skills needed to specialise in those activities in which advanced nations have a comparative advantage (**E1**, **L3**).

The stalling of the Doha round illustrates the political difficulties of further moves towards trade liberalisation. Understanding this difficulty requires delving more deeply into the political economy of trade integration (**G3**). Distributional changes, as discussed above are important as groups who benefit from trade barriers will lobby against change. But political institutions also matter and we propose to examine the dynamics of trade agreements and democracy (**G3A**): for example, can free trade agreements help stabilise democracies by reducing the available rents for autocratic forces (cf. M1A)? We also propose to examine whether regional trade agreements and customs unions can act as springboards for export-led growth (**G3B**). We have data on various trade agreements all over the world, but the integration of Eastern European countries into the EU is a particularly important "natural experiment". We will examine the impact of EU accession of new Member States on incumbent members in order to yield insight for the effects of future possible enlargement to the East and South (e.g. Turkey). How will the prospect and experience of joining change the internal political dynamics of countries like Serbia? Our research will use a combination of both macroeconomic and microeconomic analysis to address these questions, exploiting pan-European sources of firm-level data (e.g. Orbis). Finally, as the use of microeconomic data on small spatial scales enables the research to control for a number of measurement and identification concerns, one of our projects uses the division and

² e.g. Harte-Hanks' CiDB dataset has detailed information of hundreds of types of ICT hardware and software.

³ The approach of Helpman et al (2008) is inadequate in this respect because it cannot distinguish between censoring and genuine fixed costs of exporting. One needs to use micro panel data to do this properly.

reunification of Berlin as a compelling source of exogenous variation that illuminates the broader impacts of economic integration (**G3C**).

In concluding, we draw attention to four distinctive features of our globalisation programme compared to other work elsewhere - quality, macro-micro linkages, new data and novel identification strategies. First, we focus on advancing rather than following the research frontier. In the past CEP researchers have been influential in creating and developing the field of economic geography, and in recent years they have played a similar role in pioneering the new wave of research on heterogeneous firms and international trade. This wave of research began with the early empirical studies by CEP associate Bernard and the more recent 2007 *Review of Economic Studies* paper by Redding and co-workers which develops a theoretical framework to incorporate heterogeneous firms into multi-industry, multi-factor, general equilibrium models of international trade. As a reflection of this innovative role, CEP researchers were asked by the *American Economic Association* to survey recent research in the 2007 *Journal of Economic Perspectives*. We expect similar frontier innovations from our current proposal (e.g. **G2B**).

A second emphasis is combining microeconomic modeling of individual firms and consumers with a macroeconomic understanding of their implications for the aggregate economy and society as a whole. While there are other groups working in each of these areas, our strength in combining both micro and macro analysis is quite distinctive (e.g. **G1A, G3B**). A third area of innovation is the development of new data on international trade at the level of individual transactions (by firm-product-destination-date) for both the UK and the US and in developing new sources of data on international trade in services (e.g. **G1B, G1C, G2C**). Finally, in terms of methodology, the use of novel sources of exogenous variation to provide more compelling identification of key economic relationships is illustrated by the 2008 *American Economic Review* paper by Redding and Sturm that uses the break up of the Soviet Union as a source of exogenous variation to provide evidence on the causal role of market access in economic development (e.g. **G3C, G1C**). Data without theory and theory without data each have their limitations, and the strength of CEP research is the ability to combine both theoretical modeling and econometric estimation to shed light on such economic relationships.

P.PRODUCTIVITY AND INNOVATION PROGRAMME (VAN REENEN, Bloom, Criscuolo, Garicano)

<i>P1 Management and Organisational Practices</i>	P1A The causal impact of management on performance P1B Management practices in the service sector P1C Managerial and organisational innovation	Does our design and implementation of randomised control trials of business policies show (a) any effect and (b) a causal impact of management on productivity? What are the causes and consequences of different management practices in private services (e.g. retail and legal services) and public services (e.g. schools and hospitals)? Is growth caused by firm re-organisation? What causes management and organisational practices to change over time?
<i>P2 Technological Innovation</i>	P2A Tax and innovation P2B Innovation policy for small and new firms P2C Climate Change P2D A macro-model for innovation policy	Do R&D tax credits raise the rate of innovation and productivity growth? Do innovation policies for small and medium-sized enterprises (SMEs) work? How should we improve them? What is the effect of different policies on climate change related innovation? Can we develop a macro model usable by governments to predict the effects of different innovation policies on the growth and distribution of productivity?

Productivity and Innovation Programme

The Productivity and Innovation programme addresses the problem of low UK productivity. Despite some improvements over the last 15 years, output per hour in the UK is still 20% below that of France, 18% below that of the US and 13% below that of Germany. Innovation is perhaps the most important determinant of long-run productivity and two factors stand out. First, trade integration with China and India places pressure on all advanced economies to move further up the value chain. Second, the transition to a low carbon economy will be felt keenly on business as more policies to reduce greenhouse gases are introduced. Since technology adoption and innovation are key to tackle climate change we propose a major empirical investigation of policy effectiveness in this area. Innovation has to be interpreted widely. Although technological innovation is important (**P2**), so are the less tangible forms such as managerial or organisational innovation (**P1**). The programme has evolved much more from the diagnosis of problems towards finding adequate policy solutions.

Influential work at the CEP has developed new “double blind” techniques for quantifying management quality across firms and countries⁴. This work demonstrated that the UK has a long tail of badly managed firms with low productivity and a particular problem is the preponderance of family-run firms and low skills. Two questions immediately arise: does management causally increase firm performance and what policies could raise management quality? We propose to tackle these twin issues by designing and implementing randomised control trials of business support policies (**P1A**). There is a growing body of work using such real experiments in fields as diverse as welfare reform, pre-school education and training. Surprisingly, randomised control trials of policies to improve management have not to our knowledge been performed. The policy interventions will take the form of controlled consultancy advice ranging from a low intensity dose of a business benchmarking exercise of strengths and weaknesses (based on our scoring technique) to a more intensive “turnaround” programme lasting four months. Such programmes are already in operation in most countries and we propose to use some of the existing funds to create treatment and control groups of eligible firms. We have already established partnerships

⁴ Through our partnership with McKinsey we developed scores of best practice in 18 dimensions including shopfloor operations, people management, targets and monitoring. The first paper using this methodology was published as lead article in the *Quarterly Journal of Economics* (Bloom and Van Reenen, 2007).

with the World Bank to implement such a trial on Indian firms and the EBRD (European Bank of Reconstruction and Development) to conduct trials in Eastern Europe. We have agreement in principle from Treasury, DBERR and some RDAs to also do this in the UK. Conditional on receiving funding from the ESRC we will be able to implement these exciting experiments which we expect to lead to fundamental breakthroughs in social science.

Since Adam Smith the internal organisation of firms has been a theme of economic debate; yet economists' models of growth rarely allow organisations to change. Part of this reflects a data constraint – until the development of robust ways of measuring management there was no credible way to examine the dynamics of change. We propose to develop a growth theory that has organisational change at its heart: this involves an important role for specialisation and co-ordination (**P1C**). To test this theory we will develop a longitudinal panel of firm-level data on management and organisation covering the period 2004-2014. This will build on the CEP's cross sectional database covering 15 countries in Europe, Asia and the Americas⁵. This decade long panel will be a rich legacy database for the ESRC allowing researchers to investigate the life cycle dynamics of firms in the same way as individual birth cohort studies (like the NCDS) follow individuals over their lifetimes. We will be able to track how organisational changes occur and when firms fail to change. We will examine how technological changes, for example, affect the distribution of control within firms and trace through the impact on productivity and inequality. We also propose extending our international analysis of management and organisation to more areas of the service sector (**P1B**): retail, legal, schools and hospitals. Our pilots have shown the feasibility of this approach and we now want to extend this to a broader swathe of the population.

As with management, we have a strong policy focus on the factors changing technological innovation. An extremely important exemplar of this is climate change innovations (**P2C**). The shift to a low carbon economy is perhaps the greatest challenge facing modern economies⁶, so we will examine which policies have been most effective at stimulating climate change (e.g. regulation-based or price-based) in order to calculate response parameters that can be used to evaluate the effectiveness of proposed policies to stimulate the adoption and innovation of technologies that will reduce greenhouse gas emissions. For example, we can use the experiment of the climate change levy to see how firms respond to this kind of price-based policy exploiting administrative data we have acquired from DEFRA matched to 30 years of plant-level panel data from ONS. We can also use our AMAPAT database (on European patents, citations and accounts) and the evaluation database from SMART⁷ in the UK to examine environmental technologies. A key question is what, if any, are the industries in which Britain (or other countries) could be able to capture a first-mover advantage in climate change technologies? This requires analysis of the nature of the R&D game played between firms (e.g. Beath et al, 1995).

One view, which we are sympathetic to, is that the correct carbon price coupled with the traditional group of innovation policies is sufficient. So part of our agenda is an analysis of what innovation policies work. The main policy in the UK has been the R&D tax credit introduced in

⁵ Anonymised versions will be freely available to the research community in the same open source manner as our earlier studies (<http://cep.lse.ac.uk/new/publications/abstract.asp?index=2313>).

⁶ Together with our LSE colleague Sir Nick Stern, we are building up a programme of work on business performance and climate change. Mostly this is funded outside ESRC, but we want to launch a strand on climate change related innovations. Martin and Van Reenen were on the Miliband/Darling Commission on Environmental Markets and Economic Performance and developed this project as a result of their interaction with policy makers (<http://www.defra.gov.uk/environment/business/commission/index.htm>)

⁷ This was a scheme for financing innovation in small firms (now called "DBERR grants for R&D"). We have applicant data so we can use the discontinuity around firms who "just won" versus those who "just lost" to help identify causal effects.

2000 and sufficient time has passed to now evaluate whether this has been successful, not just in raising R&D, but also in stimulating more innovation as measured by TFP growth and cite-weighted patenting (**P2A**). The different timing of the introduction and subsequent differential tax credit rates for small and medium-sized enterprises (SMEs) allows us to implement a regression discontinuity design. SMEs have also benefited from other policies besides the R&D tax credit designed to alleviate financial constraints, but little is known about their success. Working with DBERR, we have negotiated access to administrative data on several of these schemes (e.g. SMART and SPUR) and propose to use these as test beds for the fundamental issue of failures in the financial markets for innovative smaller firms.

The development of rich data to enable us to credibly identify fundamental parameters from micro-econometric experiments and quasi-experiments is at the centre of our agenda. But we need to match this with a theoretical framework that incorporates the spillovers and general equilibrium (GE) effects (**P2C**). This is important in all programmes, but particularly here due to the nature of knowledge which spills over to other agents. We aim to utilise these parameters in a new, over-arching dynamic GE framework to enable us to perform robust and long-term *ex ante* policy analysis. We will liaise closely with stakeholders such as the Treasury, DBERR and DIUS in doing this so the model can be useful in future innovation policy reforms.

E. EDUCATION AND SKILLS PROGRAMME (MCNALLY, Besley, Gibbons, Silva, West)

<i>E1 The Quality of Education</i>	E1A The Diffusion of Teaching innovations	What determines the diffusion of phonics teaching and what is its effect on educational achievement?
	E1B Devolutionary experiments in schools	How do aspects of the devolved education systems in different countries within the UK (e.g. League Tables in England vs. Wales) affect school quality?
	E1C School governance	What is the effect of different forms of governance and management on quality?
<i>E2 The Distribution of Education</i>	E2A Social mobility	How do private schools and higher post-graduate degrees affect social mobility?
	E2B Demand: what parents want	What do parents value most in schooling for their children? Does this reduce the relative achievement of pupils from low income families?
	E2C Supply: school admissions	How do school admissions work and what is the impact of different procedures? How much evidence of 'cream skimming' exists?

Education and Skills Programme

Increasing the quantity and quality of skills offers a major way to improve economic growth. Furthermore, since globalisation and technical change exert some upwards pressure on the demand for skills (see G2) in the long-run, improving the supply of education is also the best way to mitigate these pressures towards greater inequality (see Goldin and Katz, 2008). In the Education programme, we divide our work into two themes – the quality of education (E1) and the distribution of education (E2, educational inequality). Looking at the distribution is important as the UK suffers from large numbers of adults with low basic skills (see also L3).

How can the quality of education be improved (**E1**)? In a mirror image of private sector productivity, there is large and persistent heterogeneity of quality across schools, even amongst those with similar intakes of pupils. In considering the education production function, this raises the possibility that “best practice” management, governance and teaching practices may be the reason for this variation. The Education programme proposes to study all three of these, where necessary collecting primary data to be able to address this question.

One under-studied mechanism for improving quality is school governance (**E1C**). In research on the private sector the structure of corporate governance seems to matter for firm performance, and for company’s responsiveness to competitive pressures⁸ but there is little research on the public sector (exceptions are Besley and Ghatak, 2005, and Besley and Machin, 2008). When competition is weak, perhaps because of poor public information, strong governance may be a substitute mechanism for improving management practices and performance. Of course incentive issues are somewhat different in the public sector, and a mechanical application of what is efficient in the private sector may be misleading, so there is a need to develop economic analysis to consider the specifics of how different governance mechanisms in different types of schools impact upon pupil achievement.

A major problem in investigating these issues is the lack of good data. Working with the Productivity programme we will develop and implement an international study of the management practices of schools analogous to that in the private sector (see P1). Pilots on a

⁸ See for example, Murphy (1999), Hall and Liebman (1998), and Bertrand and Schoar (2003).

small number of schools have been successfully completed (Besley et al, 2008) and we plan to roll this out in the rest of the UK, the US, Italy, Sweden and Germany. A concurrent survey will be run on school governance (i.e. by interviewing school governors) to study some of these principal-agent issues between head teachers and governors. We have successfully approached Andreas Schleicher, head of the OECD's PISA group to match in pupil performance on an internationally comparable basis (thus we do not just rely on exam results). We will systematically describe the differences between schools and countries and then seek to explain performance differences. In addition to looking at management and performance, we will also examine the effect of governance on admissions, pay systems and incentives.

Although there will be some exogenous variation in governance structure due to differences in school types (e.g. city academies or faith schools have greater autonomy than other schools where local authority influence is more important), identification of the causal effects of governance and other organisational practices on performance is challenging. In **E1B** we take two other approaches to identification. First, much can be learned from the contrast between the systems across the four countries of the UK which operate under a similar legislative framework and public examinations – but differ in structures and accountability regimes. We will exploit post devolution changes in policies pursued by different countries to test theories of school performance. For example, the issue of the importance of league table information can be investigated by evaluating the abolition of school league tables in Wales compared to England.

A second approach to identification is to pursue an econometric “case study” of one of the most high profile recent policies aiming to improve reading - the new strategy to teach children to read using phonics (**E1A**)⁹. This is an example of the diffusion of an innovative teaching method and we want to know whether it has led to improvements in reading and whether the effects can be sustained. Since there is a quasi-random element to who gets chosen for the initial phonics pilots we can combine matching and difference in differences techniques to address sample selection problems (see Blundell, Costa-Dias, Meghir and Van Reenen, 2004).

Improving the average quality of human capital is important, but if there are strong barriers to access for some groups, then there is little hope of improving the lower tail of the education distribution. Indeed, commentators on the success or otherwise of many of the recent education policies that have been introduced in England have noted that, whilst there is evidence of improvements in average achievement, there is often a ‘hard to reach’ lower tail that does not seem to have benefited. Similarly discussions of the significant over-representation of children from independent schools in our top universities are commonplace (e.g. Sutton Trust, 2007).

It is therefore evident that, throughout the different stages of education, access to educational resources differs dramatically by income and social class and that this is a major reason for the persistence of inequality across generations (as highlighted in our path breaking work on social mobility). To understand this phenomenon and devise policies to improve access we plan a number of new projects. **E2A** will examine whether persistence of privilege at the top is affected by private schools and the growth of post-graduate graduate qualifications. The other projects studying educational inequalities relate to demand and supply factors in the state schooling system. On the demand side (**E2B**), parents may value different attributes of the schools their children attend. For example, lower income parents may put relatively less weight on school exam performance when choosing schools (maybe because they are not using the available

⁹ Phonics refers to an instructional method for teaching children to read English. Phonics involves teaching children to connect the sounds of spoken English with letters or groups of letters (e.g., that the sound “k” can be represented by c, k, or ck spellings) and teaching them to blend the sounds of letters together to produce approximate pronunciations of unknown words.

information as well as wealthier parents) and this will perpetuate inequality. We propose to build on our earlier work using house price data to value school quality to look in much more detail at exactly what it is that parents value. By measuring the way these housing costs change with school characteristics, geographically and over time, we aim to unpick the key components of school quality that are valued by home-buyers (e.g. levels of achievement, value added, or other measures). On the supply side (**E2C**), school admission policies may also restrict access of low income families to the better schools. This matters because state schools in England have wide ranging pupil intakes – in terms of ability and family background – and these compositional differences strongly affect pupil achievement. Given the ongoing policy experiments in lotteries and socio-economic ‘banding’ that seek to target inequities in school admissions better understanding of the nature of admissions procedures is an important research challenge. We will source data from admissions authorities on parents’ applications for schools, their school preference ordering and the outcomes of the process (either from approaching local authorities and other admissions authorities or from linking of admissions data to child and family characteristics in DCSF administrative data such as the NPD and PLASC). We will use this to help design welfare-improving algorithms for matching pupils to schools (see Abdulkadiroglu, Pathak and Roth, 2005).

C. COMMUNITY PROGRAMME (MANNING, Hobbs, Iyengar, Manacorda)

<i>C1 Pro-social behaviour</i>	C1A Transmission of attitudes C1B Respect and admiration	How are attitudes passed through families? Do these affect economic outcomes? What types of behaviour are admired and respected in society and how have these changed? What are the economic effects of these changes?
<i>C2 Migration</i>	C2A The integration of Eastern EU migrants C2B The integration of South Asian communities C2C Immigration Regulation	To what extent are migrants from Eastern Europe integrating? Does this have productivity growth and labour market effects? How are South Asian communities in the UK evolving socially (e.g. through inter-marriage) and economically? How does this affect the local economy? Has the new immigration “points based” system worked & how can it be improved?
<i>C3 Crime</i>	C3A Crime dynamics C3B Organised crime	How can policy and economic incentives reduce repeat offending? How do economic incentives affect organised crime?

Community Programme

Weak community ties can harm economic performance, and there is some evidence on how norms can influence behaviour. It has been argued that there is a causal link from the level of generalised trust (or variables similar to this) in a society to growth and other economic outcomes¹⁰. For example, anti-social behaviour and high crime-rates (themes C1 and C3) can discourage inward investment into an area and this effect may have grown stronger over time with increased capital mobility. Thus, strong communities may be a new source of comparative advantage for nation-states. More deeply, globalisation could itself undermine social cohesion through, for example, higher rates of migration (our second theme, C2).

People’s sense of well-being is strongly affected by the quality of their relationships with those they come in contact with – what we might, somewhat crudely, describe as their community. People’s lives can be made easier and more pleasant by the kindnesses of others and more miserable by the experience of ‘anti-social behaviour’. This makes community a value in itself, over any above its influence on economic performance (Layard, 2006). Yet there is also a widespread perception of a crisis in community (not only in Britain) – documented most famously and meticulously in Putnam (2000). This matters not just because people care about the quality of relations in themselves but because there is evidence of a link between variables like trust and economic performance (see Figure 1 and Knack and Keefer, 1997).

The first research theme concerns pro-social behaviour (**C1**). Societies’ rules and norms regarding acceptable and unacceptable behaviour – their culture¹¹ - differ enormously from place to place and yet show a great deal of persistence over time¹². One of the most important types of cultural norms is the one that sustains pro-social behaviour, defined as actions that benefit others at some cost to the agent. Very broadly, there are two ways of thinking about where the motivation for pro-social acts comes from. The first sees the motivation as being a moral code

¹⁰ See Guiso et al (2006) for a general survey. On specific outcomes such as unemployment see (Blanchard and Philippon, 2006), trade (Guiso et al, 2004; Nunn, 2007), investment (da Rin et al, 2008) and firm organisation (Bloom, Sadun and Van Reenen, 2008). Other studies have explored how family culture influences the level and patterns of employment (e.g. Fernandez, 2007; Algan and Cahuc, 2007a) and labour regulation (Aghion et al, 2008).

¹¹ For example, Coleman (1990) or Elster (1989).

¹² Tabellini (2007) documents the influence of distant history on contemporary levels of trust in society.

instilled in children through parents, teachers and peers. The evidence that second-generation immigrants have some of the cultural attributes characteristic of the countries from which their parents came (e.g. Algan and Cahuc, 2007b) strongly suggests an important role for parents, but we do not have very good direct evidence for this transmission mechanism, nor do we fully understand why parents think it so important to pass on their own values. Using birth cohort studies **C1A** will investigate the attributes that parents think important in their children, how this has changed over time and how it varies across different socio-economic groups. We will also investigate the inter-generational transmission of social capital using data on the actual values that children turn out to have and how this influences their behaviour and economic outcomes later in life.

A second approach to understanding the motivation of pro-social behaviour is through people's desire to be thought well of by others, something that Manning (2007) has argued to be a human universal. Evidence for this source of motivation is that social ostracism is an important mechanism sustaining adherence to many cultural norms (Ellickson, 1991, or Akerlof and Kranton, 2000). We will use Gallup Poll data (**C2A**) from different countries from the 1940s to the present to investigate whether those who might be thought to engage in pro-social behaviour are generally admired. Because of the long run of data we will also be able to investigate if, as is sometimes alleged, people now have more respect for the "selfish rich" than they did previously. We will look at what may have caused these changes as well as their economic effects.

One of the main ways in which different cultures come into direct contact with each other is through immigration (**C2**). To understand the long-term economic impact we have to examine the consequences of immigration for community¹³ and this is likely to be related to the degree of assimilation. For example, Manning and Roy (2007) show that immigrants from all countries come to think of themselves as "British" the longer they remain in the UK, but the pace of this cultural assimilation varies significantly.

In recent years immigrants have arrived from Eastern Europe at an unprecedented rate especially since 2004 when the EU expanded to the East and Britain allowed free entry from day one. This was the largest "immigrant experiment" in modern British history and we will exploit this in several ways (**C2A**). First, we can examine the dynamics of assimilation using actual staying behaviour as well as indicators of the intention to stay – e.g. the acquisition of qualifications, moving up the occupational ladder and partnering natives. Secondly, we will also examine the effects of immigration on the jobs, wages and attitudes of natives (cf. Manacorda et al, 2006). Finally, we will analyse the effects on immigration on growth which could be positive due to the value of diversity or negative because of worse community cohesion¹⁴. Since Eastern European migrants are quite recent, we will contrast their experience with South Asian communities (**C2B**) focusing how norms evolve and relate to economic outcomes. For this group many cultural traditions are in conflict. For example, a British-born Bangladeshi woman may have more earning power than her husband from Bangladesh which is likely to put pressure on the traditional division of labour within the household. How are these resolved?

The UK has recently introduced a new points-based system for immigration. We will investigate

¹³ For example, "non-economic considerations such as impacts on cultural diversity and social cohesion will be important" (House of Lords, 2008). And analysis of responses to the European Social Survey module on immigration concluded that "there is a very strong correlation between responses on how immigrants affect cultural life and whether immigrants make the country a better place to live, suggesting that the cultural channel is highly salient in overall opinions about immigration" (Card, Dustmann and Preston, 2005).

¹⁴ Putnam (2007) has argued that diversity has an adverse effect on social capital within neighbourhoods, but the identification is unclear as there is no quasi-experiment to unravel causality or whether the mechanism is through (the failure of) assimilation.

(C2C) how this works out in practice and whether it makes a difference to the number and type of immigrants. Is it ineffective because there are a large number of immigrants whose entry cannot be controlled (e.g. from the EU) and significant illegal immigration? If on the other hand regulation has some effect then it is important to consider the optimal form using our estimates of the economic effects from the other projects (e.g. C2A).

Criminality is the antithesis of pro-social behaviour and can drastically reduce the quality of community life and undermine economic performance¹⁵ (C3). We will investigate (C3A) the economic causes and consequences of crime and why these could lead to local concentrations of lawlessness and prolific re-offending amongst the same individuals. Despite being incredibly important for the effectiveness of penal and parole policies, surprisingly little is known about what happens to those released from prison in terms of economic outcomes. Working with the Home Office we have acquired access to the Police National Computer, a unique source of panel data on all criminal offenders in England and Wales, including information on arrests, convictions, cautions and entire criminal histories.¹⁶ The econometric techniques will draw on the analysis of unemployment dynamics (e.g. Machin and Manning, 1999) and test whether recidivism is due mainly to some people being more criminally inclined (unobserved heterogeneity) or to “scarring” effects of conviction (duration dependence or “crime breeds crime”). We will exploit policy experiments such as the Prolific Offender Pilots that had a staggered introduction (from 2001) across areas (Basic Command Units) to investigate both policy efficacy on crime concentration and the causal effect of crime on economic performance.

Clearing prolific offenders from the streets may not reduce crime rates if another criminal simply “moves up the crime pyramid” to take his place. This may occur if the prolific offender is part of an organised gang. The most common economic approach to crime (e.g. Becker, 1968) models an individual criminal, but the insights of this are limited when analysing organised crime (Hobbs, 2003, 2005). We propose using an industrial organisation perspective that stresses the difficulty of sustaining of cartels (C3B) and how to identify their presence (e.g. bid rigging in auctions). We will apply this framework in a variety of contexts including Italian regions, human trafficking enterprises and Eastern European gangs (especially post EU expansion in 2004).

Community is a national capacity that we believe has a direct effect on economic performance and needs to be integrated within a proper economic analysis of the effects of the major changes affecting our economy.

¹⁵ For example see Dubourg, Hamed and Thorns (2005)

¹⁶ This will link to some of Machin and Marie’s (2008) crime work on prolific offenders.

L. LABOUR PROGRAMME

(MACHIN, Freeman, Layard, Petrongolo, Pischke)

<i>L1 Wage Flexibility</i>	L1A Wage contracts & jobs L1B “Fair Share” capitalism	Are aggregate employment fluctuations due to rigid wages? Does linking wages with firms’ value improve productivity and wellbeing?
<i>L2 Gender and Family</i>	L2A Gender pay gaps across skill groups L2B Gender gaps in the legal profession L2C Child services market	How important are demand and supply in explaining the international differences in gender wage gaps? What can be done to reduce discrimination? What explains the “glass ceiling” for women in high skill professions (e.g. law firms) and what needs to change to improve female career progression in such firms? What is the structure of the market for child services (such as daycare) and does it hold back the ability of women to progress in the labour market?
<i>L3 The Low Skilled</i>	L3A The youth labour market and the NEET problem L3B Apprenticeships in the past, present and future L3C Basic Skills and productivity, jobs and pay	Why does the proportion of youths not in employment, education or training (NEETs) remain so high? What can be done? Can the massive planned expansion of apprenticeships be made to work? Did apprenticeships work historically? Using new international data on numeracy and literacy, can we identify how much basic skills affect economic performance and what policies improve them?

Labour Markets Programme

Historically low unemployment rates have led some to take the view that labour market problems have been “solved”, at least in the English speaking world. We disagree with this position as the rapid increase in inequality has not been reversed, employment rates are poor for many groups (such as the low skilled and youth) and gender pay gaps remain stubbornly high. Moreover, welfare reforms and labour market flexibility will be severely tested in the context of a major slowdown and future global turbulence. We turn to this issue of flexibility first.

According to the OECD the UK has one of the least regulated and most flexible labour markets among the advanced economies. One aspect of flexibility is the development of more individualised pay setting and “gain sharing” contracts where pay is tied to the performance of the individual, group or firm as a whole. Such contracts are increasingly common all over the world (e.g. Lemieux et al, 2008). Our first theme (**L1**) examines the implications of such wage contracts for jobs and productivity. On the micro-side we know relatively little about how these contracts affect performance and worker wellbeing (**L1B**). Working with several major multinational firms (e.g. Computershare and Towers Perrin) we have negotiated access to data that matches detailed pay information, attitudinal surveys and performance measures. Computershare has been sufficiently enthused with our partnership that they intend to ask their major clients to give us access to client data on worker share ownership and behaviour, and to assist us in surveying their workers around the world. Since different countries have different tax rules privileging share ownership, we will be able to compare UK laws with those in other countries as determinants of worker outcomes and performance within the same multinational. We also propose to work with these firms to introduce randomised trials involving pay setting (see work by LSE’s Bandiera et al, 2005, 2007, 2008). This within-firm focus is complementary to the randomised control trials of management practices in general being considered across many firms in project P1A.

Continuing the micro-macro theme **L1A** examines whether the greater prevalence of flexible wage contracts leads to lower equilibrium unemployment rates (because workers share some of the pain of a downturn in their wages rather than in their jobs). This classic question was overshadowed for many years because of the belief that since aggregate unemployment was dominated by changes in outflows, flexibility of starting wages was what mattered. Recent CEP research¹⁷, however, showed that this is no longer true either in Europe or the US, and inflows are extremely important, implying that wage flexibility in ongoing contracts matters a lot. We will use a combination of international macro-data, cross-industry data and specific occupations that have moved towards very flexible compensation structures in recent years (e.g. real estate agents). These will be built into our macro models in order to calibrate out the likely effects of shocks (e.g. interest rate changes). By 2015 we will be able to take a historical perspective on the current slowdown to assess whether the UK's flexibility helped weather the global downturn.

If flexibility is chalked up as a UK strength, a downturn may reveal weaknesses not apparent in more economically clement times. Britain has an internationally high pay gap between men and women (**L2**) and a long-standing problem of low skills (**L3**). Although women have made great strides in the labour market and have narrowed the pay gap with men, the average pay gap is still over 20% and becomes larger as women progress in their careers, even in highly skilled occupations. We doubt it is simply a matter of time before women fully catch up, because the importance of family childcare remains an impediment unless state or market provision changes. To address childcare issues we will examine the operation of the market for childcare services (**L2C**). Despite its importance we understand little of the functioning of this market or how it responds to changes in policy and other factors. Furthermore, we propose an in-depth analysis of high skilled women's labour markets in general, with a particular focus on law firms where the pay gap is 32% despite the fact that 43% of lawyers are now women. Is this situation due to the partnership structure and can this "tournament system" be changed? We will collect primary data on management and organisation (see also P1B) and work closely with practising lawyers and the Law Society (**L2B**). Finally, turning to the poor position of less skilled women, we propose an international study to test whether labour market institutions (e.g. high minimum wages) in many European countries are to blame as has been maintained, (L2A) or whether demand side factors are more important (perhaps due to heavy regulation of the retail system reducing opportunities for women)¹⁸.

Income inequality in the UK is high by European standards and this may be related to a "long tail" of low skilled individuals (**L3**). Young people have less experience-related human capital and the youth labour market (**L3A**) has re-emerged as a problem in recent years. The NEET rate (those Not in Employment, Education or Training) has been rising for 18-24 year olds since 2004 and has not fallen for 16-17 year olds since the early 1990s. This has occurred despite a buoyant labour market, a huge increase in educational staying on rates and much policy activism, like the New Deal. Understanding this problem requires looking at community (are attitudes of young people changing?), education (have standards at the bottom dropped due to government targeting of the median?), immigration (e.g. has immigration harmed domestic youth?) and the DWP policies¹⁹. We also examine (**L3B**) one of the government's proposed solutions – a

¹⁷ See Petrongolo and Pissarides (2008) for Europe and Elsby, Michaels, and Solon (2007) for the US.

¹⁸ See Freeman and Schettkat (2005) for evidence on marketisation of household production in the U.S. and Europe, and Burda, Hamermesh and Weil (2007) for evidence on market and non-market working hours for men and women.

¹⁹ There was a cut in DWP funding and a change in the targets and incentive regimes given to the new Job CentrePlus units around this time. A "points" system effectively gave more reward for finding jobs for disadvantaged adults (such as jobless lone parents or those with disabilities) than individuals on the New Deal for the Young Unemployed.

commitment to offer an apprenticeship to all young people by 2013. To evaluate this, we will exploit the earlier introduction of the policy in pilot areas using administrative data. The pilots are being devised jointly by Lord Layard, the Young Foundation and IDeA. Finally, we focus directly on basic skills across the entire adult population (**L3C**) utilising a new comparable cross country database that we are helping to develop with the OECD (PIAAC) to analyse nationally and internationally which policies have been successful in raising human capital at the bottom of the distribution.

M. MACRO-ECONOMIC GROWTH PROGRAMME (CASELLI, Pissarides, Sheedy, Tenreyro)

<i>M1 Long-run Economic Development</i>	<p>M1A The Natural-resources curse</p> <p>M1B Domestic institutional constraints</p> <p>M1C Business policies</p>	<p>What are the channels whereby an abundance of natural resources affects the economy and society?</p> <p>How quantitatively important is the under-development of local financial markets (and other institutions) in explaining aggregate economic growth?</p> <p>Can business and industrial policies ever be effective in supporting growth?</p>
<i>M2 Economic Fluctuations</i>	<p>M2A Volatility, uncertainty and the credit crunch</p> <p>M2B The financial sector and the real economy</p> <p>M2C Monetary Policy and Central Bank learning</p>	<p>How can we incorporate uncertainty and volatility shocks into macro models of business cycles? Does uncertainty cause recessions and is this now happening?</p> <p>Are moral hazard and pay incentive structures a cause of systemic financial crises? Can we improve financial regulation to reduce the risk of future financial crises?</p> <p>Can central banks use the experiences of central banks in other countries to improve their economic models and monetary policy decisions?</p>

Macro-economic Growth Programme

The four previous programmes focus on national capacities, but it is growth that is the bottom line outcome. We propose a new programme dedicated to macro-economic growth since, whilst we consider that our series of robust micro-econometric studies are necessary, they are not alone sufficient to inform *ex ante* policy analysis. We need to have the ability to incorporate general equilibrium effects to see how the parts of the economy “add up”. The macro programme feeds into all the other programmes in its attempt to develop workable macro GE models that can be calibrated with behavioural parameters estimated from the experimental and non-experimental data from many of the projects (e.g. P2C). But there also remain some irreducibly macro issues that cannot be dealt with by any of the other programmes. We need to understand why some countries have had successfully long-run growth (**M1**) as well as the reasons for economic fluctuations (**M2**).

Globalisation of the financial markets has benefited the UK due to the economic cluster of the City of London, but these markets are under greater scrutiny than ever before due to the credit crunch. We propose a series of studies of the relationship between the financial sector and real economy to provide a basis for improved regulation. First, we need to have models that fully incorporate uncertainty and volatility which can have first order effects on the business cycle (**M2A**) and are ignored by most current macro models that assume away uncertainty shocks. Previous developments at the CEP²⁰ did not incorporate general equilibrium effects which are necessary in advising on macro policy. For example, uncertainty over whether the Fed would introduce tax credits could have made the 9/11 shock more persistent. Second, rather than smoothing volatility, financial markets may actually increase uncertainty, stunting growth (**M2B**). A fundamental problem is structural moral hazard problem due to the expectation of state bail outs of large financial institutions which may be “too big to fail” (e.g. in 1998 LTCM and more recently Bear Stearns and Northern Rock). This can generate systematic over-exposure to risk which is exacerbated by the high powered (but short term) incentive pay of key workers such as traders. We propose a theoretical and empirical examination of this problem using unique data on incentive pay through our business partnerships (with Lehman Brothers and Towers Perrin). The aim is to generate robust regulatory rules in the face of this systematic moral hazard

²⁰ Bloom, Bond and Van Reenen (2007) and Bloom (2008).

problem. We have formed a steering committee for these projects with regulators (Turner and Howard Davies), market players (Wadwhani, Gavyn Davies and Llewellyn) and MPC members (Bean, Nickell, Besley, Blanchflower and Goodhart). The latter will be particularly helpful in guiding our models of Central Bank learning (**M2C**) where we examine the extent to which Central Banks can learn from the experience of other countries rather than simply relying on data from their own country (as currently happens). This will partly draw on models of firm learning developed in the productivity programme (e.g. Acemoglu et al, 2007).

We are alert to the problem of over-regulation stifling the development of financial markets and harming growth. To consider the macro significance of these we will build a model with frictions in financial markets²¹ which hamper entrepreneurial activity and firm formation (**M1B**). Many of these costs operate through innovation constraints, and we can use some of the estimates from the innovation policy evaluations in P2 to refine the quantitative simulation. These institutional features are generally absent from macro models and if we can successfully incorporate financial frictions we will extend this to other institutional constraints such as entry barriers.

Our view is that the surest route out of poverty is faster growth, but benefiting from globalisation has proven elusive for many countries (**M1**). Interestingly, resource abundant countries have actually struggled to catch up, which is surprising as one of the recent features of globalisation is the increasing price of commodities (partially caused by the growth of China and India). We will examine the reasons for the “natural resource curse” taking a political economy approach (e.g. as the availability of “easy rents” reduces the incentives of politicians to encourage efficient long term manufacturing). To test this we will rely not simply on macro panel data but look *within* countries where there are exogenous differences in natural resources and political structures (an example is Brazil, which has a Federal structure and discovered oil off its North-East Coast, **M1A**).

Ten of billions of dollars are spent on business support policies worldwide. Although much of this is probably waste, some countries such as the Asian Tigers appear to have pursued such industrial policies successfully especially when allied with export promotion (a key aspect of the globalisation program). Can business support policies, therefore, ever be beneficial for growth (**M1C**)? We tackle this by developing a new theoretical macro model and calibrating it with estimates of behavioural parameters from business support policies (e.g. policy experiments such as Regional Selective Assistance and randomised control trials of business policies in see P1A).

²¹ See Wasmer and Weil (2004) for evidence that financial frictions matter in amplifying the effects macro-economic volatility.