

SMALL- AND MEDIUM-SIZED ENTERPRISES

Focus

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HEIDI C. SHERMAN, EDITOR OF THE CESIFO FORUM, RETIRES

When Hans-Werner Sinn became president of the Ifo Institute for Economic Research in 1999, he wanted to give a face-lifting to existing Ifo publications and to add new journals with an international orientation, to be published in English and be distributed to a world-wide audience of academics, public and private policymakers and the general public. The first such journal was the quarterly CESifo Forum, and I was chosen as its editor. I had sole responsibility for the CESifo Forum until the end of 2006 when I retired from the position of editor, continuing in a consulting function to my successor for the first two issues of 2007. Now that my time is really up, I would like to take a look back at the seven years at the helm of the CESifo Forum.

The first issue of the CESifo Forum was published in the spring of 2000, containing papers on labour market problems in Germany that had been presented at the first CESifo Symposium held on the event of the Ifo Institute's 50th anniversary. The authors included the Nobel laureate Robert Solow (MIT), Giuseppe Bertola (University of Turin) as well as Michael Burda (Humboldt University Berlin) and Wolfgang Franz, (President of the Center for European Economic Research, Mannheim).

All following issues of the CESifo Forum have addressed topical issues of international interest, the stated objective of this publication. They have also kept up the objective of soliciting authors of international renown. These included, in addition to those mentioned above, Allan Meltzer (Carnegie Mellon University), Alan S. Blinder (Princeton), Frank Levy (MIT), Barry Eichengreen (Berkeley), Dale Jorgenson (Harvard), John Williamson (Peterson Institute), Bob Litan (Brookings Institute), Michael Jensen (Harvard Business School), Richard Cooper and Jeffrey Frankel (Harvard), Nouriel Roubini (NYU), Charles McLure (Stanford), Paul De Grauwe (Leuven), Daniel Gros (CEPS), Niels Thygesen (Copenhagen), Peter Neary (Dublin), Torben Andersen (Aarhus), Assar Lindbeck (Stockholm), Iain Begg (LSE), T. Padoa-Schioppa and

Otmar Issing (formerly ECB), as well as past and present EU Commissioners and many more.

The topics dealt with in the period 2000 to 2006 featured The Euro, International Architecture, Eastern EU Enlargement, the New Economy, Pensions, Subsidiarity, Corporate Governance, Japan in Crisis, Tradable Permits, Outsourcing/Offshoring, Germany – 15 Years After Unification, China: A New Global Player, Sustainability of the US Current Account Deficit, Enlargement of the Euro Area, Energy Security, Mergers & Acquisitions, and others.

I can truly say that I enjoyed my seven years as editor of the CESifo Forum (and a total of 22 years as a fellow at the Ifo Institute). It is with a sigh of relief that I am leaving for the joys of a pensioner's life but also with teary eyes as I shall miss the contact with the authors from the first note of solicitation to the final version of the paper. I would like to take this opportunity to thank all of the authors who so generously contributed to this journal and helped make it what it is today. And I shall also miss working with my technical team who good-naturedly put up with late papers, poor pictures and numerous rounds of revisions. It was great fun while it lasted. My thanks go to Elisabeth Will for her patience in typesetting, formatting, paging and repaging, to Inge Kunz for turning numbers, often incomplete, into pretty Ifo graphs, and last but not least to Elsitä Walter who collected and updated all the statistics and did the graphs for the Trends section, frequently sacrificing a weekend.

As of January 2007, Chang Woon Nam has taken over the editorship of the CESifo Forum. He holds a Ph.D. from the University of Vienna and has been with the Ifo Institute, in the Department of Public Finance, since 1989. I wish him the best of luck in his added responsibility. I am certain that he will fill the CESifo Forum with interesting papers and will keep his readers well informed on issues of current economic concern.

With my best wishes to all of you, authors and readers,

Heidemarie C. Sherman

SMALL- AND MEDIUM-SIZED ENTERPRISES

FROM SMALL BUSINESS PROMOTION TO CREATING AN ENTREPRENEURIAL SOCIETY

DAVID B. AUDRETSCH*

Globalization and the European Paradox

When the Berlin Wall fell in November 1989, most scholars as well as policy makers anticipated a so-called peace dividend for Europe raising economic growth. After all, the post-war recovery of Europe, and especially of some countries such as Germany and Sweden, had been based on wresting the comparative advantage from the United States in key capital-based industries including automobiles, steel and machine tools. Economic growth, employment and competitiveness throughout the post-war era had been driven by physical capital. Just as Robert Solow (1956 and 1957) was awarded a Nobel Prize for identifying physical capital as the main factor driving economic growth, it was surely no coincidence that decades earlier Karl Marx had titled his history-changing book *Das Kapital*. Based on Europe's favorable export performance of capital-intensive products to the United States, its export dominance also appeared to be guaranteed in the markets of Central and Eastern Europe as well as in Asia, especially China.

Thus, it came as something of a shock when it became evident that, rather than reinforce the post-war European comparative advantage in capital-goods industries, the post-Berlin Wall globalization triggered a loss in European competitiveness in its stalwart traditional manufacturing industries. Driven by the harsh logic of globalization, European companies were increasingly choosing to outsource and offshore in a desperate effort to remain competitive (Friedman 2005). While this might have preserved, or even enhanced, the competitiveness of some European companies, it eroded the levels of eco-

nomie growth throughout Europe and triggered increases in unemployment that ratcheted upwards throughout the decade of the 1990s.

An article entitled, "Germany: World Leading Exporter (of Jobs)," in the prestigious weekly German magazine, *Der Spiegel*, reports that employment in manufacturing rose throughout the era of the post-war managed economy, increasing from 12.5 million in 1970 to 14.1 million in 1991; then, as globalization hit Germany, manufacturing jobs crashed to 10.2 million in 2004.¹ Between 1991 and 2004, the number of jobs in the German textile industry fell by 65 percent, from 274,658 to 94,432. In the construction industry, there was a 58 percent decrease in employment in Germany, from 1.9 million jobs to 778,000. In the metalworking industries, employment decreased from 576,299 to 250,024, or 47.5 percent. And in the heart and soul of German manufacturing, the machine tool industry, the number of jobs fell from 1.6 million to 947,448, or 39.1 percent.

Both outsourcing and offshoring have emerged as a strategic response to global competition, helping businesses maintain and, sometimes, enhance profitability. In Germany, this phenomenon has brought on a seemingly schizophrenic euphoria. On the one hand, corporate executives and policy makers are celebrating a "champagne mood", as profits are rising to record levels, sales increasing, and the overall prospects for German corporations looking better than they have been in years.² On the other hand, unemployment remains perilously close to five million unemployed workers, as one of the influential daily German newspapers, *Die Welt*, warned Germany's chancellor, Angela Merkel, "what use is the new strength and optimism of German companies if nothing is changed in the labor market."³

Even as the comparative advantage in (physical) capital in Europe was beginning to fade, scholars and policy makers began to recognize the primacy of a very different production factor – knowledge capital,



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¹ Bye-Bye Made in Germany, *Der Spiegel* 44 (2004), 94.

² This is referred to as Sektstimmung (sparking wine mood), Angst vor Aufschwung ohne Jobs, *Süddeutsche Zeitung*, 1 February, 2006, 1.

³ Merkel ist gewarnt, *Die Welt*, 1 February, 2006, 8.

which is based not just on technological and scientific knowledge but also in a broader sense of ideas, creativity, originality and novelty. The recognition by Romer (1986) and Lucas (1993) among others, that knowledge was not only endogenous but that it also spilled over for commercialization by firms and individuals other than the firm or university actually creating that knowledge in the first place, shifted the policy debate and focus away from instruments inducing investment in physical capital towards instruments generating knowledge and ideas, such as university research, education and training, and patents.

In particular, the Nordic countries, but also Northern Europe more generally, ranked among the world's leaders in terms of the most common measures of knowledge. Thus, the inability of countries which were knowledge leaders, such as Sweden, to prosper in the global economy was so striking that it was referred to as the Swedish Paradox. However, it was not just Sweden that exhibited surprisingly low growth rates and suffering from increasing unemployment, while at the same time having high rates of investment in research, human capital and culture. The European Union adapted the label to describe what it termed *the European Paradox*. While the prescriptions for investment in knowledge generated scholarly economic models, the experience of Sweden, and in fact much of Europe, was suggesting that the links between knowledge and growth are, in fact, more nuanced and complicated.

The knowledge filter

The conditions inherent in knowledge – high uncertainty, asymmetries and transaction costs – result in decision making hierarchies in companies arriving at the decision *not* to pursue and try to commercialize new ideas that economic agents think potentially valuable. The characteristics of knowledge distinguished from information, a high degree of uncertainty combined with non-trivial asymmetries, a broad spectrum of institutions, rules and regulations impose what Audretsch et al. (2006) and Acs et al. (2004) term *the knowledge filter*. More precisely, the knowledge filter is the gap between knowledge that has a potential commercial value and knowledge that is actually commercialized. The greater is the knowledge filter, the more pronounced is the gap between new knowledge and commercialized knowledge.

As already mentioned above, it is the knowledge filter that impedes investment in knowledge from spilling over into commercialization that leads to the so-called Swedish Paradox and European Paradox. Europe was not alone in having investment in knowledge choked off by the knowledge filter from resulting in economic growth. The United States has also not been able to avoid the knowledge filter. In fact, the knowledge filter impeding the commercialization of investment in research and knowledge can be formidable. As Senator Birch Bayh once warned, “a wealth of scientific talent at American colleges and universities – talent responsible for the development of numerous innovative scientific breakthroughs each year – is going to waste as a result of bureaucratic red tape and illogical government regulations ...”⁴ It is the knowledge filter that stands between investment in research on the one hand, and its commercialization through innovation, leading ultimately to economic growth, on the other. Seen through the eyes of Senator Bayh, the magnitude of the knowledge filter is daunting: “what sense does it make to spend billions of dollars each year on government-supported research and then prevent new developments from benefiting the American people because of dumb bureaucratic red tape?”⁵

Confronted with the knowledge filter impeding the spillover of knowledge from the firm or organization, where it was originally generated, into commercialization by third-party firms, the public policy instruments aimed at promoting investment in knowledge (such as human capital, R&D and university research) may not adequately stimulate economic growth. One interpretation of the European Paradox, where such investment in new knowledge has certainly been substantial and sustained, but vigorous growth and reduction of unemployment have remained elusive, is that the presence of such an imposing knowledge filter chokes off the commercialization of new knowledge investment, resulting in diminished innovative activity and ultimately stagnant growth.

Emergence of the entrepreneurial society

By choking off the spillover and commercialization of knowledge and new ideas, the knowledge filter at

⁴ Introductory statement of Birch Bayh, September 13, 1978, cited from the Association of University Technology Managers Report (AUTM 2004, 5).

⁵ Statement by Birch Bayh, April 13, 1980, on the approval of S. 414 (Bayh-Dole) by the U.S. Senate on a 91-4 vote, cited from AUTM (2004, 16).

the same time presents opportunities for individuals, or teams of individuals, who place a high valuation on the potential of that knowledge, to become entrepreneurs. If people are not able to pursue and implement their ideas and visions within the context of an incumbent firm or organization that appropriates the value of their ideas, they should start a new firm, that is, become entrepreneurs. The entrepreneurial startup reflects knowledge spillover entrepreneurship because the ideas serving as the basis for the startup were obtained, typically for little or no cost, from a different incumbent firm or organization. Thus, knowledge spillover entrepreneurship serves as a conduit for the spillover of new ideas created by an incumbent organization but left “uncommercialized”.

The knowledge spillover theory of entrepreneurship (Audretsch 1995; Audretsch et al. 2006) suggests that contexts which are rich in knowledge will tend to generate more entrepreneurial opportunities. Fewer entrepreneurial opportunities will be generated in a context with a lower amount of investment in new ideas and knowledge. A consequence of globalization, which has shifted the comparative advantage of developed countries from physical capital to knowledge capital, is that entrepreneurial opportunities become more pervasive (Audretsch 2007).

With the 2000 Lisbon Proclamation, Romano Prodi, who was at the time serving as the President of the European Commission, committed Europe to becoming the entrepreneurship leader in the world in order to ensure prosperity and a high standard of living throughout the continent. In particular, Prodi proclaimed that the promotion of entrepreneurship was an important cornerstone of European economic growth policy: “our lacunae in the field of entrepreneurship need to be taken seriously because there is mounting evidence that the key to economic growth and productivity improvements lies in the entrepreneurial capacity of an economy.” (Prodi 2002, 1).

Romano Prodi and the European Union were not alone in turning to entrepreneurship to provide the engine of economic growth. The entrepreneurial policy mandate mirrored similar efforts throughout the developed world. Public policy spanning a broad spectrum of national, regional and local contexts was turning to entrepreneurship to replace old jobs which were being lost to outsourcing and globalization, while at the same time trying to harness the

potential of significant long-term investment in knowledge, such as universities, education and research institutions.

Only a few years earlier the policy debate focusing on growth and employment had looked to the macroeconomic instruments of fiscal and monetary policy on the one hand, and the size and scale economies yielded by the large corporation, on the other. After all, scholars such as Alfred Chandler (1977), Joseph Schumpeter (1942) and John Kenneth Galbraith (1967) had convinced a generation of policy makers that efficiency and growth lay in the domain of large corporations and that small business would simply fade away under the weight of its own inefficiency.

In distinguishing entrepreneurship policy from more traditional approaches to business, a shift has occurred away from the focus on the traditional triad of policy instruments essentially constraining the freedom of firms to contract – regulation, competition policy and public ownership of business. The policy approach of constraint was sensible as long as the major issue was to restrain the market power of large corporations. The fact that this policy approach towards business is less relevant in a global economy is reflected by the waves of deregulation and privatization throughout the OECD.

Instead, a new policy approach is emerging which focuses on facilitating the creation and commercialization of knowledge. Probably the greatest and most salient change in small business policy over the last fifteen years has been a shift from trying to preserve small businesses that are confronted with a cost disadvantage due to scale disadvantages towards promoting the startup and viability of existing and new small firms involved in the commercialization of knowledge, or knowledge-based entrepreneurship.

Entrepreneurship policy vs. traditional small business policy

Entrepreneurship policy is a relatively new phenomenon. An important distinction should be made between traditional small business policy and entrepreneurship policy. Small business policy typically refers to policies implemented by a ministry or government agency charged with the mandate to promote small business. The actual definition of a small

business varies considerably across countries, ranging from firms with fewer than 500 employees in some of the most developed countries such as the United States and Canada, to fewer than 250 employees in the European Union, and to 50 employees in many developing countries.

There are at least two important ways that distinguish entrepreneurship policy from small business policy. The first is the breadth of policy orientation and instruments. While small business policy focuses on the existing stock of small firms, entrepreneurship policy is more encompassing in that it includes potential entrepreneurs. This suggests that entrepreneurship policy is more focused on the process of change, regardless of the organizational unit, whereas small business policy is more static in nature and remains focused on the enterprise level. Entrepreneurship policy is also more sensitive to framework or contextual conditions that shape the decision-making process of entrepreneurs and potential entrepreneurs.

While small business policy is primarily concerned with one organizational level, the firm, entrepreneurship policy encompasses multiple units of organization and analysis. These range from the individual to the firm, and to the cluster or network, which might involve an industry or sectoral dimension, or a spatial dimension, such as a district, city, region, or even an entire country. Just as each of these levels is an important policy target, the interactions and linkages across these disparate levels are also important. In this sense, entrepreneurship policy tends to be more systemic than small business policy. However, it is important to emphasize that small business policy still remains at the core of entrepreneurship policy.

The second way in which entrepreneurship policy is distinguished from traditional small business policy is that virtually every country has a ministry or governmental agency charged with promoting the viability of the small business sector. These ministries and agencies have by now developed a well established arsenal of policy instruments to promote small business. However, no agencies exist to promote entrepreneurship. Part of the challenge of implementing entrepreneurship policy is this very fact, i.e. that no country has yet introduced an agency mandated with the charge of promoting entrepreneurship. Rather, aspects relevant to entrepreneurship policy can be found across a broad spectrum of ministries and agencies, ranging from education to trade and immi-

gration. Thus, while small business has agencies and ministries that champion their issues, no analogous agency exists for entrepreneurship policy.

Not only are the instruments of entrepreneurship policy decidedly distinct from those traditionally used to promote business and small business in particular, but the locus of such enabling policies is also different. The instruments constraining the freedom of firms to contract – antitrust, regulation and public ownership – were generally controlled and used at the federal or national level. By contrast, the instruments of entrepreneurship policy are generally applied at the levels of a state or city or local community.

Entrepreneurship policy ranges across a broad spectrum of instruments, spanning taxes, immigration, education, as well as more direct instruments such as the provision of finance or training. If entrepreneurship policy can be viewed as the purposeful attempt to create an entrepreneurial economy, entire institutions that were the cornerstone of the Solow Economy are being challenged and reconfigured, at least throughout the OECD countries, to create the entrepreneurial economy.

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EU SME POLICY: ON THE EDGE OF GOVERNANCE

CHARLES DANNREUTHER*

The EU's economy is a small- and medium-sized enterprise (SME) economy: 99 percent, or 23 million, of Europe's enterprises are SMEs and they provide over 100 million jobs dominating many growth sectors of the EU economy. In a comparative context the statistical importance of SMEs to the EU's economy is even more evident. The average number of employees by size in non-primary, private enterprises in the EU and USA is very similar: micro companies employ 3 people in the EU and 1 in the USA, small companies 19 in the EU and 20 in the USA, medium 98 and 94 and large companies 1,052 in the EU and 1,119 in the USA. But there is a stark difference between the USA and the EU in terms of the share of total employment by company size (see Table 1).

Almost twice as many people are likely to be employed in a very small company in Europe as in the USA so that the experience of work in the EU is far more likely to be in a small- and medium-sized company than a large corporation. Despite the many publications that have focused on the various institutional foundations of national capitalisms in Europe, it is the SME sector, not the "national champions", that do most of the work. The problem that any SME policy maker has to address is that it is very hard to find out what SMEs want. While larger companies have processes and hierarchies that help them to define and represent clear preferences, the preferences of SMEs are mediated heavily by the channels that represent their interests (Dannreuther 1999). After discussing some of the problems of SME definition we shall examine what has driven EU

SME policy over different stages, how easy it is for the EU Commission to get it wrong, and how some SME issues are always likely to be beyond the scope of the EU.

The enigma of the SME

The SME sector is extremely diverse because, by definition, contingent factors outweigh standardised ones. This is a serious obstacle to policy formation. It is the character of the entrepreneur, the sector they are working in and the general condition of the economy that influences the prosperity of an SME. It has therefore become something of a truism that the SME sector is so heterogeneous that little of universal value can be said of it (Torrès and Julien 2005). SMEs tend to be defined as a sector according to environmental characteristics, such as their national traditions, corporate status, number of employees etc. (e.g. Bagnasco and Sabel 1995). Historical assumptions and institutional persistence often inform these categories. Some states have long traditions of support through statutory chambers (Crossick and Haupt 1995), while others have provided little support for SMEs until relatively recently. British governments, for example, did not recognise their small business sector existed until 1972. Academic research has often distorted the picture and many myths have been attached to SMEs, such as their employment generation potential and intrinsic innovativeness. One current assumption of SME policy is that an enterprise economy needs a high number of small firm births that slightly exceeds a high number of deaths. This "churn" effect provides a clear rationale for the dynamism of an SME sector. But while there has been a lot of research into new



Table 1

Employment by enterprise size

	SME in %				Large in %
	Micro	Small	Medium	Total	
USA (2000)	22	15	12	49	51
Japan (2001)	na	na	na	67	33
Europe-19 (2003)	39	17	13	70	30
na = not available.					

Source: "SMEs in Europe 2003" *Observatory of European SMEs* 2003, No. 7, p. 33.

* University of Leeds.

firm formation, the social and economic costs of SME deaths has been hardly explored.

From the mid-1980s, research has focused more on the social institutions and cultural traits that influence SME behaviour (Piore and Sabel 1986; Best 1990). The idea of “social capital” grew from this research and has become a central topic in the discussion of competitiveness in development and management literatures. This came closer to the real experiences of self employment, but often at the expense of intellectual rigour. The problem of knowing what SMEs want remains and while this is so, SME policies tend to be attached to broader policy agendas or institutional priorities.

Defining SMEs

For the last twenty years the EU has had to negotiate with national governments and a variety of sectoral concerns over its role in SME policy often with competing notions of what an SME is (Dannreuther 1999; 2007). The EU currently defines SMEs as those companies with fewer than 250 employees which are independent from larger companies, with an annual turnover of less than €50 million and an annual balance sheet total not exceeding €43 million (European Commission 2003). But while agreement over this definition has allowed a large body of statistical data to be collected on the SME sector, the definition has also changed three times in fifteen years in response to changes in state aids policy.

The Commission has observed that “the question of the appropriate definition of SMEs is meaningful only in the context of a specific measure for which it is considered necessary to separate one category of enterprises from others for reasons of their “size”. The criteria adopted for making this distinction necessarily depend on the aim pursued” (European Commission 1992, 2). The contextual significance of SME definitions has rendered the comparative analysis of SMEs and their policies difficult. In its wide ranging compendium of SME policies the OECD observed that “the empirical basis for informed policy making in the area of SMEs and entrepreneurship is rather poor”, blaming a “poor underlying statistical base” and a “notoriously limited cross-country comparability” that made “the analysis of economic forces or policies over time more complicated” (OECD

2004, 217). This diversity of data sources is reflected in the breadth of approaches to small firms in economic theory (You 1995) and explanations for their reassertion in the late 1980s (Sengenberger et al. 1990). Methodologically coherent evaluations of SME policies have been done (Storey 1990; Wren and Storey 2002) but the conflict between scientific excellence and practical policy solutions has been an obstacle in the engagement of researchers with SME policy (Curran and Storey 2002).

The politics of SME policy are vital to understanding its significance. Traditions surrounding small firms policies predate the modern capitalism of the twentieth century (Shonfeld 1965). On the 1st April 1792, for example, shortly after the French Revolution, the introduction of the *patente* or trade licence heralded the freedom of self establishment in France (Crossick and Haupt 1995, 30). Much of what distinguishes regulated capitalism of the “European” economic model from the “Anglo American” one has its origins in the histories of these corporations and guilds. In the late nineteenth and early twentieth century vigorous debates were held over how the small retailers and *petit bourgeoisie* were to be governed. The resolution of this “social question” has defined Europe’s political landscape ever since. Key to these issues, however, was the ability of political actors to define the interests of the *petit bourgeoisie* according to agendas that fit their own interests. Just as the middle classes were acknowledged as a core but inevitably ill defined constituency, so too the SME sector has managed to maintain its importance in part though its enigmatic status. SME policy is rarely solely about SMEs.

The three phases of EU SME policy

It is no coincidence that the EU’s SME policy began immediately after the first direct elections to the European Parliament. After 20 years of managing an internal market of large national economies, the Commission had paid only passing interest to the SME sector. The first phase of SME policy was introduced through a year long consultation in the European Year of the SME (EYSME) in 1982 that explicitly engaged with interests beyond the Brussels village. The Commission’s 1986 SME Action Programme organised these many debates into two categories of policy: (1) ver-

tical measures, designed to address a particular market failing, and (2) horizontal measures to improve the business environment. These distinctions remain today with the Commission launching an Action Programme for Administrative Simplification in 2007 (European Commission 2007a). As well as introducing an important distinction for SME policy, the focus on the business environment complemented the free market rhetoric of the single market programme and privatisation agenda that was sweeping member states at that time. Although member states guarded their control over SME policy closely, enterprise, free markets and a renewed Europe were inextricably linked.

In 1990, however, a conference in Avignon asserted an important distinction between enterprise and SMEs. SMEs and craft sector companies experienced many aspects of their business life, such as access to finance, training, administrative obligations, differently to larger companies. The second stage of SME policy embraced these differences, and many others, to develop a policy of promoting SMEs through more targeted interventions using, among other instruments, the new Community Initiatives. This strategy focused on increasing competitiveness through improving the capacity of SMEs to, for example, innovate or engage in new research. SME policy was increasingly concerned with improving the coordination of existing measures in the 1994 Integrated Programme. It was also concerned with linking SME policy to broader objectives in the EU. The Competitiveness White Paper emphasised the role SMEs played in innovation (European Commission 1993), while the European Employment Strategy promoted entrepreneurship and self employment as a key measure for addressing unemployment in the EU (European Council 1997).

The final phase can be seen as the centralising of SME policy within the continual reform agenda of the Lisbon process. Immediately after the European Council launched the Lisbon process as the EU's response to globalisation in 2000, the Heads of Government agreed the SME Charter in Santa Feira. This specified a range of policy commitments for member states to respond to, such as entrepreneurship and education and decreasing start-up times, and was designed to promote the sharing of good practice between member states (European Commission 2007b). The promotion of entrepre-

neurship would be more actively carried out after a Green Paper on Entrepreneurship and there would be better communication with the Commission through an SME envoy.

While SMEs were of increasing interest on the international stage, with the OECD's Bologna declaration on SMEs signed the same year, the significance of Santa Feira was in the parallels that it made with SME policy more broadly. The Lisbon process incorporated a method of policy making (the open method of coordination) that was very similar to the EYSME in its transparency and breadth of engagement. The use of benchmarks that set agreed targets but maintained national control over implementation also paralleled SME policy. Finally there were a number of other horizontal measures that fitted the specific agenda of SMEs. These included better regulation, "active" labour market policies, and promoting innovation. Notably these all survived the critical Mid-Term Review of the Lisbon process conducted by Wim Kok, and the SME Charter was presented as an important success of the Lisbon process.

These three phases show how SME policy has gone from nothing to a core, even definitive, element of the EU's political economy (Dannreuther 2006). The fundamental nature of this relationship to the EU has become increasingly clear as social partners and civil society have become involved in policy implementation of the new Lisbon process and as cross party support for SME policy has become a consensus issue in so many areas of policy. One hundred years ago this was exactly the engagement that nation states were having with their petit bourgeois sectors in the social question. Perhaps ex-Commission President Jacques Delors, who was on the European Parliament committee that proposed the EYSME, was aware of this when he wrote a piece with the title "De la question sociale en France a l'Europe" (Delors 2001).

SMEs, the knowledge based economy and the Service Directive

The knowledge-based economy (KBE) epitomises the progressive view of an SME economy. High-skilled flexible workers add value through services such as advertising, high-technology products, design and marketing to enable the EU to compete against the low manufacturing wage econo-

mies of the South. It has received significant support as a concept and in tangible policy. Significant investment has been made through the EU's Framework Programmes to improve the quality of knowledge available. The dissemination of this knowledge to SMEs has been actively promoted by encouraging their direct participation or through other incentives, such as encouraging spin-off companies from universities through state aids exemptions. One third of the Commission's new "Competitiveness and Innovation Framework Programme" (CIP) is dedicated to an "Entrepreneurship and Innovation Programme" (EIP) designed to improve the environment for SME innovation. Between 2007 and 2013 a sum of €2.17 billion will provide better access to finance for SMEs through venture capital and loan guarantees, a network of regional innovation support services as well as promoting the idea of entrepreneurship and innovation through policy and publicity (European Commission 2007c).

Much of the success of the KBE has been seen in the growth of the EU's service sector economy. In 2003 business services added 26.5 percent of value to non-financial services, employed 26.2 percent of the non-financial services workforce and generated €703 billion in value added (EUROSTAT 2006). An OECD report suggested that the "... services sector is by far the largest sector of economic activity in the euro area. In 2003 it accounted for 58 percent of business sector value added, 68 percent of total employment and two-thirds of total output" (Vogt 2005, 1). In addition to specific interventions in finance and innovation, the EU also sought to improve the regulatory environment for the sector. A key aspect of the Lisbon process, and the UK Presidency, was therefore to maximise this through an internal market in services. The Netherlands Bureau for Economic Analysis (CPB) quantified the effect of a single market in services suggesting that it would lead to increased investment in commercial services "in the range of 30 percent to 60 percent and the stock of foreign direct investment could [sic] increase by 20 percent to 35 percent" (CPB 2005, 1).

The Service Directive was fairly typical in its origins. The Commission's proposal linked it to SMEs through Article 47 (2) EC that provided for the right of establishment which it applied to services using Article 55. In addition to this strong legal basis, the Internal Market Commissioner Frits Bolkestein pre-

sented a report on the service sector in 2002 that revealed legal barriers to the establishment of service providers, and to the promotion, distribution, sale and after sale of services (European Commission 2002). It argued that this reflected a mistrust and protectionism between the member states and had a detrimental impact on the European economy, making victims of small firms and consumers and undermining the credibility of the internal market by encouraging black market behaviour.

As a framing directive the proposal did not deal with all issues but focused on those important to promoting the end goal of an internal market in services. An important part of the directive is what it does not address through derogations and codes of conduct for self-regulation. This was a technique that had been developed and used broadly for the completion of the single market. It also introduced a principle which, like the principle of mutual recognition, would facilitate the extension of a market in services with minimal regulation. The "Country of Origin Principle" allowed firms to trade in services in another state as long as they complied with the regulatory obligations of their home economy. It was specifically intended to "achieve the objective of guaranteeing the free movement of services whilst allowing the various national regimes to co-exist with all their distinctive characteristics" (European Commission 2004, 18).

The political response to the proposal was immediate, broad and hostile. Belgian Socialist Ministers Rudy Demotte (social affairs) and Frank Vandebroucke (employment) both challenged the directive supporting protests that attracted between 50,000 to 70,000 people in June 2004 in Belgium, only three months after the initial proposal. Carlos Polenus, vice-president of the BBTK, the Belgian employees' union, highlighted how the Directive went to the heart of long standing domestic social compromises: "Polish employees can be sent by a Czech temporary agency to a Belgian small or medium-sized enterprise that works for a large firm. That temporary agency can hire people in any EU member state and put them to work. In Belgium, it will not be required to pay the Belgian minimum wage. The Belgian temporary employment sector works on the basis of the principle of equal pay: temporary employees receive the same wages as permanent employees in the companies where they work temporarily. Bolkestein has not incorporated this rule into his text" (De Standaard 2004).

The Directive had failed not only to propose a workable plan but had not engaged sufficiently with the interests of civil society that it would affect most directly. Opposition came from all over Europe, unifying left and right in their opposition. This was most noticeable in France where the Bolkestein Directive was presented as an example of the free market liberalism that was undermining French tradition. It played a central role in the No vote campaign that rejected the EU Constitution: “The Directive symbolised further unemployment, less social protection for French workers and a threat to France’s social model. Thus “Polish plumbers” and others in the enlarged EU who might take over or undercut “French jobs” at home and abroad featured prominently in the No campaign, which focused strongly on the defence of public sector services in France” (Hainsworth 2006, 103–104).

While French and British politicians lost credibility, the European Parliament orchestrated a review and new set of proposals that would eventually save the directive. The Country of Origin Principle was replaced with a “Freedom to Provide Services”. Services of a general interest were only included if member states chose them to be, and workers’ rights took precedence over the Directive. Regulating the knowledge economy would require far more political sensitivity to domestic political concerns than the single market mechanisms traditionally employed by the Commission. Because of their heterogeneity, service sector SMEs would also not fall behind the leadership of their governments. Only the European Parliament was able to effectively engage the breadth of opinion needed to formulate a workable solution.

National versus EU level governance

As with many areas of EU policy, the pendulum has swung between European and national competences in SME policy. It is perhaps interesting to see how specific areas of policy have been retained at the national level and in what form they have been affected by the European level.

Tax policy has historically incited a passionate response from the SME sector (Crossick and Haupt 1995). The Federation of Small Businesses, the UK’s largest SME representative group, was set up in response to a letter complaining about value added tax that was introduced as a condition of UK acces-

sion to the EEC. Member states have, therefore, been shy about harmonising tax regimes and have defended unanimity in tax policy making, despite the potential and real effect they could have on company performance. The EU tended to restrict its actions to areas where individual Member States could not provide an effective solution such as providing cross-national comparisons and identifying harmful taxation. The Commission also introduced a pilot project on “Home State Taxation” that would allow SMEs engaged in cross-border trading to calculate taxable profits in all countries according to the tax rules in their home country. This would reduce compliance costs for the firm and allow taxable income to be apportioned between the countries (European Commission 2005a). However, it did not receive member state support. Tax incentives to invest in SMEs are also often defended because they are often extremely helpful as a vehicle for other means. Various schemes in the UK have enabled investors to benefit as the current controversy over private equity investment schemes demonstrates.

Industrial policy has long been an area allied with the discretion and patronage of member states and one that has often benefited SMEs. As a potential distortion to competition, state aids have been closely regulated by the Commission. But SMEs have always benefited from *de minimis* exemptions, which is why the definition of an SME has changed so regularly over the years. Substantial resources have been directed to SMEs through industrial policies that have administered cheap or long-term credit, direct incentives and subsidies for employment and training and fixed capital investments. The linking of SMEs with vague notions of competitiveness (Krugman 1994) has only added to the range of interventions that they have benefited from. Combined with the poor economic growth of the single market programme, France and Germany have actively promoted more defensive industrial policies at the EU level (McGuire 2006). While the industrial policy at the EU level has developed sectoral dimension for seven sectors, its main focus has been to promote horizontal measures through policies familiar to SME policy. The policy fits within the Lisbon agenda to create better framework conditions for manufacturing industries and includes the New Legislative Simplification Program [2005 to 2008] (Commission 2005, 2). Industrial policy for SMEs will remain an area in which member state implementation prevails over EU level legislation.

Conclusion

The spectacular growth in interest in policy for EU SMEs is explicable by the linking of the policy to broader agendas. Initially benefiting from the ideological interest in enterprise in the 1980s, SME policy became increasingly pragmatic as it was linked to other policy agendas and is now central to the Lisbon reform process. Some areas of policy do appear to be beyond the EU due to the sensitive nature of the political compromise or the inability of the EU to offer sufficient incentives to compensate for change. In the case of the Service Directive, the Commission also demonstrated that it was capable of making hugely inappropriate political judgements about the needs of its SMEs and service sector.

At a superficial level, SME policy appears to be a mess of measures that have been tagged onto other more strategically coherent agendas. But this denies both the significance and the importance of the EU's attempts to engage with its SME population. All states find this a difficult relationship to manage as the heterogeneity of the sector imposes uncertainty. Now that SMEs are at the centre of the EU's reform process there is every chance that it may engage more directly with its citizens and propose more modest and realistic policies.

SME policy is interesting because it describes the boundary between the state and the economy and in order to claim its legitimacy as political actor, the EU has to address this boundary. But this is also a risky political endeavour and more sparks will fly as the EU encroaches onto such a sensitive area of national economic policy.

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SMEs AND THE TAX SYSTEM: WHAT IS SO DIFFERENT ABOUT THEM?

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In most countries, tax policy is one prominent area where the legislator explicitly reserves a special treatment to small- and medium-sized enterprises (SMEs). The present article discusses some key tax policy issues relating to SMEs. In the face of a rather daunting array of issues that one encounters when thinking about SMEs, it opts for a broad, but still limited approach. This is reflected in the structure of the article. The first part outlines the contours of the concept of SMEs and positions it with respect to some theories of firm size and growth. In a second step, the article discusses the limits of some frequently cited reasons for special treatment for SMEs and evaluates their relevance for the determination of tax policy in a country. The conclusion is that tax compliance and administration costs are the main justification for a size-of-business related tax policy.

The concept of SMEs

Policy makers and the wider public alike have a strong perception that SMEs play a particularly important role in the economy. And indeed, at first sight, the concept of SMEs may look very clearly defined and their special roles appear rather obvious. One key reason for this observation is that almost every person, based on his or her own personal experiences, has a strong preconceived view of what constitutes an SME. Associated with it comes an equally strong belief that these SMEs are clearly “different” and thus deserve a special treatment.

When stepping back a little and thinking in a more structured way about what exactly are the criteria determining an SME, it rapidly becomes clear that the topic is much more complex than originally thought. To start, it is far from a “unidimensional” problem, as size of businesses can be measured in many different ways. The wide variety of size criteria used in the real world witnesses this in an extraordinary way. Legislators and institutions around the world rely on a multitude of criteria to determine what constitutes an SME. The number of employees, the ownership structure, the turnover, the balance sheet total, the capital base, the legal form as well as the type of activity are only some of the most commonly used indicators to determine the SME “nature” of a business. Depending on the context, the country and the author, businesses ranging from the (after-hours) one-man/woman enterprise up to companies employing several hundred people are frequently grouped under the same label of SMEs. As an illustration, the European Union uses a rather broad definition of the concept of SMEs for its policies ranging from the part-time self-employed worker to corporations employing up to 250 employees.¹

The same issues relating to the relevant cutoff points and criteria persist when companies are subdivided into narrower groups of medium, small and micro enterprises – with inevitable policy problems ensuing. Table 1 gives a brief overview of the real world situation in a number of European countries and in the US. The data illustrate the importance of the different subgroups of SMEs and also show the major role they play in providing employment for the population. However, the data also illustrate a rather wide variety of outcomes in different countries, both in terms of composition, as well as in terms of employment.

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¹ According to EU definition, a small business is defined as employing up to 50 employees and having an annual turnover and/or annual balance sheet total not exceeding EUR 10 million. A medium business is defined as having up to 250 employees and an annual turnover of less than EUR 50 million and/or an annual balance sheet total of less than EUR 43 million. A micro business is one that has less than 10 employees and whose annual turnover and/or balance sheet total do not exceed EUR 2 million. Additional restrictions apply for the case of non-autonomous companies.

Table 1

The role and size of SMEs

Country	Year	Structure of the SME Sector (% of all SMEs)			SME Participation in the Economy	
		Micro	Small	Medium	SMEs per 1,000 people	SME employment (% total)
Austria	2004	86,4	11,8	1,8	31,1	65,3
Belgium	2003	95,9	3,5	0,6	42,2	69,3
Bulgaria	2003	90,4	8,0	1,5	27,7	79,0
Germany	2005	91,1	7,3	1,5	38,3	
Spain	2005	94,1	5,2	0,7	73,0	
Estonia	2005	88,0	10,0	2,0	48,5	
Finland	2003	93,7	5,4	0,9	42,4	59,2
France	2004	93,3	5,8	0,9	43,3	
United Kingdom	2004	95,4	3,9	0,7	73,8	39,6
Hungary	2006	97,0	2,7	0,4	n/a	
Poland	2001	99,2		0,8	43,3	67,1
Slovak Republic	2004	80,5	15,1	4,4	13,1	
Sweden	2005	96,2	3,2	0,5	99,6	39,6
United States	2004	78,8	19,7	1,5	20,0	50,9

Notes: Micro 0–9 employees, except Austria 1–9. Small 10–49 except US 10–99. Medium 50–249 except Belgium, Spain and Sweden 50–199 and US 100–499.

Source: “Micro, Small, and Medium Enterprises: A Collection of Published Data”, International Finance Corporation (IFC), Washington D.C. (2007)

Unsurprisingly, the results of both normative and positive analysis are very different depending on which part of this rather wide spectrum the discussion focuses on. Hence, one lesson to be kept in mind in any discussion of SMEs is that the reader and policy analyst should always be very explicit about the basis for and the applicability of any given result. In other words, it is important for intellectual and political honesty that policy recommendations and normative results should not be unduly generalized. They should be properly restricted to the categories and contexts that they were originally derived in. While insisting on the importance of precision, the presentation does not refer to specific cutoffs when classifying enterprises according to different criteria, as these cutoffs are a function of the economic and the institutional environment of any given country.

One important factor in shaping the view on SMEs is the perceived link with another concept, the “middle class”. In casual discussions, some people would use these concepts almost interchangeably. This observation is true in the EU and other developed countries, but applies similarly to the context of the transition countries and the developing world. However, it is important to clearly separate these two notions. While the concept of SMEs relates to the operator of a business – in the EU context one refers to an entity engaged in an economic activity

irrespective of its legal form – the notion of middle class rather refers to individuals, families or households. Hence, while the concept of SMEs refers to the productive sector of the economy, the concept of middle class refers to the consumption sector of the economy.

This distinction between production and consumption spheres of the economy, which might at first sight seem unimportant or a question of detail, illustrates a point of major relevance for the discussion below. Indeed, the well-being of each consumer is an important factor contributing to the general welfare of a country. SMEs, on the other hand, are a pure concept related to the production side of the economy, and hence arguments related to their role and their specificities should be clearly separated from the ones relating to their owners or operators. Tax policy, as a discipline guided by the principles of optimal taxation, clearly has to recognize these important distinctions.

This article focuses on size-related issues regarding the business and not the owners thereof. This choice does not represent a judgment on the qualitative or quantitative importance of the different aspects. It merely reflects the need for a concise approach to a topic with wide-ranging issues involved. For example, in spite of their undoubted importance, the article does not discuss incorporation of businesses, nor

does it discuss the related issues of the choice of self-employment over wage-earner status or the choice of remuneration by means of capital or labor income. Indeed, we consider these important decisions as not directly relating to the size of a company but rather applying to all workers in the economy. Similarly, we clearly recognize the key role that the ownership structure may play for capital mobility and thus the elasticity of the tax base. However, a full discussion of their interactions with increasing international capital mobility and informality is well beyond the scope of the present paper.²

Theories of firm size and growth

The starting point in this literature is Gibrat's law: if the distribution of businesses' growth rates is normal and independent of the initial size, then the limiting distribution of firm sizes in the economy is lognormal. While the result is simple and concise, it clearly suffers from a lack of realism given the strong assumptions taken. A more recent strand of the theoretical literature on firm size thus tries to use less mechanical explanations: for example, Cabral and Mata (2003) replicate Portuguese data by stressing the interaction of wealth and resource inequality as well as credit constraints that force some firms to operate as SMEs below their optimal size.

Lahiri and Ono (1988) illustrate another approach to explain the existence of SMEs, considering them as disciplining devices on an imperfectly competitive market. In this approach, productivity endowments of businesses are taken as exogenously given but different across firms. As a result, the less efficient a firm, the smaller it will be. The authors consider that all these companies with different efficiency levels and thus different cost structures sell their products on a market characterized by Cournot competition. They show that the presence of SMEs is ambiguous from an economic welfare point of view. On the one hand, they decrease welfare as they are less efficient if they were replaced by their bigger counterparts. On the other hand, they serve to decrease the market power of the more efficient colleagues, and thus have the potential to increase aggregate welfare. As the overall effect depends on the degree of market concentra-

tion and on the relative inefficiency of the smaller operators, this type of model can hardly be taken as a strong convincing argument for subsidizing small companies.

More recently, a new strand of the trade literature has emerged with interesting applications to firm size. The basis for this new literature was an empirical regularity observed in a wide array of countries – both in the developing and the developed world: even within very narrowly-defined industry categories major degrees of heterogeneity in firm size prevail. This finding was clearly novel, in the sense that it showed that a theory of firm size purely based on the life-cycle of a product or the relative maturity of an industry does not seem to be matched by the empirical evidence. The data further reveal that large degrees of heterogeneity exist not only in terms of firm size but are observable in the areas of productivity, job growth, wages, innovation, export performance, etc. within these same industry subgroups. Expressed differently, large degrees of heterogeneity are persistent and cannot be ignored.

These empirical findings clearly illustrate that any policy guided by the notion that there is some typical producer or entrepreneur for any given industrial sector can only end up making misguided choices. These heterogeneous-firm models often rely on rather realistic notions of sunk costs, exogenous shocks and monopolistic competition. In a typical result, Melitz (2003) predicts that it is only the more efficient/productive companies in any given sector that become exporters and operate on international markets. In the case of the most efficient businesses, they even go one step further and become multinationals physically operating in different countries. On the other extreme of the spectrum, the least efficient operators are limited to domestic production. These results have double policy relevance. First, they illustrate the importance of producer heterogeneity to be taken into account, even within very clearly and narrowly defined industry groups. In some sense it serves as a reminder that there is no such thing as the typical retailer, building contractor, etc. Large degrees of heterogeneity will inevitably remain, even in a steady state setting. Second, the predictions on the relative efficiency of exporters and purely national operators could again be seen as an argument against a privileged treatment of small operators, as those are the least efficient ones from a purely economic point of view.

² Based on this idea, Gauthier and Gersovitz (1997) find an inverse-U shape pattern of tax burden for Cameroon with medium companies paying most.

Differentiated tax policy?

In light of the above theories of firm size and growth, the key question from a (tax) policy perspective is whether there should be special emphasis on size as a determining factor for taxation. Expressed differently, it is not sufficient to observe that there are firms of different size in an economy, or to realize that these firms of different size are characterized by different productivity levels. The key policy question is to determine to which degree these differences are due to a situation that would justify a discretionary intervention of the government by means of a tax burden or a tax system that is differentiated according to the size of firms. If such a need for intervention is identified, a second step of the process would then require an analysis of whether these differences plead in favor of a differentiated tax burden within the same system or rather plead for a completely different tax system for SMEs. It is important to note that the case for special tax treatment does not necessarily imply the need for a preferential SME regime, nor for preferential rules regarding the tax rate, base, audit probability, etc. of the generally applicable tax system.

Politicians and citizens alike generally accept the need for preferential treatment of SMEs in the tax laws. A quick look at the data seems to speak a clear and unequivocal language. Administrative data from countries all around the world show a high degree of concentration of the tax payments in the hands of a small subgroup of taxpayers. Typically, less than 1 percent of taxpayers transfer more than 70 percent of tax revenues to the government, whereas the smallest two thirds of taxpayers generally contribute less than 10 percent of tax revenues. The fact that such numbers are usually derived by integrating all tax payments of a business to the government, integrating taxes withheld on behalf of other taxpayers (such as payroll taxes withheld in behalf of workers, value added tax withheld or reverse-charged, etc.) is not often fully appreciated. Furthermore, the basic lessons of tax incidence analysis are clearly applicable and imply that it does not matter – from a tax policy point of view – which economic agent transfers the money to the government, but it rather matters who effectively supports the burden of the tax. The latter observation hints at the need for partial equilibrium or even general equilibrium analysis of tax shifting.

As a result, SME policy is often presented under the form of common claims that are advanced to justify a special treatment. There is, however, surprisingly little scientific evidence supporting those claims. This clearly represents a challenge to politicians and researchers. From a normative point of view, it challenges all parties involved to find a solid theoretical basis for measures benefiting specific segments of the taxpayer population – sometimes at considerable fiscal cost. From an empirical standpoint, it also challenges researchers to scrutinize the data to understand the implications of the existing schemes and derive policy-relevant conclusions.

We discuss four of the most common claims. The first of these claims is that SMEs are particularly successful at generating employment. Davis, Haltiwanger and Schuh (1994) illustrate that the evidence on this point is rather unconvincing. Simple correlations and regressions of net employment growth and firm size often illustrate a strong employment effect of small companies. However, such results generally do not withstand the use of more robust analysis. For example, net growth is a misleading indicator, as it may add up to more than 100 percent of employment growth. Similarly, regressing on starting size of a business introduces a bias in favor of the result. When correcting for such errors, Davis et al. (1994) report no statistically significant effect of firm size on employment growth. Similarly, Biggs and Shah (1998) illustrated that in Sub-Saharan Africa large firms were the dominant job creators in the manufacturing sector.

The second claim holds that SMEs are particularly innovative, and thus spurring their growth leads to faster aggregate growth in the economy. The presumption is based on the observation that most big companies started small, and that some of the most innovative companies started as very small entities. The argument is, however, flawed. First of all, there is a large degree of heterogeneity in the taxpayer population such that all companies do not follow the same growth patterns. There are businesses that are small and will stay small for most of their existence, and others that are always large-scale operations on pure grounds of economies of scale. Similarly, even if a well-defined subgroup of growth-oriented companies could be identified, it is not obvious why the tax system should influence this growth process. In fact, such intervention, to the degree that it does not act in a lump-sum way, influences marginal decisions and as such has the potential to lead to excessive

risk-taking and overinvestment. Empirical evidence seems to underpin these conceptual problems. For a sample of European companies, Pagano and Schivardi (2003) show that larger firm size is associated with faster innovation as larger firms are better positioned to exploit the increasing returns to R&D expenditures. Regarding the positive effect of SMEs on growth, the empirical evidence is equally unconvincing. While recognizing the positive correlation between growth and SME growth, Beck, Demirgüç-Kunt and Levine (2005) do not find empirical support for a causal impact on growth using data from 45 countries. They further find no evidence that SMEs help alleviate poverty or decrease income inequality.

A third reason often advanced for preferential SME treatment is that they suffer disproportionately from credit constraints and from other forms of competitive disadvantages, which limit their ability to borrow in the same way their larger counterparts do. It is only to the degree that such differences in access to credit do not properly reflect the higher risk associated with their small scale that such limitations should be considered a discrete disadvantage. Any further government action beyond those limitations would lead to a socially dominated outcome as it would force an inefficient resource allocation onto capital owners. Even in the presence of a well-argued case for state intervention in the resource allocation process, it remains unclear why tax instruments would be the best possible tool to correct such a profoundly non-tax distortion. For example, the recent development of micro-credit institutions in developing countries can be seen as a policy tool that addresses the constraints of the poor more directly.

The fourth claim focuses on other non-tax disadvantages that SMEs face. Examples are disproportionately bigger administrative burdens, barriers to entry, problems of indivisibility of labor, as well as other fixed costs linked to their limited scale of operation. One other type of size-specific disadvantage is the presence of a large informal sector which can cause substantial explicit and implicit costs to an SME. Because of their type of activity and their size, SMEs are more exposed than larger entities to the informal sector as they are often directly in competition with informal operators both on the product and the factor markets.

Insofar as these explicit or implicit economic costs are due to excessive government intervention, a

compelling case could be made in favor of rooting out such costs rather than handing out tax breaks. One of the key conclusions drawn on the basis of the Doing Business surveys conducted by the World Bank (see, for example, World Bank 2007) is that countries should implement reforms that simplify and ease the tax and non-tax regulatory environment for all businesses (and not only some subgroups of the taxpayer population). However, such a case in favor of reducing fixed costs and barriers to entry is not an automatic one. Auriol and Warlters (2005) illustrate that in developing countries a tax revenue maximizing government may in a perfectly rational way want to increase barriers to entry for new entrants onto the market. The logic is that such protection would ensure market power in the hands of the selected few that are either explicitly or implicitly authorized to operate. In turn, this market power translates into economic rents that the government can then share in by means of taxation or other levies that it would impose on these large taxpayers.

Tax compliance and administration costs

The preceding discussions reveal the limited theoretical and empirical evidence in favor of a special SME regime on the basis of market imperfections. The case is even weaker for a preferential regime with such elements as a reduced rate or a favorable tax base, as some of the arguments discussed above would rather argue in an opposite direction on the pure basis of economic efficiency.

However, the tax system itself may well provide the most convincing arguments in favor of some differentiation of businesses according to size. Taxpayers face a whole series of explicit or implicit costs when complying with tax legislation. At the same time, the tax authority also sometimes incurs substantial costs as a result of the application of the tax rules and the administration of the taxpayer files. Empirically, because of fixed cost arguments, both average and marginal administrative and compliance costs seem to be negatively related to the size of a company, as expressed by different indicators such as the number of employees, sales, etc.

The Price Waterhouse Coopers and World Bank report "Paying Taxes – The Global Picture" gives some interesting insights on taxpayer compliance costs throughout the world. It clearly identifies tax

compliance – measured in terms of formalities that a taxpayer has to comply with as well as the time spent on administrative matters related to tax compliance – as a major issue hampering business development. A tax system that succeeds in reducing the compliance burden for the taxpayers automatically reduces the fixed costs implied by the tax system and thus reduces both the justification for a preferential SME regime and the relative attraction of the informal sector. Expressed differently, streamlined tax administration procedures attenuate the calls for preferential tax policy regimes.

In the face of any remaining incompressible fixed costs, there is a potential role for tax policy to help alleviate the burden. Such tax relief for taxpayers could take the form of a lump-sum tax credit for administrative expenses applicable to all taxpayers. On the tax administration side, it could take the form of a different audit probability of taxpayers as a function of size to reflect their different importance and risk as compared to larger taxpayer units. There is, however, no doubt that any policy differentiation justified by fixed costs should not be linked to profits or other similar indicators, as they would only introduce an additional bias into the resource allocation problem faced by the business. In this sense, the many European systems providing progressive corporate income tax rates or preferential SME rates do not satisfy this criterion.

Another policy option is to explicitly recognize the costs when determining the scope of a tax system. Keen and Mintz (2004) show that in the presence of a fixed cost an optimal value added tax (VAT) has a threshold below which the taxpayer is not VAT-subjected. This means that SMEs would pay VAT on their inputs exactly like final consumers, while not charging VAT on their sales. It is possible to generalize this idea to a broader context: Whenever there are fixed costs to tax compliance and administration, it is generally optimal to have a simplified regime for the SME operators. Real-world examples are simplified income tax accounting rules or VAT exemptions. More radical alternatives use a presumptive tax basis, such as turnover, the number of employees, etc. Such regimes are the more plausible the more limited the administrative and compliance capacity of the tax authority and the taxpayer.

Simplified preferential regimes are, however, not without risks. First, any special SME regime replacing the VAT automatically poses the risk of tax cas-

ading. This is particularly acute when the simplified regime is turnover based, given rise to strategic incentives to proceed towards purely tax-driven inefficient vertical integration of the corporate sector. Second, there is a risk that taxpayers will strategically take actions to influence the presumptive base rather than optimize the resource allocation of their business. Similarly, tax officials may be more tempted to “negotiate” the precise scope of the taxable tax base with the taxpayer. Third, under an overly generous simplified regime, the tax base for the payroll tax system – and with it the income distribution in the country – may be heavily affected. People can strategically re-label their employment into a self-employment relation this way affecting their tax liabilities, but also possibly their linked social benefit entitlements. The presence of a special regime thus creates new kinds of inequalities and a redistribution of the tax burden both among the current businesses as well as in the broader taxpayer population. Fourth, and most importantly, the design of the preferential tax system should be such as to minimize the effects of discrete jumps in tax burdens by attempting to provide for smooth and easily verifiable transitions from one regime into the other. The more limited set of tax instruments and/or control mechanisms applied under the special regime inevitably leads to the existence of discontinuities. As a result, there is a strong potential for perverse effects leading towards situations of lock-in (people not wanting to grow out of the strict limits of a preferential system), split-up (people splitting their business to qualify), and re-registration of taxpayers (if benefits are limited to some specific type of companies) to benefit from the more advantageous conditions.

Summing up

Preferential tax regimes for SMEs are generally seen as a common feature of a tax system. However, there are many reasons why such a special treatment may not be desirable from an economic point of view. The article argues that most common claims on the role of SMEs do not provide a solid basis for a different – let alone preferential – treatment of SMEs as compared to larger taxpayers.

One does, however, note that the existence of fixed costs related to tax compliance and administration can lead to two clear tax policy recommendations. First, there is a mandate for simplifying tax procedures for all taxpayers as much as possible in order

to reduce the existence and the magnitude of these fixed costs. Second, there is a possible role for special regimes for the smallest taxpayers. They need to be simple to address the issues of compliance costs and informality in the most comprehensive way possible. However, these regimes are no miracle solutions. Special regimes will inevitably result in severe selection issues that may turn out to be very costly in terms of inefficient use of resources and even in terms of tax revenue.

The above discussion is clearly a partial one and has no claim of completeness. It focuses on the business unit and does not analyze the impact of the ownership structure on tax policy, which would require an explicit link with the ultimate beneficiary of corporate revenues. For example, some arguments in favor of special tax treatment of SMEs rely on the specific ownership structure and the behavioral characteristics of the owners rather than the SME itself. The present article thus calls for a complementary analysis of these other factors that are clearly related, but also separate issues.

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FROM SEEKERS TO SQUATTERS: THE RISE OF KNOWLEDGE ENTREPRENEURSHIP

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Today, the entrepreneurial drive is a key element of the evolving knowledge economy. To maintain their competitive edge in this globalised world, countries are looking to implement policies to heighten their talent pools and increase their innovation potential (Atkinson and Reid 2006). Many such policies address the question of how to increase the number of entrepreneurs, but few actually recognise or target the important, but little-understood category of “knowledge entrepreneurs”. For the purposes of this article, the knowledge entrepreneur is defined in dynamic terms as the entrepreneur of normally small- and medium-sized enterprises (SMEs) that focus on the discovery or interpretation of knowledge. Such individuals typically maintain a business focus while continuously innovating.

Introducing the knowledge entrepreneur

This contribution demonstrates the progression of the knowledge entrepreneur concept to current standards; identifies a variety of knowledge entrepreneurs; and explains the parameters of the topic at the present time. The knowledge entrepreneur (KE) concept is new, although entrepreneurship has been studied academically since at least Schumpeter (1939) and, of course, practised for much longer. Recently, research on the attributes of knowledge entrepreneurs has emerged (Carayannis and Formica 2006; Edvinsson 2002). While the identification of the attributes of these is important in business and the policy-making forum, the identification of the actual businesses and their geographic proximity has been overlooked. This research profile contributes to the attenuation of that gap.

Under the given definition of knowledge entrepreneurship involving dynamic, small- and medium-sized innovative businesses that focus on the discovery and interpretation of knowledge, our research identifies the economic activities in which KEs are particularly pronounced as:

- Innovation generation (IG)
- Digital media (DM)
- Fashion
- Food
- Design industry (DI)

The IG “industry” is a “platform” concept referring to innovation, mostly based on scientific and technological knowledge, which increasingly tends to be pervasive, non-sector-specific and engaging high lateral “absorptive capacity” on the part of users and potential users. For example, innovation in sensor technologies has this pervasive quality, as more generally does information and communication technology (ICT) or biotechnology innovation. The applications of biotechnology, for example, range from medicine to food, energy, environmental remediation, ICT and security, including policing. DM is clearly part of ICT but, like the last three categories, tightly intertwined with creativity and attracting KE engagement accordingly. Indeed, all categories embrace innovation and creativity most profoundly. It may be thought that the food industry is an exception to these criteria but it is not. Whether in relation to the post-war history of agro-chemical innovations in fertilisers, pesticides and herbicides (now themselves subject to critique for endangering consumer health, while nevertheless setting off new rounds of innovation and creative thinking), the contemporary rise of alternatives to such conventional mass products like functional foods (nutraceuticals) on the one hand, or organic food and gastronomy on the other, not to mention change in logistics, distribution, chilling and freezing, nutritional analysis, food technology and varieties of marketing and retailing food, creative or scientific and technological innovation is constantly at its heart and a magnet for KEs accordingly.

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Are there geographic concentrations?

Taking these various industries into account, their geographic areas are frequently specific. It is well-known that there are high concentrations of ICT KEs in northern and southern California – more creative in the latter, more innovative in the former (Scott 1998). Fashion KEs concentrate in Paris, London, Milan and New York. Food regions are remarkably different. Thus St Louis, Missouri concentrates most US agro-food biotechnology KEs, while in Canada it is Guelph, Ontario and Saskatoon, Saskatchewan that have this attribute. In Europe it is Cambridge (UK), Scania (Sweden), Wageningen (Netherlands) and BioValley linking Basel (Switzerland), Freiburg (Germany) and Strasbourg (France) that have this character (Ryan and Phillips 2004; Cooke 2007). But of course, these are mostly high-point clusters, for a key feature of KEs is that they are normally internet-based and in theory can locate anywhere since their customers or targets are likely to be global. Nevertheless, KE practice may be high-tech but is also high-touch, and face-to-face proximity to knowledge sources and expertise moderates the ubiquity often thoughtlessly presumed by those who preached the “death of distance” and the “end of geography” in the Internet Age (Cairncross 1997). So we will see aspects of this KE geography being examined in what follows due to the varying nature of the regions that produce or localize both entrepreneurs in general, and specifically knowledge entrepreneurs. Most of our examples are taken from US and European cases. The high number of European cases marks something of a recent development away from the probably misleading perception or even prejudice whereby the entrepreneurial spirit was said to be stronger in the US, given the stigma associated with business failure in the EU (Eurostat 2003; Shane 2004). However, the EU has clear positive innovation policies and, as will be demonstrated with the further research into knowledge entrepreneurs, these policies were appropriately implemented since it also contains a significant number of KEs (Atkinson and Reid 2006). Finally, it will become clear that despite innovation localization policies in many US and European regions and locales, the companies examined do not all reside within science parks, or university towns; rather, they are typically centred near project affiliates with-

in larger cities. This will be discussed below in further detail (*ibid* 2006).

Identifying knowledge entrepreneurs

The paper clarifies where the knowledge entrepreneur category is amidst the many other entrepreneurial categories. In addition, there is a further refinement of the knowledge entrepreneur, not as just another category; but, addressing the many subsections of knowledge entrepreneurs, ranging from the most dynamic “seekers” to the most disliked “squatters”. Finally, Table 1 provides a few examples adapted from our KnowEnt database compiled for research purposes (see below). While taking these parameters into account, the definition used to identify KE businesses and individuals is narrow for four reasons. First, large businesses are excluded as they are simply not classified as “entrepreneurial” in any of the relevant research literature. Willy-nilly entrepreneurship is an individualist, small-and-medium-sized economic phenomenon in research and practice. In addition, SMEs of 250 or fewer employees are a highly competitive group while being more flexible in terms of network interaction and data sharing (Cooke 2005).

Second, the ability to be “dynamic” is an important trait of knowledge entrepreneurs which sets them apart from more typically “static” responses of one-size-fits-all consultancies – not only the large ones but SMEs. The KEs researched, whether they are self-employees or SMEs, continually innovate, as seen in Boxes 1 and 2.

Third, this definition includes internet and computer related fields. To limit the outliers, the definition must be narrow when looking at such a vast sector that includes programming, software testing, and web design; therefore, the DM group was created to accommodate the few hybrid, standout companies within the larger industry. In addition, the ICT field is largely project based which allows for smaller SMEs, often under 15 employees, as well as more

Box 1

Profile of a Knowledge Entrepreneur-Based Business: BrainStore

“Idea Generating” business started by Markus Mettler and Nadja Schnetzler located in Biel, Switzerland:

- Uses small staff and acquired freelancers, often teenagers, to continuously innovate answers to clients’ problems;
- Clients include independent persons as well as large corporations;
- Delivers a high success rate on an international scale.

Adapted from BrainStore at *BrainStore.com* in 2006.

Table 1

Who are the Knowledge Entrepreneurs?

	Entrepreneurship						
	Entrepreneur	Connect & Develop	Channels	Exploiters	Start Up MNCs	Web-Based	
Knowledge	Seekers	– BrainStore – What If! – Brain Reactions – Big Idea Group	– Yet2.com	– Transitions – Cambridge/MIT Institute – Honey Bee Network – NineSigma – YourEncore		– What If! – Cambridge/MIT Institute – Yet2.com	
	Researchers	– Advanced Fuel Research Inc. – International Technological University – Deveraux & Deloitte – Oxford Business Group – Future Farmers	– Innocentive – Syngene	– Focalyst			– Innocentive – Deveraux & Deloitte – Vantage Law
	Patent Trolls	– Intellectual Ventures			– Intellectual Ventures – Acacia – PAN-IP – Smileyworld – Stealth Industries		
	Digital Media/IT	– Cuttlefish Digital Arts – Thunderhead – RubyRed Labs – FFAB:UK – Magnetic One – 1 st Avenue Machine			– Thunderhead – Password Crackers Inc. – Cision – SpiDynamics – Pure Hacking	– Androme – CreateThe – SpiDynamics – Pure Hacking – Ink.inc	– RubyRed Labs – Music Today – Ink.inc

individual KEs (Box 2), thereby increasing the group's significance while maintaining its size.

Finally, innovation must be the focal business strategy; both within the firm and within any inter-firm networks. This was first derived from the Procter & Gamble “open innovation” strategy of *Connect & Develop* (C&D) (Chesbrough 2003; Huston and Sakkab 2006).

The rest of this paper is structured as follows. The next section reviews the evolution of interest in KEs, starting with the relatively recent exposition of the open innovation strategy and ending with the current knowledge entrepreneur concept. It will also categorise the various types of knowledge entrepreneur. This is followed by a brief presentation of some

Box 2

Profile of a Knowledge Entrepreneur: Max Levchin

- Innovative Internet application designer and independent talent scout;
- Co-founded PayPal and sold it to eBay for \$1.5 billion in 2002;
- United YouTube founders while at PayPal;
- Designed Slide and Yelp, data-sharing internet applications;
- Continues to work independently to enhance PayPal security.

Adapted from D. Frost 2006, *The San Francisco Chronicle Online*.

of the knowledge entrepreneurs that the research has identified to date. Next, based on the KnowEnt database, there will be a section on the issue of KEs and space, focusing on geographic proximity. Finally, conclusions tie together the KE research while highlighting potential future research areas.

Evolution of the knowledge entrepreneur

The Procter & Gamble concept of C&D enhanced the business structure of R&D facilities in research-based companies by utilizing “open innovation”, i.e. external knowledge facilities to create new ideas instead of solely relying on internal researchers (Huston and Sakkab 2006). While this is a change from the previous corporate philosophy of innovating behind closed doors and having company secrets, it is not a revolutionary breakthrough. Basically, C&D “opens the closed doors” of innovation linking the internal researchers with the external researchers. Using this method effectively, Procter &

Gamble has “from 7,500 people working on R&D inside, to 7,500 *plus* 1.5 million outside, with a permeable boundary between them” (Huston and Sakkab 2006, 61).¹ They have had several successful products arise from this method: the Spinbrush, Mr. Clean Magic Eraser, and other domestic cleaning products. Due to this success, several industry competitors and other firms have also adopted the open innovation approaches (e.g. Eli Lilly with Innocentive, Philips with IMEC). According to Huston and Sakkab, the most attractive part of C&D is that the open innovation concept, which was considered radical less than a decade ago due to the restructuring of the division of labour, is positively changing the revenue of large corporations: “C&D (in Procter & Gamble) now produces more than 35 percent of the company’s innovations and billions of dollars in revenue” (2006, 58). In addition, due to the “success of this strategy, Procter & Gamble acquired sufficient profit to acquire Gillette Corporation for \$57 billion in 2005, making it the largest consumer products firm in the world, pushing Unilever into second place” (Cooke 2005, 12).

When reviewing innovation progress, this strategy has increased the productivity rate of many companies including Procter & Gamble, which set up other companies to focus upon certain aspects of their research. Identified in Table 1 are the companies associated with the idea generation, knowledge entrepreneur, and open innovation concepts: the “seekers” or the problem solver companies. As outlined in Box 1, these companies’ clients range from the level of the person to a multinational corporation. This creativity-centred, idea-commoditization business develops solutions through research, surveys, and focus groups, often handled in an assembly line fashion as shown in Figure 1. Each client is a different problem; thereby, needing a different solution and continuous innovation which separates this group of seekers from consultants. There are not many seeker companies; however, the examples listed in Table 1 are very popular and the subject of further research into the idea generation industry.

Following the x-axis of Table 1, the “researchers” are the research companies and individual scientists who independently tackle R&D issues for larger companies as well as individual clients. Despite the varia-

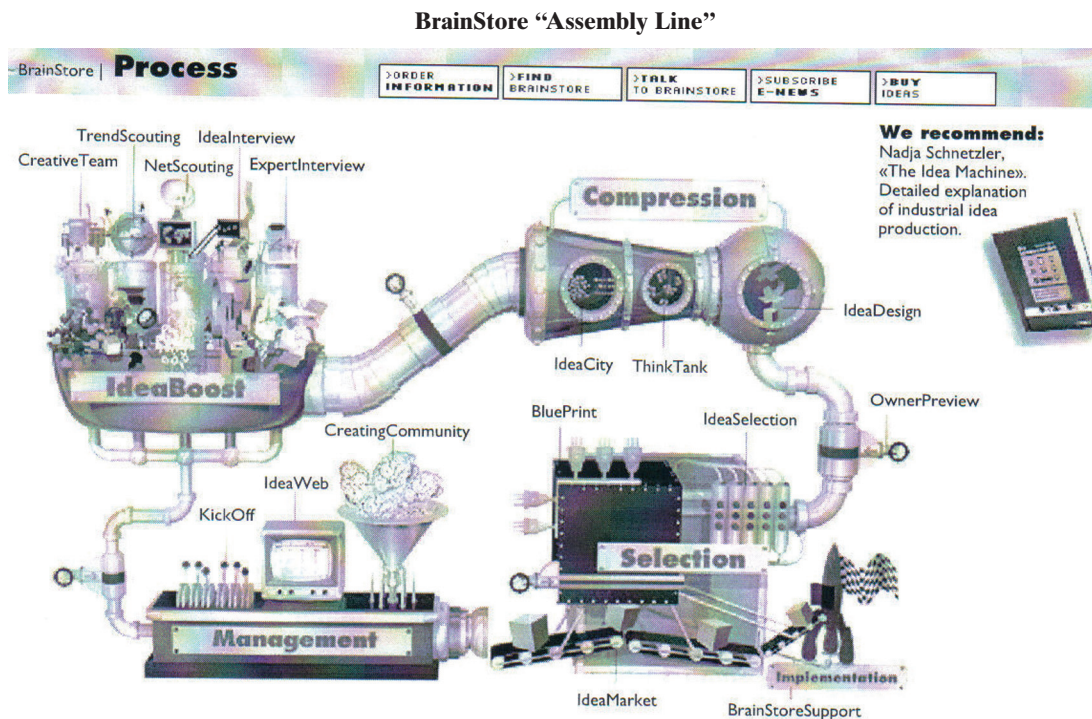
tion in the structure of the research category, the manner in which work is delivered to them is identical. Whether it is a social science research provider or a company which enrolls independent scientists as problem solvers, the client delivers the problem set and the researcher finds the information needed. The concept of researchers is not new as many corporations have their own R&D departments; however, based on the knowledge entrepreneur definition that has guided this research, these researchers are significant as they are independent, SME-type entities. One variation of this independent variable can be seen in the C&D researchers listed in Table 1; more information on the creation of these companies is given below.

Next, the “squatters” are companies that do not produce any goods. Rather, the businesses in this sector exploit the patenting system by acquiring bundles of patents from struggling businesses to exercise those patents and acquire financial gains when finding companies that have infringed on their newly acquired patents. Typically, squatters (or “trolls” as many refer to them) gain their revenue from successful lawsuits or, as many of the companies they are suing are small and cannot afford to go through the lengthy legal process, a settlement is provided in lieu of a trial. Some small companies have fought back, using the Internet as their organizing ground and building funds to fight squatters’ lawsuits (Sayer 2004). In addition, the US Congress has been adding pressure with the potential passage of a law that would severely limit the capacity of patent trolls (Burr 2005).

Finally, the *DM/IT* group exists alongside idea generators as a hybrid group of software producers, computer programmers and web designers that rely on Web 2.0 manipulation to stay ahead of the competition (O’Reilly 2005). The employees of the dot-com bubble of the 1990s now have to be creative in addition to being multi-skilled talents. Initially, film and entertainment took hold of these hybrid companies using DM extensively to convert tedious cartoon drawing to digital animation with computer generated imagery (CGI). Next, DM was used for movies in making lifelike characters perform the impossible in surreal environments, which was capitalized by Peter Jackson and his New Zealand creative development complex. Now that DM has redeveloped the film making industry, moving a large portion of action films from the stage lot to the digital studio, it has infiltrated and now largely influ-

¹ The “1.5 million people” were originally thought to be knowledge entrepreneurs; however, after contacting the authors for clarification, the figure was merely an estimate based upon Procter & Gamble’s experience with industry affiliates, the number of university R&D graduates, and the companies outreach into the international arena. In other words it is a notional and untested statistic.

Figure 1



Source: Copied from BrainStore 2006 at <http://www.brainstore.com/index.cfm?p=1608>.

ences the advertising industry. Through the use of computers to design surreal marketing campaigns, DM has overhauled the advertising industry taking care of brand imaging; consumer outreach; and all aspects of advertising and post-production feedback using a low number of staff on a project-by-project basis. Beyond the infiltration of another sector, as Table 1 demonstrates, the DM firms' latest development is the ability to exist on a project-by-project basis, some starting as multi-location firms, spanning continents.

The x-axis labels for the above table are more simplistic than their vertical counterparts. First, *entrepreneurship* is the process of starting a new business based on an idea or a process that meets the needs of a target market. There is the creation of a business entity, usually with the help of venture capitalists and consultants in order to maximize the exposure of the business to the target market. Second, Procter & Gamble's C&D concept of open innovation identifies the companies that Procter & Gamble, Eli Lilly, and other multinational firms have created as separate, yet joint entities to elicit more ideas from their targeted field of expertise. Third, following in the steps of the open innovation concept, *channels* allow for various companies to engage in the transfer of information openly and

provide "more opportunity for knowledge capability enhancement" to other interested parties who are most likely geographically proximate (Cooke 2005, 8). The ex-Procter & Gamble companies established through C&D are examples, as well as university spin-offs and start-ups. They were created with the help of a large business entity but are now independent while openly sharing information. Fourth, the *exploiters* take advantage of the weaknesses of other companies to achieve financial gains. This category is not synonymous with squatters because exploiters exist in other capacities outside of squatters as demonstrated in Table 1. Along with the squatter persona, the exploiter group can also consist of computer security professionals, penetration testers, or any entrepreneur whose business livelihood relies on the inaccuracies of others. Fifth, the *start-up MNC's*, are SME's, often with less than ten employees, that have multinational locations. Most often these firms are in the DM sector as the ability for an increased market through electronic communication is enabled. Lastly, *web-based* companies have no formal headquarters, they are solely web-based. *Vantage Counsel* is the breakthrough example in this category as it is the first virtual law firm (2006). Despite this last example, and the increased emphasis placed on the globalised marketplace's chosen form of communication being

the Internet, business location is still important, something explored next.

Location is still important

The firm names listed in Table 1, whether they solve problems as idea generators or produce creative advertising campaigns, conduct a large amount of business via the Internet; however, this does not equate to the “death of distance” (Cairncross 1997). A recent article on *Inc.com*, a periodical devoted to entrepreneurship, provided insights into the locations at which entrepreneurs are most likely to start businesses (Kotkin 2006). Loosely based on Florida’s (2002) creative class concept, people associate large cities with progressive businesses due to the diverse talent pool located within the city; however, a rising trend proves that edges of cities are the places to be, no longer making it peripheral. This allows for lower office prices with access to the city talent pool, the project affiliates, and the potential for face-to-face interaction. An *Inc.com* survey listed the locations for entrepreneurs (in America) in 2006, all of which were in the once regarded “periphery” (Kotkin 2006). This trend does not only exist in America. The *BrainStore*, located in Biel near Berne, Switzerland, exemplifies this edge city argument. More importantly, it may be an exemplar for neighbouring EU countries, where many national and regional policies are targeting this kind of endeavour.

When putting policy into practice, the location of a firm, in proximity to similar firms, can provide a multitude of advantages ranging from creative synergy with other companies to positive firm growth associated with competition (Cooke and Hughes 1999). The aspects of cooperation and competition are even more prevalent when looking at SMEs, as their location can determine success or failure. In addition, the location of the firm in response to other business affiliates, whether they are project providers or service providers, is of equal importance. When a firm is competing with other, similar firms for a project contract, location is key

as “human capital and social capital are inextricably interwoven and determine whether an actor either occupies a central or peripheral position or is excluded altogether” (Ekinsmyth 2002). The ability to build social capital, even if a firm’s talent is largely based on the success or failure of its last project, is greatly influenced by its proximity to affiliated companies (Grabher 2002). Furthermore, the importance of face-to-face interaction when working on a project with several different firms should not be underestimated (Scott as cited in Grabher 2002). If all firms involved are located in close proximity this allows for quick interaction if needed. Finally, as demonstrated in Figure 3, the majority of American knowledge entrepreneur firms are located in large cities, specifically New York and Los Angeles, in geographic proximity to their clients and service providers. This is not coincidental; Figure 2 illustrates the spread of knowledge entrepreneurs in Europe, close to, if not in, major cities.

Both of these maps provide a visual representation of the spread of knowledge entrepreneurs; however, it is not complete, as further research will produce more companies to be plotted. In addition, in Figure 2 there is a western harbouring of KEs and in Figure 3 a coastal harbouring of KEs that could possibly be explained by the above location arguments; however, failing these argu-

Figure 2

Major Locations of Knowledge Entrepreneurs in IG and DM Industries in Europe

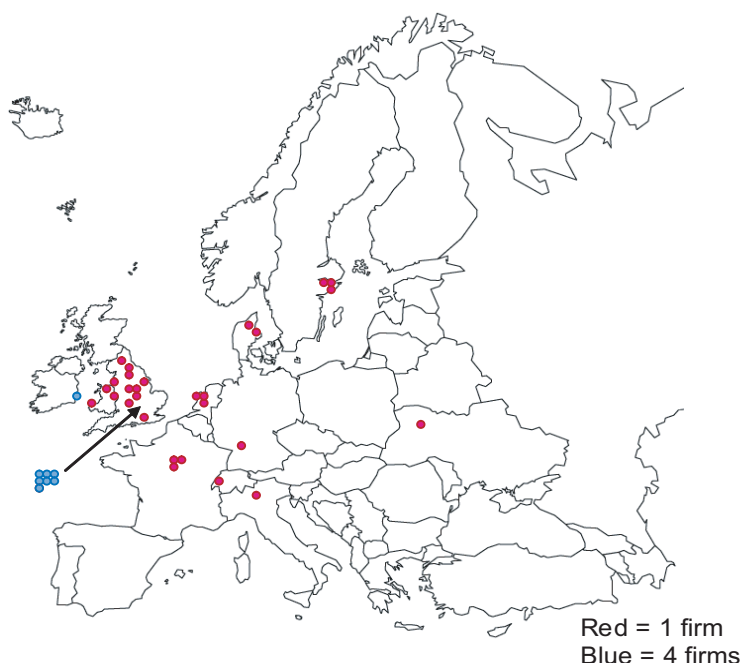
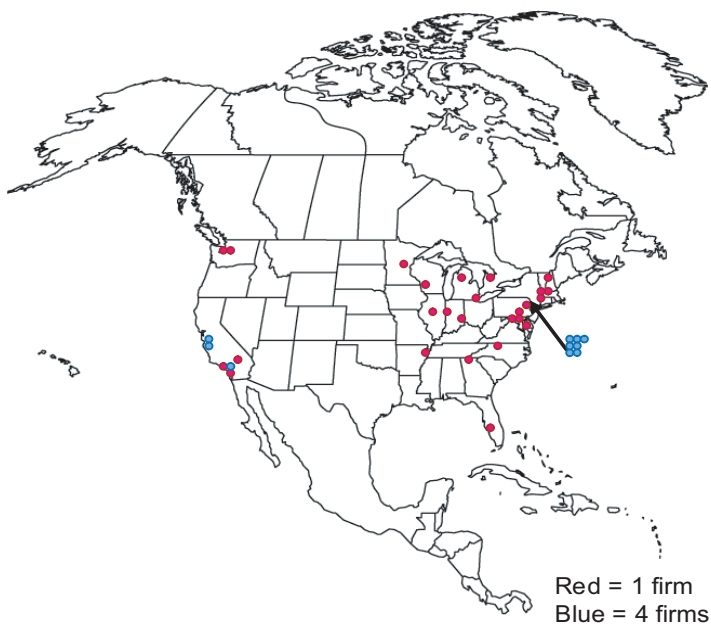


Figure 3
Major Locations of Knowledge Entrepreneurs
in IG and DM Industries in the US



ments, either further research will provide more scattered results or increased understanding of this model will eventually infiltrate these areas thereby enhancing these maps.

Conclusion

This research verifies that knowledge entrepreneurs exist in several countries and through their successful business performance contribute positively to their surrounding economies. Nonetheless, this paper highlights only a finite number of companies that match the KE definition; while filling a gap in the previous research on this topic, this research is not complete for three reasons.

First, the sectors that were identified in the introduction have produced examples; however, the research is ongoing within those fields. This could lead to many more KE examples. Second, there are more sectors to look into, namely biotechnology and finance. The difficulties researching these sectors pertain to the question of company size, as well as the static vs. dynamic question. There are plenty of biotechnology companies that are start-ups or spin-offs making the company size question obsolete; however, their ability to continuously innovate on the same scale as *BrainStore* is largely questionable given the pending approval times of their products

and patent “lock-in”. On the other hand, the finance sector has produced a handful of excellent innovative KEs while also yielding many consultants and specialist businesses, making it a complex sector to research. Finally, with the research focusing on more sectors there is the potential for the expansion of KE groups (i.e. seekers, exploiters, etc.). Although the original definition is narrow to exclude larger firms and the less innovative companies, the research continuously produces new companies that merit the creation of a new group to better describe the businesses. For example, *YTKO*, a UK-based biotechnology innovation company, aids start up bioscience firms by developing innovative

ways to commercialize their products (*YTKO*, 2006). While this company could not fit in the existing table, with more insight into companies of this kind an “intermediaries” group could possibly contribute more understanding of knowledge entrepreneurs.

As addressed, further proliferation of these business models is needed to better understand the location preferences of the companies, as well as their potential to cluster or not, providing a “one-stop-shop” for businesses in need of innovative ideas. Given this analysis, this research into knowledge entrepreneurs is providing useful information about these companies’ origins, habits, and identities while also providing the foundation for further research into the subject.

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WHEN THE DRAGON AWAKES: INTERNATIONALISATION OF SMEs IN CHINA AND IMPLICATIONS FOR EUROPE

CHRIS HALL*

Napoleon is sometimes quoted as saying “When China awakes, the world will tremble” or, as a variant, “When the sleeping dragon awakes, it will shake the world”. China is well and truly awake, to the sound of the pattering feet of many little dragons: SMEs. Many of these SMEs are internationalised. This paper explores three converging and interrelated phenomena.

First, WTO statistics suggest that by 2006 China had already overtaken the United States as the second largest exporter in the world in terms of export volume, and will overtake Germany in the next year or so to be the leading exporting country in the world (WTO 2007). China has achieved remarkable growth of exports and GDP in the last two decades. The internationalisation of its economy is important to its growth and to the stability of the region and the world.

Second, most of these exports come from SMEs. SMEs contribute 68 percent of China’s exports. This is a much higher proportion than in any other economy in the OECD or APEC. China’s export growth is about double its GDP growth. Chinese SME exporters are a major contributor to Chinese economic growth.

Third, most of these SMEs were “born” in the last decade. China has created more SMEs in the last 20 years than the total number of SMEs in Europe and the United States combined. It was only with the opening of the private economy in China in the reforms of 1980s by Deng Xiaoping that private SMEs were recognised at all. Ten years later, in the 1990s, officially at least, China had only about one million private sector SMEs, but it now officially

recognises about 40 million. It still falls short in that it should have about 60 million if it is to have a normal density of entrepreneurs.

Together these three factors suggest that the world may well shake to the march of an army of Chinese SMEs, but in jubilation or in fear? This paper explores:

- the rising importance of SMEs in China’s internationalisation;
- why Chinese SMEs have become such an international force;
- whether the trends are likely to continue; and briefly,
- the implications for Europe.

The rising importance of SMEs in China’s internationalisation

The number of SMEs in China has grown rapidly since the economic reforms of the early 1980s, which led to a more market-based economy. However, finding out how many SMEs there are in China is not an easy task. There are two issues. The first is how to define an SME and the second is whether it is privately owned or not.

First, the definition of an SME in China is quite complex and can include relatively large firms. In OECD and APEC economies, the definition of an SME also varies, but most commonly is based on the number of employees. Usually an SME employs fewer than 100 employees, with a maximum of about 500. In reality, the vast bulk of SMEs, around 70 percent or so, employ fewer than five people or are self-employed people. The definition used for regulatory purposes (and thus for the collection of statistics on SME exports) in China depends on the industry category and is defined in terms of employees, sales and assets. For example, an industrial SME is defined as having up to 2,000 employees, while a small business has less than 300, and a medium-size



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business has between 301 and 2,000 employees. Consequently, what is regarded an SME in China may be quite large relative to an SME in Europe or the US. However, the labour intensity of production and the huge size of China still make these firms relatively small. Further, the definition of an SME in China has also been changed at least four times since the 1950s, which renders comparisons over time difficult.

Second is the issue of private ownership. In western economies, SMEs are usually privately owned and run by the proprietor. In China, from the 1948 change of government until the Deng Xiaoping reforms, which commenced in the early 1980s, private sector firms did not officially exist. Most SMEs were usually Town and Village Enterprises (TVEs), which could be quite large. These were not state owned nor were they really private in a western sense; for example, they might be collectively owned, with the state still having some role.

On the best information available, China had about 8.6 million non-agricultural SMEs in 1990, and this has actually declined as a result of reforms (Chen et al. 2000). In 1995 there were about 7 million SMEs of this type employing about 119 million of a total of 143 million employed by all industrial enterprises (China 1995). Most of these so-called SMEs were actually state owned enterprises; some of them were quite large and by their nature more bureaucratic than entrepreneurial.

The private sector grew very rapidly over two decades from 1980, and much of this growth was in SMEs which were privately owned. Under China's statistical collection methods it is not usually possible to get the breakdown by size and by ownership (for example, private sector versus state owned, by size of firm). According to the National Development and Reform Commission (NDRC) data, the number of private sector firms grew from zero in 1980 to about 100,000 in 1990, to 3.65 million in 2004, or an average growth of about 30 percent per annum. However, the Chinese Bureau's of Statistics (CBS) first Economic Census, completed in 2006 (China 2006), arrived at a figure of 39 million private sector SMEs in 2004 or more than ten times the NDRC estimate. The difference is explained by a different definition and collection methodology; for example, the CBS included firms with less than eight employees in its collection as well as non-employing firms, which the NDRC did not. The CBS figure is

probably more representative of the real number of SMEs in China.

Contrast this with a figure of about 19 million SMEs in Europe (European Commission 2003) which includes micro-firms and self-employed, and about 6 million in the US, or about 16 million if self-employed people are included. This means that the US and Europe combined account for about 35 million SMEs relative to about 40 million in China alone. However, almost all of the Chinese SMEs have been born in the last ten years. This explosion of entrepreneurial businesses is unprecedented in human history.

What international contribution do these SMEs make to the Chinese economy? The official Chinese estimates of the contribution of SMEs to exports are set out in Table 1. These show that from 2002, the first year that SME exports were separately identified, SMEs contributed 62 percent of exports, growing to 68 percent in 2005. To put this in context, Chinese SME exports were USD 518 billion in 2005, or equivalent to about double the total GDP of Greece, and about one quarter of the total GDP of France.

These exporting Chinese SMEs include some firms which are quite large relative to the normal definition of an SME in Europe or the US and include firms which are not just privately owned firms. However the same is true in Europe or the US, and neither of those countries has accurate figures on the level of SME exports at an international level either. What figures there are (and ignoring interstate trade) probably suggest that SME exports are less than 30 percent of all exports in the US and Europe. European figures are hard to compare, because they often contain a lot of intra-European trade, so comparable only to beer being shipped from Shandong to Yunnan, or bourbon from Kentucky to California. However, a rough gauge can be obtained from the European Commission (2002) which estimated that European SMEs derive only 13 percent of their turnover from exports. The US Department of Commerce estimated that about 30 percent of US exports come from SMEs (Hall 2003). In rough terms, Chinese SMEs are more than twice as internationalised as those US counterparts, and more than five times as internationalised as European SMEs.

To further put this in context, Figure 1 shows that the level of Chinese exports, of which most come from

Table 1

Chinese exports and SME exports in billions USD

	Total exports	SME exports	SME exports as % of total
2002	438.23	272.48	62.3
2003	593.32	390.44	65.8
2004	761.99	518.16	68.0

Sources: Data in SME exports and ratio of SME exports to total exports in 2003, 2004, 2005 are adapted from Ministry of Commerce, cited in SME Briefing, Vol 91, published by SME Division of National Development and Reform Commission on 28/10/2006.

SMEs, was greater than that of the US in late 2006. Assuming the continued growth of Chinese exports at 28 percent per annum relative to the 10 percent per annum growth of exports in the US and Europe, Chinese exports will exceed those of Europe, when intra-European trade is excluded, some time in 2009. China has also moved to having significant surpluses in its balance of trade in the last year, both with the US and Europe.

Why have Chinese SMEs become such an international force?

In summary, Chinese SMEs have risen from almost nothing to become a significant international economic force in the last ten or fifteen years. Why has this occurred? There has been little serious research on this topic. The trend can be hypothesised to be a result of a complex constellation of factors.

First, there is always a possibility that some of the phenomenal growth in Chinese SMEs and their exports is a mix of statistical manipulation or misun-

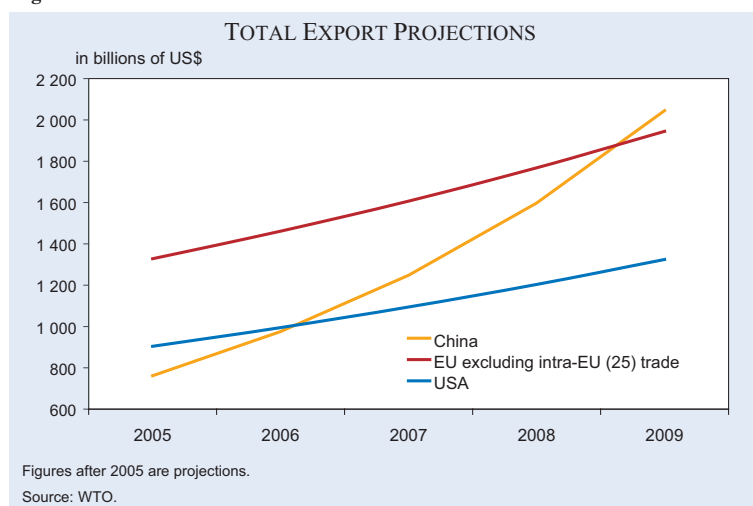
derstandings. In the past, Chinese statistics have tended to be part reality and part imaginary. Statistics tended to be reworked to meet the targets set by the Central Committee. Consequently, if a given level of growth was a government target, the statistics were massaged to show that the growth target had been achieved. In the case of the SME figures this is unlikely to be

the case. China has always cited that SMEs make up about 60 percent of its total exports. A similar figure used to be quoted for Taiwan until the late 1990s, when it was more correctly assessed at 28 percent of exports coming from SMEs. The discrepancy arose because of the way the statistics were calculated (OECD 2004; Hall 2002). This may also be the case in the mainland Chinese statistics, but even if the estimates of the importance of SMEs in exports are halved, they still make a very big contribution. Further, that contribution by SMEs seems to be increasing, in both relative and absolute terms.

Second, the reforms and the restructuring of state-owned enterprises (SOEs) has meant that there are many entrepreneurial opportunities available to SMEs. As SOEs have closed down, the vacuum has allowed entrepreneurial SMEs to flourish. For example, Haier, one of the more successful Chinese white-goods manufacturers, took over and turned a failing SOE around, and it has since become a leading global exporter.

Third, up until the beginning of the 2000s, formal finance was not readily available to SMEs. Even official estimates of non-performing loans (NPL) in the banking sector were around 30 percent of assets. This situation arose because of loans being directed on non-commercial criteria (usually giving preferential treatment to inefficient SOEs), and then supported by a policy of continuing automatic roll-over of unpaid principal and interest, forgiving of non-performing loans, and the selective use of below-market interest rates. Lending rates to SMEs were set by the central bank (the

Figure 1



People's Bank of China – PBOC) and were set to be artificially low for political rather than economic reasons. This meant that the rates were not attractive enough to encourage banks to lend to SMEs, especially when the banks had high NPLs. In the last five years, changes to the financial regulation in China have meant that more finance is available for SMEs. This has mostly come through banks which lend against collateral provided by credit guarantees, which nominally relieves the bank of credit risk. Accession to WTO status has helped by encouraging international finance suppliers to set up in China and by encouraging entry of foreign investors.

Fourth, the Chinese diaspora is large, often entrepreneurial and well educated. This entrepreneurialism is not always by choice in many countries (Indonesia is an example). Chinese have been prohibited from government jobs or restricted and discriminated against in their activities. In the last few decades many Chinese have sought education abroad. Attracted by the burgeoning opportunities, many of these (foreign resident and also) foreign educated Chinese have returned to China, and have set up international businesses. For example, Vimicro, which produces chips for cameras, was set up in 2004 by a small group of Chinese returning from the US and has rapidly become a successful international company.

Fifth, the vast supply of low-cost labour, especially in the western provinces, and the regulation of the exchange rate has kept many Chinese SMEs extremely cost competitive. For example, the ILO database gives the monthly rate for manufacturing wages in China in 2004 as about 1,169 yuan per month. Compare this with a German wage in manufacturing of about EUR 15 per hour. Allowing for about 200 hours of work per month for a Chinese worker, the Chinese wage is about 4 percent of the German one.

Sixth, Chinese SMEs need to pursue foreign markets. Chinese domestic consumption is relatively low, because domestic saving is high. China had a huge savings pool, approximately 7.8 trillion yuan (= USD 942 billion) as of February 2002, but at that time most of this was apparently lying idle in banks.

Seventh, new technology has allowed many Chinese to enter international business directly, so they are less dependent on being part of large firm supply chains. Typically, many Chinese businesses do not

have computers, but all have mobile phones, usually 3G phones, and those mobile phones can link through high quality wireless broadband. In effect, China's SMEs have jumped over the copper infrastructure to allow a more flexible and adaptable approach to international opportunities.

Are these trends likely to continue?

In summary of the preceding, there are many factors which have contributed to the unprecedented growth and internationalisation of Chinese SMEs. Will these trends continue apace? In short, it seems likely they will, but with possible interruptions.

First, although officially China has 40 million SMEs, it should have about 60 million, so the number of SMEs is likely to further increase by about 50 percent. This is based on an approximate estimate of entrepreneurial density, observed in most developed economies, of about 5 percent of the total population being an owner-manager of an SME (Hall 2002). The ratio in China has risen from about 0.08 percent in 1990, to about 3.3 percent in 2004. It is likely to move to something around 5 percent in the next few years. Casual observation in China shows that the start-up rate of businesses is not decreasing. There is virtually no way that the Chinese government can now stop the dragons that have been unleashed.

Second, there is, however, relatively little professional management experience or legal infrastructure available for these new SMEs. This absence will cause hiccups and may slow the expansion. The flying-geese model of Akamatsu (1961) suggests that the Chinese can develop faster than their predecessors' economies, because, like geese or bicycle racers, the Chinese can ride on the bow wave of the leaders. It took Europe about 800 years to go from a feudal agricultural economy to a post-industrial economy. It took North America a bit over 300 years to do the same; America had the benefit of the knowledge and mistakes learnt by Europe. It took Japan about 50 years to do the same, so each follower can take a shorter time. China is attempting to take the same journey in around 25 years, about the length of the career of an average manager. Many of the managers in China have never had any training in management. Few have ever experienced a serious downturn in the economy. The legal and social infrastructure has not developed as quickly as the entrepreneurs have. The growth has been a wave that has car-

ried everyone along. If and when a major downturn does take place, many managers may simply not be able to deal with it. Nor is the financial system likely to be able to cope. Most of the credit guarantees are provided by private sector operations, and there is a real risk that in cases of major default, the guarantors will not be able to meet their liabilities. These guarantor organisations were established largely to get around central government and PBOC restrictions on interest rates, and can provide little real financial collateral.

Third, China faces some major structural and demographic changes in the coming years and decades. For example, by 2025 about 35 percent of China's population will be over the age of 50, up from about 17 percent in 1995. The Chinese work environment, the amount of smoking and the pollution levels mean that many older Chinese have major health problems. More old people will be depending on a smaller working population to support them in their "golden years", especially as a result of the one child policy. The working population, those in the age bracket from 20 to 49 years, will fall as a percentage of total population from about 48 percent in 1995 to about 40 percent in 2025. The absolute number of those of working age will peak at about 665 million in 2010, and then decline to 597 million in 2025. In 2000, just around 70 percent of China's population were still living outside urban centres and only 30 percent were in towns and cities. In most developed economies, urbanisation means a reversal of this ratio. In China this may mean bringing half a billion people into cities. These challenges will require infrastructure and funding. Many SMEs (and SOEs) in China treat paying taxes as optional. Many of the larger SMEs (and some SOEs) are incorporated in the Canary Islands, specifically for tax minimisation purposes.

Fourth, China faces significant international diplomatic and economic pressures in respect of its balance of payments surpluses. At present, China emphasises exchange rates over interest rates as its primary monetary management tool. China has engaged in a form of banded float since 2006, and has allowed the slow appreciation of the yuan. The PBOC does not fully sterilise the exchange intervention used to slow the appreciation of the currency. Consequently there are artificial competitive cost advantages accruing to Chinese SMEs and additional financial funds in the economy to support growth. The appreciation of the yuan and the slow move to

full currency convertibility on capital account has been recognised as inevitable in China for some time. The real dispute is about the rate of change. If the currency were to be corrected in a major way (such as a sudden appreciation of 30 percent or so in yuan to USD) in a short period, then it would cause some disruption to Chinese SMEs and their internationalisation. However, it is really a matter of the rate of change, and how fast the SMEs can structurally adjust. It is unlikely to slow the rate of SME expansion much, but it may alter the pattern. This is already happening. For example, SMEs in the south of China (Shen Zhen, Guangdong, Fujian, etc.) are already adjusting their international activity to be more competitive. They are doing this by shifting to cheaper locations in and out of China, including Africa and Eastern Europe, and in improving productivity and quality in the face of rising costs. This is just what Hong Kong did twenty years ago. SMEs are remarkably adaptable animals, a sort of chameleon dragon.

The implications for Europe

Napoleon's concern was that China was a sleeping dragon with a vast population, many of whom lived in poverty. China thus had huge potential military implications for the world. However, as it awakes much of China's energy is economic and entrepreneurial, not military. The internationalisation of Chinese SMEs is both an opportunity and a threat for Europe. The challenge is to create an economic and political environment which is not a zero-sum game, but which gives everyone opportunities to gain.

The threats to Europe posed by the internationalisation of Chinese SMEs are fairly obvious. The most common manifestation of the threat is in the disputes over textile exports from China to Europe, within the broader threat of the trade surplus that China holds against the US and Europe. Political concerns are understandable, especially, for example, for an employee or owner in a German SME with statutory protections and excellent working conditions. However, the threat will not go away, and it will not be solved by accusations of dumping or exchange rate complaints. These are just salves. The real issue is one of structural adjustment and the rate of structural change. Voters do not worry much about a business closure if they know another firm will be opening up, or expanding, just down the road.

The more difficult issue is if one business is closing down in their area, but opening up in another area which is hard for them to move to, or if nothing else is opening up at all. This adjustment process is not a new phenomenon in Europe, as evidenced by empty villages in Greece, for example, as a result of the post-1940s migration to better jobs, or by the migration from Africa to Europe in search of jobs. It can be a painful experience, and there is understandable resistance to it. The clear implication is that Europe will have to continue to go through structural adjustments, many of which will be driven by Chinese SMEs.

The opportunities are less apparent, because the structural changes are international and so are the opportunities. SMEs make up about half of any local or national economy (in employment and value added terms), but historically their contribution to the international economy has been much smaller. SMEs only make up about 30 percent of trade across borders, and about 10 percent of international investment (Hall 2002). SMEs contribute disproportionately to net job creation: SMEs contribute about 70 percent of net new jobs, while larger firms tend to be job destroyers. Politicians and bureaucrats have been slow to realise the real significance of this in a globalised economy. Many well ensconced businesses in the West prefer to look to politicians for protection, rather than seek opportunities abroad. Policies to assist SMEs to internationalise are often just disguised subsidies to exporters. Chinese SMEs have sketched out a new paradigm, where SMEs have the same important role internationally as they have domestically. This allows them to simultaneously provide an engine of job creation in China and abroad. It is through this process that SMEs in Europe could also add significantly to the total amount of value added or GDP.

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THE EMPIRICAL RELEVANCE OF MINIMUM WAGES FOR THE LOW-WAGE SECTOR IN GERMANY

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MARCEL THUM**

The possible introduction of a minimum wage in Germany has led to significant controversy over the economic effects of such a change. Some fear the disappearance of the entire low-wage sectors. Others see opportunities for wage increases with no appreciable consequences. This article presents an estimate of how large the group of persons affected by a minimum wage in Germany would actually be and how many jobs might be lost.

The percentage of persons that would be affected by a minimum wage law can be determined by using the data from the survey on the salary and wage structure in the manufacturing and service sectors (Federal Statistical Office 2007). Although this data is only current up to 2001, it has maintained its validity due to the moderate wage increases in recent years. Data from this survey have the advantage of permitting differentiated conclusions on the characteristics of the wage and salary recipients. Though this data set includes only the manufacturing and selected service sectors, it seems to be representative of most of the German Economy.

According to these statistics, the average gross hourly wage (excl. supplements for shift work, night work or overtime) in 2001 was €15.10 in western Germany and €10.50 in eastern Germany. The wage spread between the individual industries is considerable, however. The lowest hourly rates are found in the east German hotel and restaurant sector (€6.70), the highest for the west German EDP service providers (€21.30).

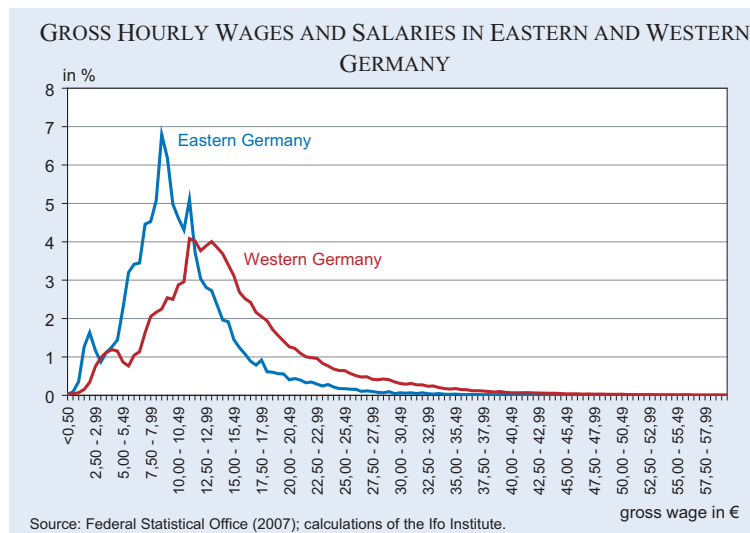
The distribution of gross hourly wages among all employees (extrapolated values) is provided

in Figure 1. In comparison with western Germany, eastern Germany shows a clear concentration of the wage distribution on the left-hand side of the scale. Furthermore, the variance in hourly wages is much smaller in eastern Germany than in western Germany, which is particularly due to low figures for the upper-wage groups in eastern Germany. Those earning less than €6.50 per hour comprise 18.1 percent in eastern and 8.5 percent in western Germany. An hourly wage of less than €7.50 is earned by as much as 26 percent in eastern Germany (western Germany: 11.3 percent). If our data set is representative for the entire private sector in Germany, this amounts to 860,200 (1,236,000) employees in eastern Germany and 2,216,000 (2,938,000) employees in western Germany (figures for wages lower than €6.50/€7.50).

What are the likely employment effects of introducing a statutory minimum wage in Germany? Since this would increase the labour costs of employers, they can be expected to implement cost-avoidance measures, at least in the medium and long term:

- Rationalisation of production via substitution of labour by capital: For example, some security services could be replaced by electronic monitoring systems. Information terminals could be used instead of service counters. In these examples, some low-wage earners would lose their jobs.
- Increase of selling prices to pass on the higher labour costs to the customer: If consumer demand fell in reaction to the increased prices, employment would also decrease. How strong the decrease in demand would be in individual industries

Figure 1



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tries depends on the existing substitution possibilities (for example, via imports or do-it-yourself).

- **Refuge into the shadow economy:** The introduction of a minimum wage can lead to an increase of the shadow economy when customers are not willing to accept higher prices and, therefore, employees lose their jobs. In the end, the minimum wage would be circumvented.
- **Self-employment:** Since the minimum wage only applies to dependent employment, it can be avoided if employees become self-employed. In particular, this reaction can be expected in several service industries.

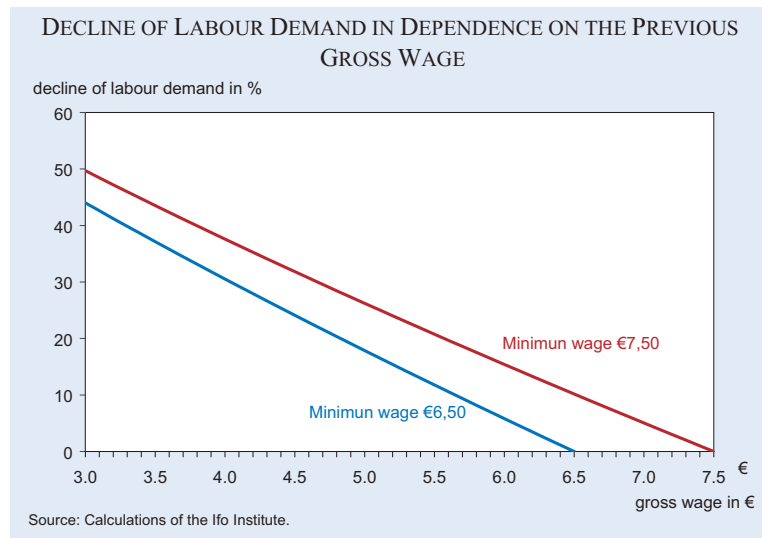
Wage increases that are not covered by corresponding increases in productivity will, as a rule, have negative effects on employment. How great these effects will be, however, is a matter of open debate.

In the following, we assume a minimum wage of €7.50 an hour. In many economic sectors, a considerable part of employees earn less than this rate. Lower wages are particularly common in the areas of temporary employment, personnel agencies, detective agencies, security services as well as in restaurant services. In eastern Germany some 70 percent of all employees in these sectors earn wages of less than €7.50 an hour. Also in the food and textile sectors, wages below this level are widespread, again in particular in eastern Germany. If we differentiate according to occupational groups, wages under €7.50 per hour are frequently encountered for cleaning personnel, domestic services, security personnel or salespeople.

The same calculations are also made for a minimum wage of €6.50 an hour. Here, too, low wages are particularly widespread in the above-mentioned sectors or employment groups; only half of the employees in the east German hotel and restaurant trade or in the field of detective agencies/protection services receive at most wages at this level.

Empirical estimates indicate a negative wage elasticity of labour demand of an order of magnitude of about 0.75. For example, Zimmermann and Bauer

Figure 2



(1997) estimate the elasticity of low-skilled workers at -0.85 . Riphahn, Thalmaier and Zimmermann (1999) consider as the most plausible scenario an elasticity of -0.6 for the low wage sector in Germany.¹ A wage elasticity of labour demand of -0.75 means that at a one-percent wage increase, employment is reduced by 0.75 percent. The farther the previously paid wage is from the new minimum wage for a specific activity, the greater is the percentage wage increase and the stronger the share of displaced jobs. Figure 2 shows for minimum wages of €7.50 and €6.50 the percentage of jobs in each gross wage category that would be eliminated. A company that previously paid an hourly rate of €7, must, at a minimum wage of €7.50, increase the gross wage by only 7 percent.² Correspondingly, the loss of jobs at 5 percent is relatively moderate. A sector that only pays €5 experiences an increase in gross wages of 50 percent; such a wage increase translates into job losses of 26 percent with a labour demand elasticity of -0.75 .

Assuming that a labour demand elasticity of -0.75 is valid for all segments of the labour market and for the entire private sector, the introduction of a minimum wage of €7.50 would lead to a reduction in employment in the low-pay bracket (30.8 million employees) of around 1,108,000 persons, the (percentage) differences between eastern and western Germany being small. This would correspond to a

¹ For an overview of the wage elasticity of labour demand, see Sinn et al. (2002, Table 3.3).

² For the reaction of labour demand, the increase of labour costs is relevant, strictly speaking. Since the relevant statistics contain no information on the non-wage labour costs, gross wages are approximately employed.

Table 1

**Cumulated employment losses
with the introduction of a minimum wage of €7.50/hour**

Current gross wage	Eastern Germany	Western Germany	Germany
	Persons	Persons	in %
< 3.00	- 132,886	- 211,560	- 59.8
< 3.50	- 152,074	- 330,678	- 55.3
< 4.00	- 173,503	- 449,087	- 51.1
< 4.50	- 194,295	- 556,764	- 47.3
< 5.00	- 214,187	- 644,096	- 43.8
< 5.50	- 239,387	- 697,225	- 40.9
< 6.00	- 266,852	- 733,180	- 37.8
< 6.50	- 287,567	- 767,951	- 34.3
< 7.00	- 300,001	- 790,492	- 30.8
< 7.50	- 305,313	- 801,164	- 26.5

Source: Federal Statistical Office; Ifo calculations.

decrease in employee numbers of 3 percent in western Germany and 6.4 percent in eastern Germany. Jobs for those with very low wages would, however, decline disproportionately (see Table 1). The number of employment possibilities at an hourly wage rate of less than €4 would decrease by 51 percent in total. The minimum wage would affect 620,000 employees in the private sector. Eastern Germany would also be disproportionately affected by this reduction in jobs.

With a minimum wage of €6.50, the total employment losses would be smaller but would amount to 826,000 (eastern Germany: 222,686 persons, western Germany: 603,844 persons). This would correspond to a drop of employment in the low wage segment of 27 percent. With respect to the total number of employees, the job loss would amount to 2.6 percent. In eastern Germany, it would be 4.7 percent due to the greater importance of the low wage sector for overall employment.

The introduction of minimum wages does, of course, lead to higher incomes for those who manage to keep

their jobs. This amounts to an estimated €2.2 billion (minimum wage of €6.50) or €3.2 billion (minimum wage of €7.50) annually. Relative to the total amount of wages and salaries in Germany, this is a miniscule amount (0.19 or 0.20 percent of total employee remuneration). In addition, it must not be overlooked that this increase in incomes is a redistribution from employers to employees, so that in the aggregate no additional purchasing power results. As an instrument

for stimulating domestic demand, minimum wages are thus unsuitable.

Nevertheless, the warning of possible job losses from a minimum wage must not be understood as a call for the withdrawal of the welfare state. The state's responsibility to ensure that as many citizens as possible can earn a sufficient income from their own labour is certainly justifiable. However, the instrument of the minimum wage carries with it the danger that the increase in income for some is dearly paid for by job losses of other low-wage earners. The responsibilities of the welfare state could be more efficiently implemented by employment subsidies such as the earned income tax credit.

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Table 2

**Cumulated employment losses
with the introduction of a minimum wage of €6.50/hour**

Current gross wage	Employee in the east	Employee in the west	Germany
	Persons	Persons	in %
< 3.00	- 123,446	- 194,771	- 55.3
< 3.50	- 140,142	- 298,419	- 50.2
< 4.00	- 158,010	- 397,151	- 45.6
< 4.50	- 174,366	- 481,858	- 41.3
< 5.00	- 188,742	- 544,972	- 37.5
< 5.50	- 204,633	- 578,475	- 34.2
< 6.00	- 217,987	- 595,958	- 30.8
< 6.50	- 222,686	- 603,844	- 26.9

Source: Federal Statistical Office; Ifo calculations.

THE CORPORATE TAX SYSTEM FOR SMEs IN THE UK

The majority of firms that operate in Europe are small and medium-sized enterprises (SMEs). Therefore, it can be said that SMEs' competitiveness significantly affects the competitive position of a country's economy as a whole. Combined with the asymmetric information about profit opportunities abroad, the concentration of SMEs' activities on domestic market limits the diversification of SMEs' investments in an international context. Consequently they appear to be more directly affected by the national corporate tax reform than is the case with large multinational firms. On the other hand, SMEs have quite often been the primary target of investment promotion policy and they are generally more responsive to domestic tax incentives than large ones (Coyne, 1995; Chen, Lee and Mintz, 2002). Taxes may play a more important role in the cost structure of SMEs because they do not have the financial and human capacity to develop sophisticated tax avoidance strategies.

Furthermore, it is a general belief that SMEs have limited access to capital markets, both nationally and internationally, in part because of the perception of higher risk, information barriers and the involvement in smaller projects, etc. As a result, SMEs have quite often been unable to obtain long-term finance in the form of debt and equity, and a larger part of their investments have traditionally been self-financed. According to Chen, Lee and Mintz (2002) the corporate tax system encourages debt financing and discriminates against SMEs in most OECD countries, since corporate interest payments are tax deductible. Such tax non-neutrality between the financing methods favours large firms, which have easier access to bank loans.

The UK has traditionally had lower tax rates for SMEs, whereas such corporate tax privileges do not exist in other European countries like Austria, Finland and Germany at all. In the UK, SMEs are generally those firms that yield profits between GBP 50,000 and GBP 300,000 annually.¹ Although it is disputable, those countries including the UK that provide fiscal incentives and preferential tax treatment to SMEs claim that they create a large number of jobs and enhance the level of entrepreneurship, which implies flexibility, speed, risk-taking and innovation. A further reason for the tax policy attention

paid to SMEs is that they represent an important breeding ground for large, profitable, tax-paying employers of the future and experience high growth rates in comparison to large enterprises (Hendricks, Amit and Whistler 1997).

The statutory corporate tax rate is clearly important in calculating the overall tax burden. However, this tax rate does not, in itself, establish the ultimate tax burden on a firm's investment activity. Equally crucial are the effects of tax depreciation rules and other investment promotion provisions that determine the tax base. The corporate tax-rate-cut-cum-base-broadening reform implemented in major industrialised countries in the last two decades has interesting effects on firms' investment incentives: Statutory rates have fallen from an average 48 percent in the early 1980s to 35 percent by the end of the 1990s. The main wave of reforms occurred in the mid to late 1980s but the pace has continued throughout the 1990s in many countries (Devereux, Griffith and Klemm 2002). To a large extent such a "race to the bottom" process has been triggered by the fierce tax competition among EU members and other advanced nations aimed at attracting capital, in particular direct investment of multinational firms.

A series of corporate tax reforms carried out in the UK between 1980 and 2005 have also entailed lower statutory tax rates. The standard statutory corporate tax rate was gradually reduced from 52 to 30 percent between 1980 and 2005, which was also accompanied by a number of tax cuts of SME-specific, reduced corporate tax rates from 40 to 19 percent in the same period of time (see Table 1). In 1994 the free depreciation was then replaced by the less generous geometric-degressive depreciation applicable to all firm sizes. At present, the geometric-degressive depreciation at a rate of 25 percent is allowed for large firms in this country. Since 1998, however, the UK has realised a type of "tax-rate-cut-cum-base-narrowing" reform especially addressed to SMEs, introducing the accelerated depreciation for SMEs in combination with the straight-line depreciation. Given a

¹ For the limited period from 2000 to 2002, Ireland also had a corporate tax rate of 12.5 percent for SMEs. Yet the total trading income on which this reduced rate was imposed changed from €63,500 (2000) to €254,000 (2001). France has recently introduced a special tax rule for SMEs but in a rather limited manner: those companies that realise a maximum turnover of €7,630,000 and at least 75 percent of whose capital is continuously owned by individuals or companies satisfying the same conditions are subject to corporate tax at a reduced rate of 15 percent (2004) on the proportion of the taxable profit that does not exceed €38,120 (Chen, Lee and Mintz 2002; Nam and Radulescu 2007; KPMG Corporate Tax Rate Survey for various years).

Table 1
Statutory Corporate Tax Rates and Most Popular Tax Depreciation Rules for SMEs in the UK

Year	Statutory corporate tax rate (%)		Popular tax depreciation method for equipment when tax life = 10 years
	Standard rate	Reduced rate for SMEs	
1980	52	40	free
1981	52	40	free
1982	52	40	free
1983	50	38	free
1984	45	30	free
1985	40	30	free
1986	35	29	free
1987	35	27	free
1988	35	25	free
1989	35	25	free
1990	34	25	free
1991	34	25	free
1992	33	25	free
1993	33	25	free
1994	33	25	free
1995	33	24	geometric-degressive (25%)
1996	33	23	geometric-degressive (25%)
1997	33	21	geometric-degressive (25%)
1998	31	20	geometric-degressive (25%)
1999	30	20	geometric-degressive (25%)
2000	30	20	geometric-degressive (25%)
2001	30	20	geometric-degressive (25%)
2002	30	19	geometric-degressive (25%)
2003	30	19	geometric-degressive (25%)
2004	30	19	geometric-degressive (25%)
2005	30	19	geometric-degressive (25%)

Source: Chen, Lee and Mintz (2002); Devereux, Griffith and Klemm (2004); Nam and Radulescu (2007); Office of Tax Policy Research (University of Michigan), World Tax Database; KPMG Corporate Tax Rate Survey (Various Years); Ifo Institute for Economic Research.

tax-life of ten years for a piece of equipment, the application of the 30 percent accelerated depreciation in the first year leads to a reduction of the depreciable asset life by three years.

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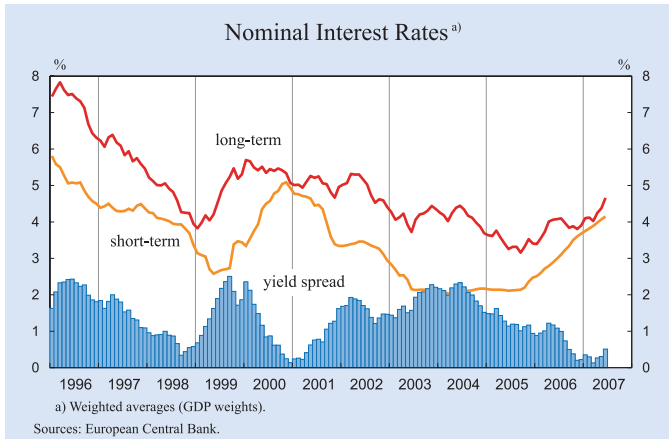
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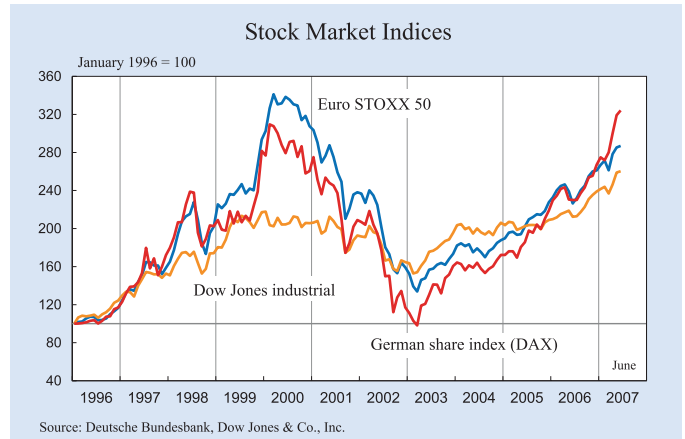
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Nam, C. W. and D. M. Radulescu (2007), "Effects of Corporate Tax Reforms on SMEs' Investment Decisions under the Particular Consideration of Inflation", *Small Business Economics* 29, 101–118.

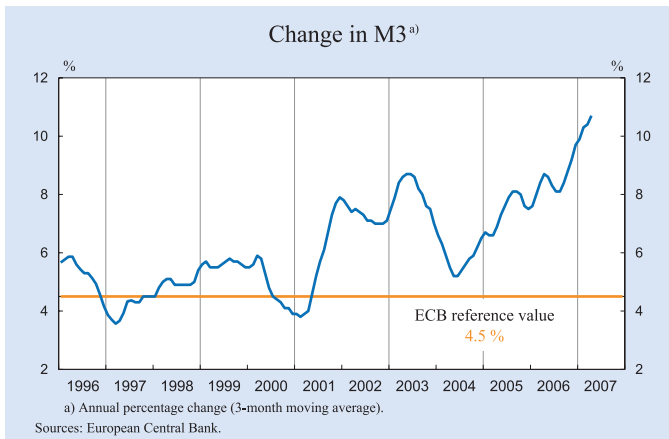
FINANCIAL CONDITIONS IN THE EURO AREA



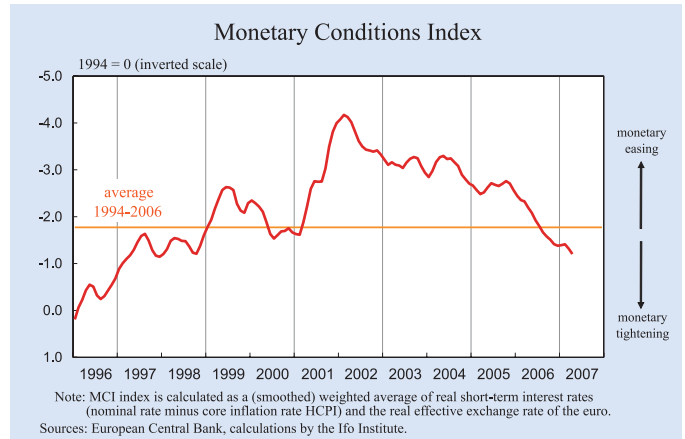
In the three-month period from April 2007 to June 2007, short-term interest rates rose continuously. The three-month EURIBOR rate increased from an average 3.98% in April to 4.15% in June. Ten-year bond yields increased from 4.25% in April to 4.66% in June 2007. In the same period of time the yield spread widened from 0.27% (April) to 0.30% (May) and 0.51% (June).



The German stock index DAX reached 8,007 points in June 2007 compared to 7,883 points in May. The Euro STOXX also rose in parallel, averaging 4,445 in May and 4,470 in June. The Dow Jones Industrial continued to rise in June, averaging 13,480 points.

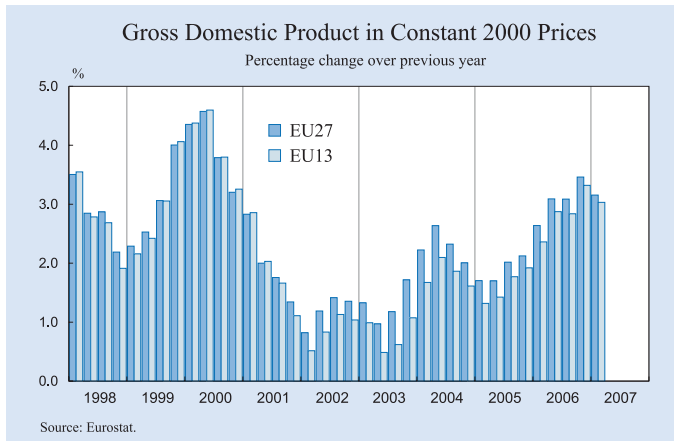


The annual rate of growth of M3 stood at 10.7% in April 2007, compared to 10.4% in March. The three-month average of the annual growth rate of M3 over the period from February to April 2007 rose to approximately 10.0%, from 9.6% in the period November 2006 – January 2007.

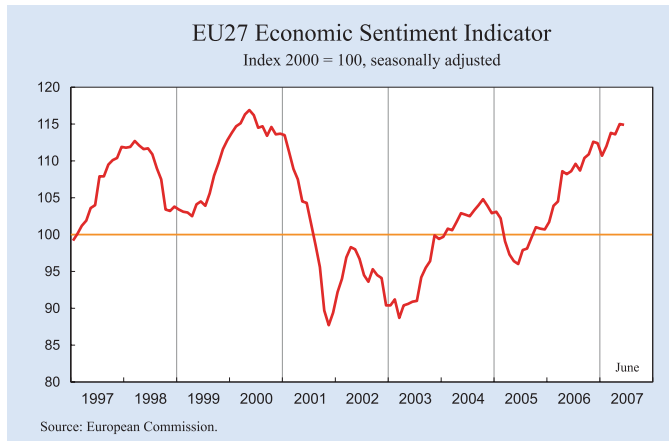


In April 2007 the monetary conditions index continued its general decline that had started in late 2005, signalling greater money tightening. This is the result of rising real short-term interest rates and a rising real effective exchange rate of the euro.

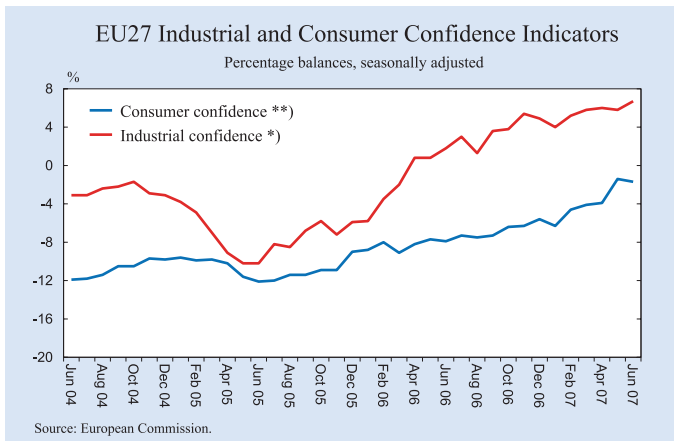
EU SURVEY RESULTS



According to the first Eurostat estimates, euro area (EU13) and EU27 GDP both grew by 0.6% in the first quarter of 2007, compared to the previous quarter. In the third quarter of 2006 growth rates were 0.9% in both the euro area and the EU27.



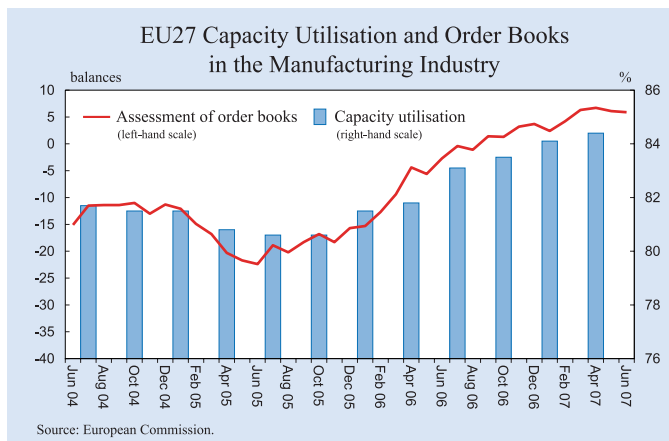
The EU Economic Sentiments Indicator showed signs of stabilisation in the EU27 in June, after hitting a fresh six-year high in May. The indicator remained practically unchanged in the EU27 at 114.9 points after 115.0 in May. Overall economic confidence improved in Spain, Poland and the UK, while it decreased in Italy and Germany.



* The industrial confidence indicator is an average of responses (balances) to the questions on production expectations, order-books and stocks (the latter with inverted sign).

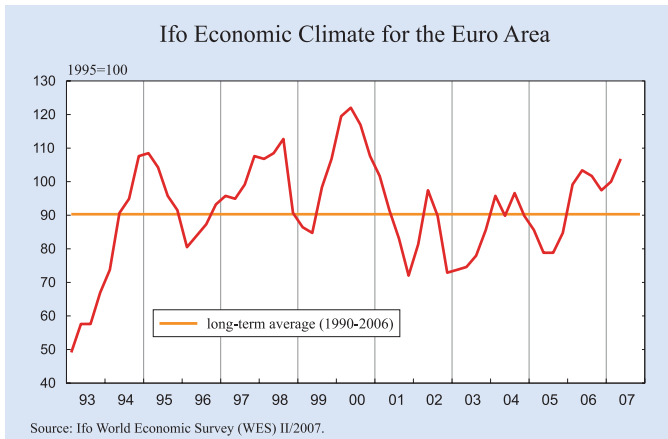
** New consumer confidence indicators, calculated as an arithmetic average of the following questions: financial and general economic situation (over the next 12 months), unemployment expectations (over the next 12 months) and savings (over the next 12 months). Seasonally adjusted data.

In June 2007 the industrial confidence indicator increased by one point in the EU27 despite its high level. In contrast to the negative judgement in Italy, marked improvements in industrial confidence were recorded in France and the UK. Following soaring consumer confidence in May, the confidence indicator saw a slight downward correction by one point in June. On average the consumer confidence indicator has been on a fairly steady and steep upward path since mid-2005.

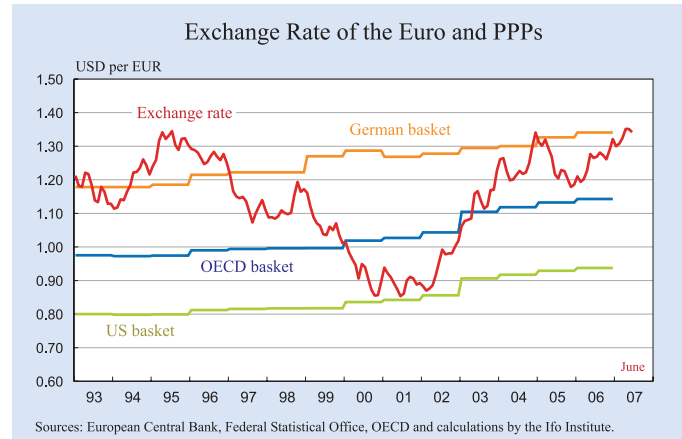


In June 2007 managers' production expectations remained positive in the EU27, although their assessment of order books slightly decreased from 6.1 in May to 5.9 in June. In April the indicator reached 6.7, the highest in the investigated years. Capacity utilisation also rose to 84.4 in the second quarter of 2007 from 84.1 in the previous quarter.

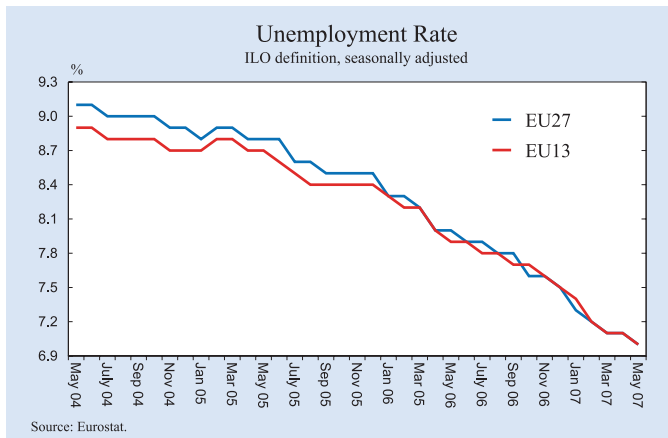
EURO AREA INDICATORS



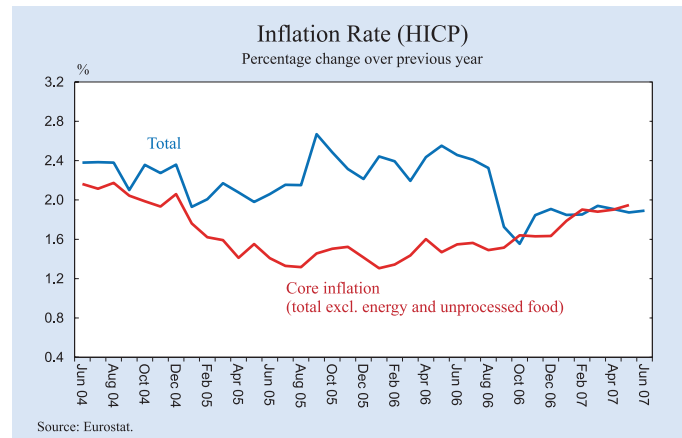
The Ifo indicator of the economic climate in the euro area (EU13) improved further in the second quarter of 2007. The improvement applies to both survey components: the assessments of the current economic situation that have reached a new six-year high and the expectations for the coming six months. The latest survey results indicate a robust economic upswing also in the second half of 2007.



The exchange rate of the euro against the US dollar averaged 1.34 \$/€ in June 2007, a slight decline from 1.35 \$/€ in May. In April 2007 the rate had also amounted to 1.35 \$/€, one of the highest values since 1993.



Euro area (EU13) unemployment (seasonally adjusted) stood at 7.0% in May 2007 compared to 7.1% in April. EU27 unemployment was also 7.0% in May 2007, compared to 7.1% in April. It had been 8.0% in May 2006. Among the EU Member States the lowest rate was registered in the Netherlands (3.2%), Denmark (3.3%), Ireland (4.1%) and Cyprus (4.2%). Unemployment rates were the highest in Slovakia (10.8%) and Poland (10.5%).



Euro area annual inflation (HICP) is expected to have been 1.9% in June 2007, unchanged from May. A year earlier the rate had been 2.5%. The EU27 annual inflation rate was 2.1% in May. An EU-wide HICP comparison shows that in May 2007 the lowest annual rates were observed in Malta (-1.0%), France and Sweden (both 1.2%), and the highest rates in Hungary (8.4%), Latvia (7.8%), Estonia (5.9%). Year-on-year EU13 core inflation (excluding energy and unprocessed foods) rose to 1.95% in May 2007 from 1.90% in April.

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