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Introduction: Entrepreneurship and Economic Development

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CONTEXT

The regional dimension of entrepreneurship and new firm formation is clearly a subject of great interest to the readers of *Regional Studies*. In their analysis of papers published in this journal between 1981 and 2002, DUNFORD *et al.* (2002) show that the single most cited issue was the 1984 special issue 'Small Firms and Regional Economic Development'. Ten years later, in 1994, the special issue 'Regional Variations in New Firm Formation' also generated considerable interest. Although not making a place in the top six, in terms both of page citations and of arithmetic mean citations per paper, calculations led us to the view that it was very close to being included in this category.[1]

The current special issue is then the third in the series, each separated by a decade. It is therefore appropriate to review why the topic continues to be of real interest to scholars and how the topics examined have changed over that time. It is also appropriate to speculate about how knowledge has been accumulated, as reflected in the topics examined in the current special issue. We conclude with a review both of the key findings in this issue and of our interpretation of the state of the policy debate.

Looking back to the 1984 Editorial in *Regional Studies* (STOREY, 1984) and to the associated book (STOREY, 1985), the focus was on seeking to justify the relevance of the topic. The need for justification was on three grounds, all of which with hindsight seem almost quaint since they are now taken to be almost axiomatic. The first was that small firms were important as a source of economic dynamism and particularly job creation. The second was that whilst the 1980s saw the term 'enterprise culture' used for the first time in the UK, the downside of 'enterprise' was also highlighted. In particular the low quality of many small firm jobs was identified. Third, and perhaps most importantly, the papers themselves emphasized that the distribution of enterprise was spatially uneven, and that policies to promote enterprise could be spatially regressive in the sense that the prosperous areas would benefit more than the less prosperous:

> the prime impact of small business policies is in the prosperous, rather than the less prosperous areas because of spatial differences in industrial structure, location of markets and differences in the socio-economic composition of the population (p. 2).

The key contribution of the 1984 special issue and the 1985 book was to highlight and quantify these differences. LLOYD and MASON (1984, 1985) compared new manufacturing firms in (less prosperous) Merseyside and (prosperous) South Hampshire, UK. They concluded that whilst they were struck by the similarities of the firms in the two areas:

> The studies seem to show a marginal favourability on most indicators in the direction of South Hampshire. The contrasts are not individually sharp but collectively they point to a population of new firms which ... were most likely to grow quickly. ... At the other extreme Merseyside's new manufacturing enterprises ... were predominantly tied to demand generated in the local (depressed) market (pp. 96–97).

In essence, then, the papers of 1984 provide an empirical justification for the relevance of the topic. They sought to show that in the UK and elsewhere, there were real differences between new firm formation rates and the character of the new firms themselves.[2] And, by implication, that those differences mattered in the sense they either reflected or caused economic prosperity. Finally, as illustrated in the above quotation from Lloyd and Mason, those differences were often more subtle than stark.

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Ten years later, in 1994, there was a clear acceptance that regional variations existed both in the stock of firms and in the formation rates of new firms. What was less clear was why this was the case, and this became the topic for the 1994 special issue of *Regional Studies*. As befitted the widening of interest in this topic, the contributions covered a much greater range of countries. As well as the UK, the USA and Ireland, which had been covered in the 1984 special issue, there were also contributions from Sweden, France, Germany and Italy. Using broadly the same methodology in all countries, the focus was on seeking to explain regional variations in new firm formation.

The findings were striking (Reynolds *et al.*, 1994). The first was that in the seven countries, the new firm formation rates were broadly similar. Second, the ratio of the differences between the high and low regions was also broadly similar. In other words, in all countries, the most fertile regions had formation rates between two and four times that of the least fertile region. The third key finding was that the factors that 'explained' this variation were also broadly similar. Therefore, urban regions with high rates of in-migration and a high proportion of employment in small firms had high rates of new firm formation. Disconcertingly, however, for those seeking to enhance new firm formation, the key influences were not clearly amenable to policy-makers. Indeed, the instruments available – such as government assistance programmes, local expenditure patterns or even political parties – seemed to exert little or no explanatory power.

THE PAPERS OF 2004: A WIDER PICTURE

Given that context, it is appropriate to step back and provide a wider canvas for the current papers in 2004. Clearly, during the last decade there have been important theoretical and empirical advances in the understanding of entrepreneurship. In many instances, these advances have been derived by scholars in entrepreneurship drawing upon literatures in disciplines such as economics, geography and sociology to provide a better understanding of economic development at a regional level. A second important change has been the advances in both the quality of the data and the sophistication of the statistical analysis. An examination of the 1984 special issue shows that the focus was on collecting and presenting data on the topic; only simple tabulations of firm and owner characteristics were provided. In the 1994 special issue, a comparison was made between regions, but the most sophisticated analytical technique used was ordinary least squares (OLS), primarily because the data examined were a cross-section. A decade later, however, the analysis is more sophisticated because of the availability of both time-series as well as cross-section data.[3]

Whilst the data quality and analysis have clearly improved over the three decades, clear advances have also been made by drawing upon traditional disciplines. Nowhere is this better illustrated than where entrepreneurship scholars have incorporated their concepts into economic production functions. Traditionally, in economics, these are of the following form:

$$Q = Q(L, K)$$

where Q is output, L is labour and K is capital.

Early attempts to explain the output or Gross Domestic Product (GDP) of countries using labour and capital input measures were only modestly successful in the sense that the quantities of labour and capital alone explained only a small fraction of the variation in GDP. There was, therefore, a large 'residual' or unexplained element.

For much of the last 50 years, the key element in the 'residual' has been thought to be technological change. The key elements of this technological change are education and research and development (R&D) expenditure, with the final piece in the jigsaw being the recognition that technological change was not exogenous but rather endogenous (Romer, 1990). Technological change was, therefore, not 'manna from heaven' but rather reflected developments made by firms, but possibly influenced by governments, on education and R&D.

Nevertheless, despite the inclusion of measures of technological change, a substantial residue still remains to be explained. Jones (1995) showed, for example, that variations in the level of research employment exerted no influence on the long-run growth rates of developed economies (Eicher and Turnovsky, 1999).

However, it is the observation of Audretsch and Keilbach (2004) that goes some way towards providing additional insights into the factors influencing variations in GDP rates. They observe that the former Soviet Union (USSR) was well endowed with both labour and capital. It also had sufficient technical skills to be the first country to send people into space. In a number of respects, its technological sophistication was almost the equal of the USA, one of the richest countries in the world. Nevertheless, its economic development significantly lagged behind the USA. Audretsch and Keilbach observe that whilst the USA had many entrepreneurs, the same was not true for the USSR or, if it did, they were not channelled into legitimate productive activity.

So, what function do entrepreneurs perform that will help enhance economic development? The answer is that the role of the entrepreneur is to recognize an opportunity to use resources that yield a low return and shift them into a function that yields a higher return from which they personally gain (Casson, 1982). Entrepreneurs seek out these opportunities for personal gain and, in so doing, ensure that resources are

constantly being reallocated in a manner that improves efficiency. In the absence of entrepreneurs, resources continue to be devoted to functions where returns are low, leading to an ossified economy in which resources are under used. It was the difficulties of redeploying resources to higher value functions that lay at the heart of the Soviet economic malaise.

The clearest example of an entrepreneurial act that can lead to resource transfer is the creation of a new firm that offers a product or service not previously available. The new firm founder assembles resources to provide the product/service and offers it to customers. Where this is an entirely new product, it may not explicitly displace an existing product or service.

However, where there are existing products/services, this imposes a threat to existing firms, which are then incentivized to respond either by lowering costs and prices or by improving quality. Resources, therefore, have been reallocated. The scale of this reallocation is shown by DISNEY *et al.* (2003), who found that between 1980 and 1992, single-establishment UK manufacturing firms experienced no productivity growth amongst survivors; all productivity gains for this group came from entry and exit – with less productive firms being replaced by more productive entrants. Given such powerful findings, it is unsurprising that British policy-makers now place considerable emphasis on creating a turbulent economic environment (SMALL BUSINESS SERVICE, 2004).

Entrepreneurs, however, do not always have perfect knowledge. They might observe what they believe to be an opportunity but, because of either over optimism (DE MEZA, 2002) or poor judgement, their idea proves non-viable in the short/medium or long term. In this case, they may have entered and displaced an existing business, but then failed to satisfy its customers. In this case, the entrepreneurship is referred to as 'destructive', yet, even it might have positive benefits. For example, the actions of this unsuccessful entrepreneur may be observed by other entrepreneurs. Some might take it as a signal to avoid such activities so providing valuable discouragement to others considering replicating the venture. Others, however, might observe aspects of the failed venture and decide they can make changes that would improve the chances of the venture being a success where others have failed. Finally, the entrepreneur who started the business might learn from this experience in a subsequent business.[4]

However, entrepreneurship is also more than new venture creation. If entrepreneurship is defined as a factor of production, it means that output is enhanced not only by increased quantities of labour, capital and knowledge, but also by how entrepreneurship improves the allocation of these factors throughout the economy. It is towards obtaining a better understanding of this re-allocation that the papers in this special issue are directed.

THE 2004 SPECIAL ISSUE PAPERS

Table 1 provides a summary of the results obtained from four papers in this special issue that examine the link between new firm formation – our measure of entrepreneurship – and economic development. In seeking to provide this summary, the diversity of the studies also needs to be stressed. The studies cover four different countries over four very different periods. The measures of 'economic development' are radically different, covering employment change and productivity. For three studies, coverage includes all sectors, but the Swedish study covers only manufacturing. Finally, and perhaps most important of all, the 'controls' vary markedly from one study to another.

Nevertheless, despite this diversity, at first glance there appears to be some evidence that geographical

Table 1. *Linking entrepreneurship with economic development at the regional level*

Authors	Acs and Armington	Van Stel and Storey	Audretsch and Keilbach	Braunerhjelm and Borgman
Country	USA	UK	Germany	Sweden
Period	1991–99	1980–98	1989–92	1975–99
Dependent variable	Employment change	Employment change	Gross value added	Value added per employee
Sectors	All private sectors	All private sectors paying Value Added Tax	All private sectors	Production industries
Independent variables				
New firms	+	±/n.s.	+	+
Specialization	−			+
Population density	−/n.s.	−/n.s.		
Education	+/n.s.			n.s.
Firm size	±			n.s.
Wage rates		+/n.s.		
Research and development			+	
Capital stock			+	

Note: n.s., not significant.

areas that experience a rise in new firm formation subsequently experience economic development. This is the clear positive outcome in three of the four studies, and would seem to imply that entrepreneurship can play an important and consistent role in facilitating economic development.

However, the evidence is rather more ambiguous that a cursory reading of Table 1 might imply for the following reasons. First, whilst the studies used a diversity of control variables, no study used the full range, implying the risk of omitted variable bias. Second, the nature and scale of the lags between changes in new firm formation and economic development are not identically addressed in all the studies in Table 1. The paper by Fritsch and Mueller in the present special issue emphasizes the importance of this topic by comparing the relationship between new firm formation and lagged economic development in the (former) West Germany. Their key result is that new firm formation can have both a positive and a negative effect on subsequent employment growth depending upon the period over which the analysis is undertaken. Broadly, they find that new firm formation has an immediate positive influence, but that this quickly becomes negative through a combination of failures amongst poorly informed entrants and the dislodging of incumbents. The negative effects are greatest after 5 or 6 years, but, after that time, these are outweighed by the positive effects of entry, most notably the enhanced performance of the entrants in comparison with the former incumbents (Disney *et al.*, 2003). Finally, Fritsch and Mueller conclude that the effects of entry are no longer identifiable after a decade. In short, the impact of entry depends critically upon the period over which the effect is measured.

Of the papers reviewed in Table 1, that by Van Stel and Storey, is the most ambiguous about the impact of new firm formation on economic development. Broadly, it finds for the UK that for some periods the relationship is positive, but that it is significantly negative for some 'un-entrepreneurial' regions. However, the paper by Acs and Armington for the USA, which also examines the role of time lags on the effect of new firm formation on employment change, reports that whilst the strength of the relationship weakens over time, there is no evidence that the basic relationships differ as the period is extended.

Therefore, it might be appropriate to examine alternative measures of economic development than that of employment change, and to do so for a country outside the leading developed economies. The final paper by Varga and Schalk takes the case of Hungary and considers the factors influencing economic growth.

The question Varga and Schalk try to answer is what kind of knowledge will lead to productivity growth or to increases in living standards. While not measuring the number of business start-ups, they measure directly the inputs from three types of knowledge: that bought in by foreign firms (direct foreign investment), that available to all as measured by the stock of patents, and new knowledge produced by university and private knowledge. The final type of new knowledge is what comes closest to the type of knowledge that entrepreneurs use to create new firms (Acs and Varga, 2002).

Varga and Schalk find that consistent with the new growth theory, new knowledge is indeed important for economic growth. All three types of knowledge enter the production function with highly significant coefficients and the expected positive sign. However, international knowledge stocks turn out to be the most influential for regional technology change followed by the national patent stocks and local knowledge spillovers.

This implies that even after taking into account the impact of international technology transfer and the geographically unconstrained domestic knowledge flows, localized knowledge spillovers play a role in technological change. However, the effect is quite small. A 1 million Hungarian forint change in regional public and private R&D expenditure implies about a 0.0002% increase in regional total factor productivity growth rates. This is not inconsistent with the relatively low share of R&D expenditure in the Hungarian GDP.

In summary, therefore, there is evidence in some countries of a link between increases in new firm formation and subsequent economic development. However, this link does not emerge in all studies. The non-appearance of a link may reflect measurement errors on key variables. It could also reflect omitted variable bias. But it may also be because of 'real' differences between the countries or the periods studied. The knowledge base, therefore, remains incomplete.

Nevertheless, what is clear is that over two decades, the research issues have changed radically. In 1984, focus was on justifying the importance of the subject of why the direct and immediate employment impact of new firms varied from one geographical area to another. By 1994, the focus was on seeking to explain why these differences occurred. Currently, it is clear that scholars now recognize that the direct effect, in terms of job creation, of new firms is only one of several economic consequences of entrepreneurship. Perhaps of greater economic significance is the impact that the new enterprise has in dislodging the inefficient, in incentivizing the firms that survive and in sending signals to other potential entrants. An entrepreneurial area can therefore be defined as one in which such signals are clearly sent, received and acted upon.

SOME OBSERVATIONS ON POLICY

A key theme that emerged from the 1994 special issue was that it was possible to explain, with acceptable

levels of accuracy, the factors that influence the extent to which a geographical area is 'entrepreneurial'. Broadly, these factors were that urban areas where average firm size was small and which had experienced in-migration seemed more likely to have high rates of new firm formation. What was much less clear was whether there were actions that could be taken by policy-makers that were likely to raise 'entrepreneurship', since factors such as local tax rates and political composition were rarely independent influences.

Whilst the current special issue focuses primarily on the relationship between new firm formation and economic development, Lee, Florida and Acs examine the 1994 theme of explaining regional variations in new firm formation. The paper builds on the work of Armington and Acs (2002), who re-examined the 1994 special issue and concluded that human capital and technology were more of a driver in new formation than in unemployment. The contribution of the current paper is to identify a 'new' influence that could be amenable to intervention by policy-makers. The influence is that of 'creativity'.

Lee *et al.* find that entrepreneurial areas are also those that exhibit creativity. They also find that having disproportionate numbers of authors, designers, musicians, composers, etc., captured in a 'Bohemian Index', are associated with entrepreneurship, as is the so-called 'Melting Pot Index', which measures the proportion of the population that is foreign-born. Lee *et al.* take both measures to be a reflection of a tolerant society in which entrepreneurship is facilitated. Their implicit policy inference is that moves towards reducing social diversity are likely to have long-term economic consequences through depressing levels of enterprise.

The policy implications from the remainder of the papers in this issue are less immediately apparent. As noted above, it is not clear what actions can be taken by policy-makers to make areas more entrepreneurial, and the geographical areas that have low rates of new firm formation in one time appear to continue to have low rates in subsequent periods. For example, Acs and Armington find that the correlation between new formation rates in the US Labor Market Areas in both 1990–93 and 1993–96 was 0.96. Greene *et al.* (2004) show that for the UK, the relative position of high, medium and low new firm formation rate counties remains very similar over two decades. Finally, Van Stel and Storey point to the failure of policy in Scotland in the 1990s to raise new firm formation in that country closer to the UK average.

Despite the difficulties of pointing to examples of where public policies have clearly led to increased entrepreneurship, defined as significantly higher rates of new firm formation, it remains valid to enquire whether, even if rates could be raised, this would lead to faster long-term economic development. On balance, the evidence from these papers suggests this could happen, but that it is far from guaranteed.

From a policy-maker's perspective, the first item of evidence in favour of linking new firm formation to economic development is that the entrepreneur plays a key role in resources being reallocated away from low to higher value functions. Since this is achieved through their own self-interest, the role of policy has to be to ensure that barriers to entrepreneurship are minimal. Some politicians might regard this as justifying the promotion of 'positive' attitudes to entrepreneurship in the form of entrepreneurial educational programmes in schools and colleges and in seeking to raise the esteem by which entrepreneurs are held in the economy.[5]

Second, the fact that it is the US studies that broadly find the strongest links, and also that the USA is seen as an entrepreneurial role model for many developed countries, adds significance to the findings. The finding by Acs and Armington that the US geographical areas with high rates of new firm formation appear, all else being equal, to have faster employment growth at a later point in time is therefore of considerable significance for policy-makers. The biggest effects are immediate, with their impact reducing over time. That support for this also emerges from the work of Audretsch and Keilbach for Germany and from Braunerhjelm and Borgman for Sweden emphasizes the importance of the finding.

The contrary case is that raising new firm formation does not necessarily lead to improved economic welfare in terms of employment creation or productivity improvements. Support for this view is provided, from different perspectives, in the papers by Fritsch and Mueller on Germany and by Van Stel and Storey for the UK. As noted above, Fritsch and Mueller argue that new firm formation has both positive and negative effects over a decade. The net effects will vary with the sectoral and spatial characteristics of the area. A similar logic underlies the finding by Van Stel and Storey that, particularly in areas with low rates of new firm formation, policies to raise new firm formation can lead to individuals with low human capital often receiving public subsidies to enter self-employment. The effect is that their entry is short-lived, but it also serves to de-stabilize existing providers. The effect is particularly apparent in 'low-level' services such as hairdressing, vehicle maintenance and window cleaning, activities disproportionately important in areas with low rates of new firm formation. In such areas, policies seeking to raise new firm formation can lead subsequently to employment reductions rather than to increases.

The inference that it is easy to draw from this evidence is that there might be different outcomes according to the 'quality' of entrepreneurship. Using the Global Entrepreneurship Monitor (GEM) data, Acs and Varga (2004) examine what type of entrepreneurship leads to economic development in Western

Europe. They find that necessity entrepreneurship, opportunity entrepreneurship and total entrepreneurial activities do not have a significant impact on economic development. Only high potential entrepreneurship, (1) the expectation of 20 or more jobs created within 5 years and (2) the intention to export goods or services, is necessary for technological change. In short, stimulating low-level service entrepreneurship should be given lower priority than the type of 'cultural' entrepreneurship identified by Lee *et al.*

Nevertheless, whilst this inference might appear compatible with the evidence presented here, it is a dubious road for policy-makers to tread. In essence, it means that some types of entrepreneurship are encouraged, whilst others are not. This requires a judgmental talent that neither the research community based on evidence nor policy-makers based on experience would find easy to exercise. Efforts to implement such policies have been made and are described by SMALLBONE *et al.* (2002). The problems of being able to identify the characteristics of better performing start-up firms are so considerable that this policy option is, in our view, unlikely to be effective.

What does seem clear is that it is the indirect effects of new form formation that have the greatest long-term economic significance. So, whilst the 1984 special issue documented the number of jobs 'created' directly by new firms, the current papers imply that these are less significant than the role of new entrants in creating a competitive environment – what ACS and VARGA (2004) call knowledge spillovers. The problem for policy-makers in 'unentrepreneurial' areas seems to be that of raising new firm formation, but even if that can be achieved, it seems that the knowledge spillovers in such areas seem modest. This may be a case of 'the wrong type of entrepreneurship' perhaps characterizing the European Union in comparison with the USA.

The present Guest Editors therefore believe the papers herein powerfully emphasize the differences between new firm formation and economic development at a regional level in the USA compared with many other developed economies. Those where the relationship is weaker have to consider whether they wish to embrace more widely aspects of the US entrepreneurial culture. Whilst many Europeans may admire the determination of US entrepreneurs, they are much less tolerant of the darker side of the 'survival of the fittest' mentality, such as more regressive taxation structures and the absence of a state 'safety net' for the poor. A pick-and-mix approach that seeks to 'learn lessons from the USA' and then apply them in an alien social and historic context is seriously misguided.

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NOTES

1. Note that in both special issues, the papers by David Keeble were the single most frequently cited contributions (GOULD and KEEBLE, 1984; KEEBLE and WALKER, 1994).
2. In the UK in 1984, there were almost no regional data on small firms outside the Production sector. The first official statistics on the topic appeared in 1982 (GANGULY, 1982) and were based on Value Added Tax (VAT) data. They confirmed there were major differences in firm birth rates in the UK, with these being considerably higher in the prosperous than in the less prosperous areas. Much lower variance was apparent amongst firm death rates.
3. This is not to imply that data-related problems in undertaking cross-country comparisons have been resolved. It is clear from the papers in this special issue that whilst regional time series data exist for the countries concerned, the basis of these data sets varies in several important respects and must be taken into account when comparisons are made. For example, the US papers use data on all enterprises, the UK papers use data on enterprises registered for VAT, the Swedish data cover only the manufacturing sector, whereas the German data have plants as their basic unit of account. Analysing changes in these data sets over time and space inevitably provides a picture influenced by both the characteristics of the unit of measurement as well as 'real' changes in the economy. Perhaps a more uniform measure of enterprise across national boundaries will emerge over the next decade.
4. Note, however, that the evidence on aspects of entrepreneurial learning is somewhat weaker than the assertions. For example, there is little evidence that the performance of habitual entrepreneurs – defined as those who have previously owned a business – is significantly different from those without any prior ownership experience (UCBASARAN, 2004).
5. Two reservations about such policy initiatives need highlighting: one philosophical, the other practical. The philosophical objection is whether it is appropriate to seek to inculcate such 'values' into young people, when many in society might reject such values. The practical objection is that the evidence, certainly in the UK, of the effectiveness of such programmes remains weak despite about 25 years of activity (GREENE, 2002).

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