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Small firm exporters in a developing economy context: evidence from Ghana

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A cursory review of the industrial policies of most nations suggests that exporting matters. Identifying exporting firms and facilitating their endeavours (or encouraging others to emulate them) are familiar policy themes, and studies of the relationship between firm characteristics and the propensity to export are common in the academic literature. Yet, the context for the bulk of these studies is provided by developed economies. To the extent that international trade relies upon specialisation and that broad differences exist in the patterns of specialisation between developed and developing economies, one wonders how well findings may be generalised to a developing context. Drawing upon firm-level data from a recent survey of small enterprises in Ghana ($n = 500$), the current study is concerned with identifying the characteristics of exporters in the three main non-governmental sectors of the Ghanaian economy (manufacturing, services and agriculture). Our interest is in Ghanaian economic development imperatives and in the extent of congruence between the findings of this study and previous developed economy studies.

Keywords: Ghana; Africa; exporting; small firms; development.

1. Introduction

A cursory review of the industrial policies of most nations suggests that exporting matters. Exports represent a flow of income into the economy, increasing wealth and standards of living. Moreover, exporting firms are frequently involved in higher value-added activities and, to a greater extent, represent the relative competitiveness of national economies. Identifying such firms and facilitating their endeavours (or encouraging others to emulate them) are familiar policy themes. Perhaps as result, studies of the relationship between firm characteristics and the propensity to export are common in the academic literature (Bonaccorssi 1992, Calof 1994, Javalgi *et al*. 2000). Moreover, though there may remain a general bias towards large firms, it is generally accepted that exporting is something small firms may also do (Ruzzier *et al*. 2007). However, the context for the many studies of small firm exporting is provided, almost exclusively, by the developed economies of North America and Western Europe and, less frequently, by the newly industrialised economies of South East Asia. These studies have provided a number of valuable insights into the characteristics of small exporters: in terms of relative innovativeness, investments in

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skilled labour, firm growth, enterprise maturity, and so on. Yet, to the extent that international trade relies upon specialisation, and broad differences exist in the patterns of specialisation between developed and developing economies, one wonders how well these findings may be generalised outside of their context. How likely is it, for example, that small African exporters will fit the profiles developed from studies of American or European small firms? Such questions are thrown into sharper relief by the suggestion that the 'common factor in the collapse of many African economies in the period since independence has been the collapse of their exports' (Söderbom and Teal 2003: 3).

Following this, and given their attributed role in economic development, it is remarkable how little we know about the characteristics of small firm exporters in developing economies. In part, this may reflect neglect or the location of research institutes and researchers. However, to a greater extent, it is likely to be a function of the (un)availability of, suitable and robust, small firm datasets. In Africa, in particular, the lack of large scale small firm survey data (Wolf 2004), which include information on export activities and sufficient detail on firm characteristics, has limited our understanding of exporting firms, generally, and the extent of correspondence with their peers in developed economies, specifcally. Moreover, there is little doubt that an inadequate evidentiary base retards the development of effective policy.

These lacunae provide the inspiration for the current paper. The volume of studies in the area testifies to the importance of identifying and understanding differences between exporters and non-exporters. Drawing upon data from a recent sample of 500 Ghanaian small firms and on the basis of the observed characteristics of both firms and entrepreneurs, the objective of our study is to begin to establish a profile of small firm exporters engaged in each of the three non-governmental sectors of the Ghanaian economy (manufacturing, services and agriculture). A greater understanding of 'who' exports should allow policy makers to focus resources better and concentrate their endeavours on strengthening the capabilities of exporters and establishing capability in non-exporters. Moreover, extending the analysis to a developing economy context should speak to the universality of past research findings.

This paper is structured as follows: section 2 presents a brief profile of Ghana and Ghanaian enterprise, including some consideration of the policy environment; section 3 outlines the data and the sample; section 4 describes the exporting models; section 5 sets out our findings; section 6 discusses the implications of these findings; and section 7, offers some concluding remarks.

2. Ghana

The Republic of Ghana is a country of 92,000 square miles (roughly the size of the United Kingdom), situated on the coast of West Africa and is home to some 22 million people. Well endowed with natural resources, Ghana has twice the per capita output of the poorer countries in West Africa. Even so, Ghana remains heavily dependent on international financial and technical assistance. Gold, timber and cocoa production are major sources of foreign exchange. Receipts from the gold sector, along with record high prices for Ghana's largest cocoa crop to date, helped sustain GDP growth in 2006 (which has been running at 4–6% since 2000). However, the domestic economy continues to revolve around subsistence agriculture, which accounted for 38% of GDP

in 2004 and employed over 60% of the work force (IMF 2006)[1]. This reliance has been compounded by Ghana's decline as a regional fishing country as a result of a number of inter-related issues, including 'inadequate trade policies, globalization of the fishing industry, dominance of Europe's distant water fleets, declarations of exclusive economic zones (EEZs) by neighbouring West African nations, overfishing and a lack of good governance' (Atta-Mills *et al*. 2004: 13).

In a recent IMF country report, the government of Ghana identified the vulnerability of the economy due to the persistent reliance upon a few primary commodities for export earnings as the principal constraint to accelerated wealth creation (IMF 2006). Whilst worldwide agricultural tariffs run at an average of 40% (compared with 4% on manufactured goods), diversifying the export base and increasing the competitiveness of manufacturing and services sectors are clearly key to sustainable economic development. This observation stands in stark contrast to the standard logic of Ghana's Structural Adjustment Programme, which has been marked, at least initially, by the reallocation of resources and a policy bias towards commodity agriculture, in the belief that this is where comparative advantage (exclusively) lies (Riddell 1997). However, we return to this issue later.

Alas, in common with much of sub-Saharan Africa, Ghana's economic track record since independence has been poor (Lall 1995). Though Ghana was the first sub-Saharan African country to gain independence (in 1957) and arguably has the most advanced and open economy in Western Africa, a commonly recounted statistic amply illustrates its travails: during the 1960s Ghana's per capita GDP was higher than South Korea's, today it is some 35 times lower. Its trade performance is little better. As Teal (2002) noted, exports per capita, having peaked in 1954 at US$300[2], by 1998 had returned to the level of 1910 (around US$100). Years 'meandering in the economic wilderness' (IMF 2006) has allowed the country to fall far behind its previous peers, in both Africa and elsewhere.

This poor performance applies particularly to manufacturing sectors. Despite recent growth in manufacturing exports, Ghana has one of the lowest proportions of exporting manufacturing firms in sub-Saharan Africa (Wolf and Sarpong 2004), with previous studies suggesting that less than 20% of all manufacturing firms in Ghana export (Rankin *et al*. 2002). The Ghanaian government, itself, recognises that 'locally manufactured products have become increasingly uncompetitive, both in terms of quality and price' (IMF 2006: 16). Whilst the government identifies 'unfair trade practices', particularly on the part of neighbouring countries (IMF 2006: 16), academic sources have been more concerned with levels of technology adoption and development. For instance, Bigsten *et al*.'s (1999) review of the policy environment in Ghana indicated that the country was relatively technologically backward. More generally, the relative technical (in)efficiency of firms, and the failure of policy to promote technological capabilities, feature prominently in Teal's (1999) rationalisation of the low levels of manufactured exports from African economies. Importantly, poor export performance represents, not only lost trade but, also, lost learning opportunities. In this vein, and employing panel data on manufacturing firms in Cameroon, Ghana, Kenya and Zimbabwe, Bigsten *et al*. (2004: 115) noted that there were 'significant efficiency gains from exporting, which can be interpreted as learning by exporting'. The experiential benefits of exposure to foreign customers or suppliers (often accompanied by technology transfer), improve the future competitiveness of individual manufacturing firms. Other studies seem to confirm the 'learning effects' of exporting. Mengistae and Pattilo (2004), for instance, looked at a sample of firms

drawn from Ethiopia, Ghana and Kenya and found that the average productivity premium of exporters for the three countries was about 17%. These authors also record that 'in addition to the effects on productivity levels, the estimates indicate that exporters enjoy productivity growth that is 10 percent faster than non-exporters' (Mengistae and Pattilo 2004: 351) (see also Van Biesenbroek 2005 for a general review).

In the case of services, which account for less than 30% of Ghana's GDP (IMF 2006), this sector is dominated by wholesale and retail and by hotels and restaurants. Of course, to the extent that many services have traditionally been viewed as difficult to trade or export (with production and consumption frequently co-located) (Fuchs 1968), it seems likely that the service sector, as a whole, offers less scope for export led economic growth. Nonetheless, the government has identified the wholesale and retail of crafts, tourism, the music and film industry, and ICT sectors[3] as potential sources of export revenues (IMF 2006). Indeed, in 2003, services accounted for around 55% of non-mining FDI inflows (Abdulai 2005), much of it in the form of outsourced business and consumer services (such as call centres). As with the manufacturing sector, the Ghanaian government identifies upgrading technologies and skills as the key to improving the export competitiveness of services.

The central challenge facing policymakers in the agricultural sector appears similar: 'how to promote self-sustaining processes of growth fuelled by technological advances in small-scale agricultural production and trade' (Omamo and Lynam 2003: 1682). Again, the identified imperatives revolve around skills and technologies as a means of improving the competitiveness of agricultural exports (IMF 2006: viii). Moreover, diversification beyond a single commodity crop is key. The twentieth century history of Ghana's trade performance is essentially the history of its cocoa exports (Teal 2002). However, more recently, greater emphasis has been placed on non-traditional exports (NTEs) such as cereals, pineapples, yams, vegetables and cashew nuts. Between 1990–2002, the value of NTEs increased eightfold (Wolf and Sarpong 2004). This shifting product emphasis mirrors a shifting firm size emphasis. To a far greater extent than cocoa, NTE agriculture sectors are occupied by small-scale farmers.

Throughout Africa, small firms feature prominently in economic development discussions and policies (King 1996a, b, King and McGrath 1999). This is in marked contrast to the immediate post-independence emphasis within many African nations, when policies for large firms and national champions were the order of the day. Encouraging the birth and development of small firms is now perceived as a mechanism for creating employment (or reducing unemployment), as a means of alleviating poverty and a route to sustainable economic growth (Sriram and Mersha 2006). It's not clear, however, that sub-Saharan African economies have difficulties in starting businesses. For instance, the high profile Global Entrepreneurship Monitor (GEM) reports for 2003 and 2004, rank Uganda (as the representative of sub-Saharan Africa[4]) first and second in 'entrepreneurial activity' – with a Total Entrepreneurial Activity (TEA) rate over three times that recorded for the United States. Almost one in three Ugandans were involved in either starting a business or owner-managing a new firm in 2004[5]. Moreover, behind this apparent entrepreneurial boom, there is evidence of a growing informal economy in many African nations (Wuyts 2001). As Jamal and Weeks (1993) note, in the absence of a welfare safety net, unemployment is simply not an option and, as a result, individuals are driven to engage in informal economic activities to avert hardship. To a greater extent, this may be the necessity

entrepreneurship identified by the GEM project (Acs 2006) and is likely to be characterised by activities such as 'street hawking' and the production and retail of basic consumer goods. Whilst the start of such activities may be countercyclical, to the extent that they are induced by hardship, their growth and expansion will be reliant upon consumer demand originating from the leading growth-promoting sectors of the economy. The evidence suggests that these, in turn, are part of the formal economy (Wuyts 2001). This is summarised nicely by Delgado *et al.* (1994: 1170): 'Micro-enterprise development is an important second step once the tradable sectors are growing, but cannot replace them as the engine of growth where they are not'.

Of course, the informal sector is not some homogeneous mass of street traders but, also, includes a wide range of other activities, some of which may even be tradable. Ultimately, however, the challenge for African entrepreneurs continues to be 'to turn the miracle of survival into the miracle of growth' (Steel 1994: 4). Developing tradable industry and accessing export markets is likely to be central in meeting this aspiration.

3. Data

The paper employs data collected as part of a 'Survey of Enterprise in Ghana' (see Robson and Obeng 2008). In Ghana there is an absence of a single public register of small businesses, and in this study a sample of businesses to survey was assembled from the following sources: The Ghana Employers Association, The Association of Ghana Industries, The Ghana Telecom Telephone Directory for 2002, and the Ghana Export Promotion Council listings. This was a national survey and included businesses from: regional capitals such as Accra/Tema, Kumas, Secondi-Takoradi, Tamali and Cape Coast; small towns such as Ada, Konongo, Agogo and Savelugu; and from smaller and more rural settlements. The Survey was distributed to firms between January to June 2005. The objective of the survey was to gauge the state (and nature) of enterprise in Ghana. In total, 500 entrepreneurs provided usable responses, representing an 83.2% response rate. The respondents are classified as entrepreneurs to the extent that they meet Gartner's (1988) definition of entrepreneurs: they created their own firms, they manage the firms, and they and their families own the firms.

Our sample included businesses from agriculture, manufacturing and services. Businesses in the agriculture sector included the growers of mangos, pineapples, and other fruits, as well as poultry, cattle, sheep, vegetable and cereal farmers, together with the fishing industry. The manufacturing sector businesses included: textile and garment production, bread, soaps and detergents, basic pharmaceutical products, concrete products and other building products, pigments and dyes, plastics in primary forms, plastic packaging products, metal structures, general mechanical engineering, office furniture and other types of wood products. The service sector businesses included: wholesalers, hotels and restaurants as well as higher order service businesses such as software, engineering and marketing consultants, and other professional services.

Businesses in Ghana can range from 'formal', indicating 'traders with established premises, licensed businesses, formal financial arrangements and orderly tax returns' (Lyons and Snoxell 2005: 1304), to 'informal' where those engaged in business are hawkers or petty traders. The sample frame was designed to include firms with between 4 and 50 full-time employees who were from the 'formal' and near formal[6] sectors. Firms in this size band were chosen since they are the focus of the principal

Ghanaian Government business development agency (NBSSI[7]) and are targeted by other key support organisations, such as Empretec[8] Ghana Foundation (indeed, the use of both Empretec and NBSSI services are included in our model as a partial attempt to assess the efficacy of existing business advice provision.). However, in line with the sample frame, the final dataset contains a disproportionate number of larger firms within the size band. In order to obtain large enough numbers to allow meaningful comparisons of different sized organizations, firms in the 10–19 and 20–50 employees ranges were over-surveyed relative to the population. The final sample proportions are 60.2% (4–9 employees); 23.7% (10–19 employees); and, 16.1% (20–50 employees). With regards to the sectoral distribution of firms, the sample again consciously misrepresents the population and is skewed towards manufacturing and services (38.6% and 43.4% of responding firms, respectively) and away from agriculture (18.0%). The likely consequence of these choices is an overestimate of population levels of innovation, training, education and so on. However, to the extent that we are concerned with intra-sectoral influences on export behaviour (and how these vary across sectors), they should not bear too greatly on our results.

4. Modelling export behaviour

There are two common approaches to modelling the determinants of export performance (Wakelin 1998). The first, the 'neo-endowment' approach, assumes that firms draw competitive advantage from preferential access to factors of production – either through the existence of a natural monopoly over a given resource or through location in a specific region where the resource is plentiful. Obviously, to the extent that these influences frequently operate at the level of the industry or country, their ability to explain variations in firm-level performance is limited. However, if one extends the conception of factors beyond simple land, labour and capital (to include qualitative dimensions), parallels with resource-based models of firm performance become apparent (Roper *et al*. 2006). For instance, one might speculate that varying levels of entrepreneurial human capital or internal resource guide the competitive strategies pursued by firms and, hence, their propensity to export (Westhead *et al*. 2001). More generally, one might take the frequently positive (if non-linear) relationship observed between firm size and export propensity to indicate, more broadly, the importance of 'resources'.

Adopting this broader perspective, neo-endowment models are broadly compatible with the second approach to explaining variations in firms' export propensity: 'technology-based' models. In these models, the emphasis is upon technology developments, embodied in new products or processes, which confer unique advantages in export markets. In short, in this view, a firm's competitive advantage is based on the superior quality of its products or services, or its production processes. However, 'quality', in the sense intended, is rarely directly observable and tends to be inferred from investments in research and development (R&D) or workforce training, or by the incidence of new product or process introductions (such as Braunerhjelm 1996, Roper and Love 2002, Westhead *et al*. 2004). Beyond the internal attributes of firms, there is a growing appreciation of the importance of the local milieu to the innovativeness of firms and, from this, to their likely competitiveness. Often at issue, is the infrastructure of national or regional innovation systems (Lundvall 1992, Nelson 1993) and much of this will be reflected in national policies (for example, on education

or science) and variable access to nationally administered support programmes (such as those provided through NBSS or Empretec). The former is unlikely to discriminate between firms in our sample. However, there is increasing recognition that important facets of innovation systems may be manifest on smaller spatial scales (Breschi and Lissoni 2001) and, in particular, that cities (or city locations) may be especially abundant in the sorts of actors and resources conducive to stimulating higher levels of innovation in resident firms (Diez 2002).

In summary, the tenor of most firm-level studies of export behaviour implies simply that: 'Exporters are better than non-exporters' (Bernard and Jensen 1999: 1). Frequently, this is shown to relate to better (or more) resources (Westhead *et al*. 2001), more developed skills or technologies (Roper *et al*. 2006), or a more propitious (urban) location (Simmie 2002). However, one might reasonably speculate that the specifics of resources, technologies or location (that is, what matters), will vary by industry and, crucially, may apply differently in a developing country context.

In specifying our model we have taken on board these earlier studies. Our starting point is the simple presence (or absence) of any overseas sales for each firm. That is, our concern is with export propensity (as a binary phenomenon). This is our dependent variable and its binary form suggests the use of logit models.

In line with technology-based models of exporting, our explanatory variables (see table 1) include both an innovation input and output measure – the presence of R&D[9] and the (self-reported) introduction of new products/services or processes, respectively. In both cases, we anticipate that the effect upon the propensity to export will be positive. Similarly, we anticipate that the provision of workforce training, as a means to develop new skills or to build upon existing expertise, will be positively associated with the propensity to export.

From an endowments (or, strictly, a resource-based) perspective, we follow the longstanding view that the principal decision maker in the firm is likely to be the key influence on the propensity to export (Miesenböck 1988, Manolova *et al*. 2002). In our sample of small firms, this is the owner manager or entrepreneur. And, in our models, we include variables which measure the age and gender of the entrepreneur and the extent of his or her formal education. In general, we anticipate that age (as a proxy for accumulated experience – see Westhead *et al*. 2001) will be positively associated with export propensity – as older entrepreneurs leverage their experience in export markets; that limited access to resources and opportunities (Verheul *et al*. 2006) will result in a lower export propensity amongst female-owned companies; and, that, higher levels of education (as a surrogate for managerial sophistication) will be associated with a greater propensity to be engaged in export markets. Again, and in the first instance, we anticipate that these relationships will hold across our sectors. Beyond these direct characteristics, respondents also recorded whether or not they employ one or more relatives in the firm. In Ghana, as in many other African countries, the entrepreneur often has an obligation to facilitate employment for relatives. We take such employment to indicate a family firm. The general supposition is that, as a consequence of competing calls on limited capital and contending business and family goals, family firms will be more conservative and less likely to operate in international markets (Fernández and Nieto 2005).

In terms of environmental influences, our models incorporate two measures of firm location. Specifically, we identify whether firms were located in a conurbation (Accra and Tema in the Greater Accra administrative division) or a large town (one with more than 150,000 inhabitants)[10]. For reason of (innovation) systemic and

agglomeration effects, we anticipate that firms located in conurbations or large towns will have a higher propensity to export than firms located elsewhere. Similarly, we expect that access to business advice will be positively associated with exporting. To this end, we include two variables which capture use of Empretec or NBSSI services. To the extent that our interest is driven, at least in part, by policy considerations, there is clear merit in exploring the relationship between business advice provision and this important facet of business performance.

Finally, our models include two variables which control for commonly observed influences: firm size and growth.[11] Of these, firm size has received the greatest attention in the literature. A common argument is to suggest that firm size has a strong relationship with exporting because of economies of scale and scope in production, financing, management and marketing (Wagner 1995). In essence, this argument concerns size as a proxy for power and resource. Larger firms have access to more (and better) resources and occupy a stronger bargaining position with suppliers, customers, banks and so on, which serve to reduce the costs and risks associated with exporting. Relatedly, to the extent that size correlates with diversification, larger firms may be better placed to assume the greater risk associated with export markets because they

Table 1. Variables included in export models.

Dependent variable		
Exporter	Binary dummy variable representing the presence of export sales (1; otherwise, 0).	
Explanatory variables		Expected outcome
R&D	Binary dummy variable representing the some R&D expenditure (1; otherwise, 0).	+
Innovator	Binary dummy variable representing the introduction of new products/services or processes (1; otherwise, 0).	+
Training	Binary dummy variable representing the provision of workforce training (1; otherwise, 0).	+
Gender	Dummy variable; entrepreneur is male = 1, otherwise = 0.	+
Age entrepreneur	Dummy variable; entrepreneur is over 40 years old = 1, otherwise = 0.	+
Postgrad/Prof/Degree/ 'A' Level	The entrepreneur has postgraduate qualifications, professional qualifications, a degree or 'A' levels which are equivalent to high school graduation in the US.	+
Technical/vocational/ apprenticeship	The entrepreneur has technical or vocational qualifications or has completed an apprenticeship.	+
Secondary school certificate/'O' level	The entrepreneur has secondary school certificate or O'levels which are awarded to 16 year old school pupils.	+
Family business	Dummy variable; firm employs one or more people who are from the family of the entrepreneur = 1, otherwise = 0.	−
Conurbation	Conurbations are firms located in Accra (the capital), Tema and the surrounding area.	+
Large town	Large towns are settlements with populations of 150,000 to 1,500,000.	+
Use of NBSSI	Dummy variable indicating use of NBSSI.	+
Use of Empretec	Dummy variable indicating use of Empretec.	
Growth	Growth in employment.	+/−
Size	Natural log of the number of employees.	+

are less reliant on a single (or small number) of income streams. Of course, there have been some words of caution. Roper and colleagues (Roper *et al*. 2006: 10), for instance, suggest that 'scale may be important in overcoming such initial cost barriers but may be less significant in determining the extent of firms' export activity'. That is, size predicts export propensity but not intensity – that there is an inverted U-shaped relationship between employment and exporting (see Kumar and Siddharthan 1994, Wakelin 1998, Sterlacchini 1999). However, two factors limit the influence of this observation on the current study: firstly and pragmatically, our concern is with small firms whose size is unlikely to reach the point of inflection in the U-curve; and, secondly, we are explicitly concerned with propensity and not intensity. The greater challenge for the Ghanaian economy is to encourage more exporters and not necessarily to encourage existing exporters to export more.

For growth (measured as an annualised change in employment, GE)[12] we have mixed expectations. On the one hand, there is some evidence that exporting firms are more likely to grow than non-exporters (see McDougal and Oviatt 1996). However, these have often been concerned with sales or return on assets. Evidence elsewhere suggests that the competitive pressures in export markets may lead to contracting employment (at least in the short term) as firms are forced to become 'lean and mean' to compete (Freel and Robson 2004). Regardless, a growth measure may usefully proxy a number of influences not captured by our other explanatory variables. Principally, it allows us to explore the assertion that exporting firms are simply 'better' – at least, in this crucial dimension.

5. Analysis and results

As first steps in our analysis, tables 2 and 3 report the spatial distribution of sample firm exports and comparative descriptive statistics for our exporting and non-exporting firms, respectively. Taking table 2 in the first instance: it is clear that the reach of Ghanaian exporters extends far. Although around 60% of both manufacturing and service exporters serve, at least in part, West African markets, almost a third serve European markets and a third serve the US market. Moreover, agricultural exporters are less locally focused than their manufacturing and service counterparts. Here, Europe and the rest of Africa are the most frequent markets.

Beyond the geography of export markets, the data in table 3 suggests a number of observations which are consistent with our earlier discussions. In the first instance,

Table 2. Exporting in Ghana (percentage of firms exporting by sector and market).

Exports	*Manufacturing (%)*	*Services (%)*	*Agriculture (%)*
All	22.8	18.0	21.1
West African market	59.21	66.67	20.85
European market	32.02	38.33	42.18
US market	32.02	36.11	10.43
Rest of Africa	29.39	25.56	42.18
N	193	217	90

Notes: Other exporting markets were negligible.

Table 3. Comparison of exporters and non-exporters.

	Manufacturing				*Services*				*Agriculture*			
	Exporting		*Non-exporting*		*Exporting*		*Non-exporting*		*Exporting*		*Non-exporting*	
	Mean	*Median*	*Mean*	*Median*	*Mean*	*Median*	*Mean*	*Median*	*Mean*	*Median*	*Mean*	*Median*
Growth	10.52[a]	7.46	2.84	0.61	3.96	7.46	8.69	5.74	−1.29[a]	0	9.21	7.46
Size	13.34	7.00	10.48	7.00	12.51	11.0	10.36	8.00	17.95[b]	9.00	12.93	8.0
Innovator	75.0%[a]		62.8%		81.1%[a]		65.5%		78.9%[a]		40.8%	
R&D	20.5%		18.9%		27.0%[a]		19.2%		42.1%[a]		14.1%	
Training	56.8%		62.4%		64.1%[b]		56.2%		73.7%[a]		50.7%	
Family business	63.6%[a]		75.8%		79.5%[a]		66.9%		73.7%		80.3%	
NBSSI	40.9%[a]		9.5%		7.7%		9.4%		15.8%[b]		7.1%	
Empretec	11.4%[b]		4.1%		5.1%		6.5%		21.1%[a]		2.9%	
Gender	84.1%		89.3%		82.1%		82.0%		94.7%		94.4%	
Age in years	43.4	42.0	43.9	42.0	43.08	42.48	43.6	42.0	48.48	47.0	46.66	46.0
Postgrad/Prof/Degree/'A' level	27.3%[a]		22.8%		53.8%[a]		35.4%		42.1%[a]		19.7%	
Technical/vocational	18.2%[a]		21.5%		25.6%[a]		23.0%		21.1%[a]		16.9%	
School cert.	18.2%[a]		18.1%		10.3%[a]		16.3%		15.8%[a]		19.7%	
Junior cert.	36.4%[a]		37.6%		10.3%[a]		25.3%		21.1%[a]		43.7%	
Conurbation	59.1%[a]		56.4%		51.3[a]		56.7%		57.9%[a]		49.3%	
Large town	11.4%[a]		25.5%		25.6[a]		24.2%		15.8%[a]		12.7%	
Small town	29.5%[a]		18.1%		23.1[a]		19.1%		26.3%[a]		38.0%	
N	44		149		39		178		19		71	

Notes: Firm characteristics described in table 1. [a]significant at 1% level; [b]significant at 5% level; [c]significant at 10% level, between exporting or non-exporting and the characteristics of the firm or the entrepreneur, for manufacturing, services and agricultural firms, separately.

for example, our mixed expectations concerning the relationship between employment growth and exporting appear to be matched by mixed results: whilst there is some evidence that exporting is associated with higher average employment growth in manufacturing, the opposite is true for agriculture – with exporting firms actually contracting on average. Similarly, as anticipated, innovation (both input and output) and training appear to characterise exporters, though, surprisingly, the evidence is less compelling for manufacturers. Also in line with our *a priori* expectations, exporters are marked by: higher levels of formal education on the part of the entrepreneur; location within a conurbation; and, use of government support schemes. Though, intriguingly, the use of business advice seems to have no relationship to export propensity in services and exporting service firms are a little less likely to be located in conurbations. Designation as a family business also has a mixed association with export propensity across our sectors: in both manufacturing and agriculture, as expected, exporting firms were less likely to be family businesses (significantly so in the case of manufacturing), whilst the opposite appears to be true in service. Importantly, however, in all sectors a high proportion of firms are 'family firms', indicating that whilst being a family firm may reduce the probability of exporting it is not, in itself, an irremediable barrier. Somewhat surprisingly the data on firm size, whilst generally suggestive, indicates significant differences only in the agriculture sector, where exporters were larger on average than their domestically oriented peers. Finally, neither the age nor gender of the entrepreneur appears to have any relationship to export propensity in any of our sectors. However, in the latter instance, it is worth noting that in all cases the vast majority of entrepreneurs were male.

The above section has merit in elaborating patterns in our data and in allowing the reader to gauge the relative magnitudes of our variables. However, one is necessarily wary of attributing ''effects'' to the observed differences in growth, education, training, business advice provision and so on. The essentially descriptive, bivariate analysis presented has obvious limitations when interpreting the relationships noted. For instance, past research might lead one to anticipate a positive correlation between firm size and innovativeness (Freel and Robson 2004) and between firm size and export propensity (Roper *et al*. 2006). Accordingly, the observed associations between innovation and exporting may be indirect or, at best, overstated. In estimating the extent to which innovation predicts export propensity, one is necessarily interested in unique or marginal effects and a multivariate framework is more appropriate.

To this end, table 4 records the results of logit estimates of the probability of being an exporter. Given the binary nature of the dependent variable (that is, firms either exported or did not), logits are suggested. Logit equations allow one to compare those firms which exported with those that do not, and to estimate which of the measured independent variables (table 2) exhibit a systematic influence on the propensity to export. In running the models we have estimated manufacturing, services and agricultural sectors separately. To the extent that the factors which influence the propensity to export may vary, or vary in effect, across our sectors, simply including sectoral dummy variables in a single model would be insufficient. On the whole, the models seem to have a number of satisfactory properties. For instance, tests for multi-collinearity (using correlation matrices and multiway frequency analysis, see Tabachnik and Fidell 2001) give no cause for concern. Moreover, as the data in table 4 indicates, the models appear reasonable predictors of the propensity to cooperate – significantly improving upon constant only prediction at the 1% level and 'explaining' between 35–42% of the variance.

Before outlining the implications for policy and practice, it is worth briefly characterising sample exporters on the basis of the results of our logit equations. Taking manufacturing firms, in the first instance, the following may be thought of as a reasonable summary: exporters were significantly more likely to be led by entrepreneurs with higher levels of formal education, to have been innovative and to have recorded employment growth over the period preceding the survey. In addition, exporters were significantly more likely to have accessed Empretec services.[13] In contrast, and other things being equal, family firms and, somewhat surprisingly, firms located in Ghana's principal conurbation were significantly less likely to have been exporters.

For services, the technological and entrepreneurial human capital influences are similar – though, in addition, the conduct of R&D marks out exporters. Also, in line with the manufacturing results, but counter to expectations, location in the main conurbation is negatively associated with exporting propensity. In stark contrast to manufacturing, being a family firm is positively associated with exporting. Finally, and intriguingly, neither use of Empretec or NBSSI services correlated with export propensity.

Again, for agriculture firms, human capital and technological factors figure prominently in the archetypal exporting firm. Exporters were significantly more likely to record both innovation outputs and inputs, to be led by qualified (and more experienced) entrepreneurs and to offer workforce training. Exporting agriculture firms were also more likely than their non-exporting peers to have accessed business

Table 4. Estimates of a logit model of the expectation of a firm exporting goods and services, by manufacturing and service sectors, respectively.

	Manufacturing		*Services*		*Agriculture*	
	Exporter/Non-Exporter		*Exporter/Non-Exporter*		*Exporter/Non-Exporter*	
Variable	β	*Standard Error*	β	*Standard Error*	β	*Standard Error*
Growth	*0.008*[a]	*0.001*	0.010	0.013	*−0.028*[a]	*0.004*
Size	0.608	0.617	0.020	0.752	*0.182*[a]	*0.044*
Innovator	*0.502*[a]	*0.088*	*1.018*[c]	*0.571*	*0.294*[a]	*0.055*
R&D	0.035	0.504	*0.278*[a]	*0.055*	*1.257*[a]	*0.331*
Training	−0.321	0.457	0.264	0.488	*0.870*[a]	*0.221*
Family business	*−0.779*[a]	*0.218*	*1.039*[a]	*0.223*	−0.080	1.115
Gender	−0.571	0.620	0.807	0.716	−0.435	4.835
Age dummy	0.172	0.436	0.366	0.492	*1.840*[a]	*0.419*
Postgrad/Prof/Degree/'A' level	*0.243*[a]	*0.078*	*0.702*[a]	*0.115*	*0.843*[a]	*0.198*
Technical/vocational	0.161	0.564	0.375	0.704	0.595	1.226
School cert.	−0.130	0.616	0.009	0.855	−0.627	1.316
Conurbation	*−0.230*[a]	*0.503*	*−0.923*[a]	*0.217*	*2.151*[b]	*1.090*
Large town	−1.328	0.706	−0.215	0.652	0.792	1.362
NBSSI	1.303	1.006	−0.108	0.782	*0.444*[a]	*0.097*
Empretec	*2.104*[a]	*0.543*	−0.656	1.192	*1.968*[a]	*0.441*
Constant	*−0.836*[a]	*0.199*	*−3.719*[a]	*1.208*	*−5.549*[b]	*2.448*
Percentage correctly predicted	80.3		83.9		81.9	
Nagelkerke R^2	0.362		0.346		0.418	
−2 Log likelihood	164.38		146.92		58.40	
N	178		180		83	

Notes: [a]significant at 1% level; [b]significant at 5% level; [c]significant at 10% level.

advice from Empretec and, uniquely, NBSSI. Also, uniquely, agriculture firms with a location within the main conurbation were more likely to be exporters[14]. Finally, exporters were, on the whole, larger and less likely to record employment growth.

6. Discussion

Taking the three caricatures of exporting firms suggested by our logit estimations, the most immediate implication is clear: investments in broad capital (that is, human capital and innovation) distinguish between exporters and non-exporters in all of our sectors. Indeed, whilst statistical significance is not analogous to significance in its colloquial sense, odds ratios (table 5) suggest that these influences 'matter'. The odds ratios[15] allow us to say something about the relative strength of the relationships. And, on this basis, it is clear that innovation is amongst the strongest positive indicator of export propensity in all three of our sectors – though innovation output is a better predictor of exporting in services and manufacturing, whilst innovation inputs 'matter' more for agriculture. This latter observation may reflect the effective commodity nature of much of Ghana's agricultural produce. Similarly, developed human capital (that is, educated entrepreneurs in all sectors and workforce training in agriculture) is an important characteristic of exporting firms.

On the whole, one might be tempted to view these results optimistically when cast in the light of government policy discussions. Though the absolute numbers of

Table 5. The Odds Ratios of the Estimates of a logit model of the expectation of a firm exporting goods and services, by manufacturing and service sectors, respectively.

	Manufacturing		*Services*		*Agriculture*	
	Exporter/Non-exporter		*Exporter/Non-exporter*		*Exporter/Non-exporter*	
Variable	*Odds ratio*	*Standard error*	*Odds ratio*	*Standard error*	*Odds ratio*	*Standard error*
Growth	*1.008*	*0.001*	0.990	0.013	*0.972*	*0.004*
Size	1.837	0.617	0.980	0.752	*1.200*	*0.044*
Innovator	*1.653*	*0.088*	*2.768*	*0.571*	*1.342*	*0.055*
R&D	0.965	0.504	*1.321*	*0.055*	*3.515*	*0.331*
Training	0.725	0.457	0.768	0.488	*2.387*	*0.221*
Family business	*0.459*	*0.218*	*2.825*	*0.223*	0.924	1.115
Gender	0.565	0.620	2.242	0.716	0.647	4.835
Age dummy	0.842	0.436	1.442	0.492	*6.297*	*0.419*
Postgrad/Prof/Degree/ 'A' level	*1.275*	*0.078*	*2.017*	*0.115*	*2.323*	*0.198*
Technical/vocational	1.175	0.564	1.457	0.704	1.812	1.226
School cert.	0.878	0.616	1.009	0.855	0.534	1.316
Conurbation	*0.794*	*0.503*	*0.397*	*0.217*	*8.595*	*1.090*
Large town	0.265	0.706	0.807	0.652	2.208	1.362
NBSSI	0.272	1.006	0.898	0.782	*1.559*	*0.097*
Empretec	*8.195*	*0.543*	0.519	1.192	*7.160*	*0.441*
Percentage correctly predicted	80.3		83.9		81.9	
Nagelkerke R^2	0.362		0.346		0.418	
−2 Log likelihood	164.38		146.92		58.40	
N	178		180		83	

exporters remains low (see table 3), the Ghanaian government seems to appreciate what is required to improve the situation. The recent IMF report notes that it is:

> ... recognised that the absorption and application of a great deal more science and technology than is presently deployed is a critical ingredient for successful growth in the third world. And that means a much better educated workforce in place of the old concepts of cheap sweatshop labour. (IMF 2006: vii)

Indeed, the strong influence of government and quasi-government business advice services should give further grounds for cautious optimism. The use of Empretec, organised as a private sector consultancy with fee-paying clients, has a particularly strong association with export propensity in both manufacturing and agriculture. Given Empretec's declared focus on 'high growth potential SMEs', one inevitably wonders about the extent to which our results simply reflect (self-)selection. However, in our logit models, the recorded influence of Empretec is over-and-above the influence of factors such as growth or innovation. Clearly, for manufacturing and

likely to reflect the stringent criteria which the supermarkets demand from their importers: low prices, uniform and high quality, bulk supply, just-in-time. Unsurprisingly, larger-sized producers are in a dominant position (Dolan and Humphrey 2000, Raikes and Gibbon 2000). Takane (2004) suggests that, in the case of pineapples, the establishment of an export company by government and donor-supported sources, but owned by smallholder cooperatives, offers one way that smallholders may overcome their individual small size. Indeed, to the extent that 'size matters' more generally, the encouragement of business cooperatives may be appealing. As noted earlier, GEM studies have consistently recorded the highest entrepreneurship rates in developing economies. Indeed, following Audretsch and Thurik (2001), GEM now presents a U-shaped relationship between economic development (measured as per capita GDP) and new business activity. One possible implication is that some countries may have too much entrepreneurship.[16] And the efforts of such countries may be better directed towards achieving economies of scale. This is Steel's challenge 'to turn the miracle of survival into the miracle of growth'

peripherality of African cities to the global economy leads, given trade liberalisation, to a reliance upon manufactured imports (and NGO dollars), with the urban economy serving a largely distributive function. As Riddell (1997: 1303) rather pessimistically notes, 'the city has become the focal point of national depression'.

Similarly, the observation that manufacturing sector family firms are less likely to be exporters (as expected) but that service sector family firms are significantly more likely to be exporters is curious, if also beyond our current compass. Perhaps, unsurprisingly, the dynamics of family resources appear to act differently in different sectors.

7. Concluding remarks

Inevitably, studies of entrepreneurship and small firms continue to be dominated by developed economy data. Perhaps this is reasonable, and it is certainly to be expected. However, entrepreneurship and the economic development promise of small firms are not exclusive to developed countries. Yet, importantly, the character of entrepreneurial activity is likely to be context contingent – what might be thought of as 'the situational underpinnings of entrepreneurship' (Herron and Sapienza 1992). And, of specific relevance to the current study, previous work has demonstrated the moderating effect of context on the influence that entrepreneurial characteristics had on the exporting propensity of a sample of small Nigerian firms (Ibeh 2003). In this paper, we have tried to add to this small but growing, literature on entrepreneurship and small firms in Africa, with specific respect to exporting.

An important part of the current context is provided by external agency. Since the 1980s, Ghana has seen the standard African structural adjustment and macroeconomic reform packages, which have focused upon 'replacing, or at the very least significantly reducing, state-based economic interventions by market mechanisms and of balancing national incomes and expenditures, reflecting ideological commitments to market economics and capitalism' (Briggs and Yeboah 2001: 20). Principal amongst the intended consequences of Ghana's SAP has been a focusing of resources upon commodity agriculture for export markets. Less intended, has been the disproportionate investment in exchange and consumption, rather than production, in urban Ghana. In large part, this is Max Weber's 'booty capitalism', a term which refers to trading activities haphazardly pursued for the purposes of random personal advantage, rather than longer term capital accumulation. Importantly, it begs questions about the sustainability, and exportability, of much of Ghana's small firm sector. These influences underscore the observations we make here.

Beyond this, we have argued that the greatest barrier to a developed understanding of the behaviours and challenges of African entrepreneurs and small firms is the absence of competent firm-level datasets. To this end, our contribution here is empirical. Large-scale survey data is sufficiently rare, in sub-Saharan Africa, as to be remarkable.[17] However, our actual interest is in the characteristics of small Ghanaian exporters from two perspectives: firstly, the economic development aspirations of the Ghanaian government and associated policy (see IMF 2006); and, secondly, the extent to which the factors which distinguish small exporters from non-exporters are different from those one might infer from past developed economy studies. On these bases, one might be tempted to view the contributions of the paper as decidedly unremarkable: on the one hand, the Ghanaian government already appears

to recognise the more important issues and, on the other, Ghanaian small exporters are distinguished from non-exporters along more or less the same dimensions as past studies, in developed contexts, would suggest. Nonetheless, we would suggest that these findings are more notable than might initially appear to be the case for two reasons: the first simply reflects the importance of evidence-based policy. It is one thing to believe something to be so. It is another to have it confirmed by independent evidence. We find the congruence between policy rhetoric and our evidence reassuring. This should not be taken as an endorsement of government policy – a sensible and detailed appraisal of which is beyond the scope of both this paper and our data. Rather, we would simply note that any failures are of execution, not of appreciation. In this vein our findings also suggest some important words of caution. Less than a quarter of all firms were engaged in export markets (including around 22% of manufacturers). Clearly, much needs to be done, not least in services where few firms make use of the main sources of business advice. Moreover, our findings usefully reinforce the importance of investments in innovation and skills, irrespective of sector. Such investments are likely to matter to economies dominated by agriculture, as well as to those dominated by services or manufacturing.

Secondly, the general consistency with past developed economy research may also be more noteworthy. In the specific domain of export activity, it suggests that the distinguishing features of developed and developing economy small firms may differ by degree, rather than by kind. If this is indeed the case (and further study to confirm or reject this thesis is undoubtedly called for), then many of the lessons that have been learned elsewhere may usefully be brought to bear in developing countries (though, as hinted, there is undoubtedly scope for improvement in execution). Beyond exporting, the allusion that context influences the degree (that is scale, magnitude, frequency, scope, and so forth) of entrepreneurial phenomena, and not its nature, would be an optimistic economic development message, if found to be true, and certainly raises a number of intriguing research questions.

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Notes

1. Industry and services accounted for 25% and 28.5% of GDP, respectively.
2. 1995 prices.
3. Primarily out-sourcing routine activities, such as data entry and processing.
4. This is the last year that Uganda was included in the report. South Africa remains a GEM participant. However, it is sufficiently different from the rest of sub-Saharan Africa to be considered atypical.
5. Alas, a similar number were also involved in closing down a business.
6. Near formal businesses are unregistered businesses with fixed and visible premises.
7. The National Board for Small Scale Industries (NBSSI).
8. Empretec is an international entrepreneurship and capacity-building programme operating under the auspices of UN Conference on Trade and Development (UNCTAD). In Ghana, its mission is to 'build high quality, growth-oriented, internationally competitive entrepreneurs through training, business advice and access to technology and finance' (see http://www.ilo.org/public/english/employment/ent/papers/ghanatxt.htm).

9. R&D is explained to firms to include all investments in inventive activity or in product and process development. In this way, it is consistent with the spirit of the Frascati manual, if not always with its application.
10. In this way, the reference group are firms not located in conurbations or large towns. Our definition of settlements was adapted from the work of Keeble (2003).
11. Firm age was also included in the original models but was found to be highly collinear with the age of the entrepreneur.
12. $GE = (FTE05/FTE02)^{1/3} - 1$: where GE = annual growth rate of employment; EMP02 = employees (in full-time equivalents) in 2002; andEMP05 = employees (in full-time equivalents) in 2005.
13. Though, remarkably given the descriptive statistics in table 2, not the services of NBSSI.
14. This is likely to reflect the fact that such firms are largely concerned with the wholesale, distribution or processing of agricultural products, rather than their cultivation. Though fishing is also an important economic activity in Accra.
15. The ratio of the odds of an event occurring in one group to the odds of it occurring in another group. An odds ratio of 1 indicates that, for example, innovation is equally common for both exporters and non-exporters. An odds ratio greater than 1 indicates that it is more common in exporters. And an odds ratio less than 1 indicates that it is less common.
16. At least of the kind captured by GEM's TEA rate.
17. Ibeh's work, for instance, draws on 78 useable questionnaire responses.

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