

The background image shows a modern building interior with a grid pattern on the walls and ceiling. The lighting creates a series of parallel lines on the floor, suggesting a staircase or a walkway. The overall aesthetic is clean and architectural.

E-invoicing adoption by UK SMEs: 2012–13 estimates

About ACCA

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Founded in 1904, ACCA has consistently held unique core values: opportunity, diversity, innovation, integrity and accountability. We believe that accountants bring value to economies in all stages of development. We aim to develop capacity in the profession and encourage the adoption of consistent global standards. Our values are aligned to the needs of employers in all sectors and we ensure that, through our qualifications, we prepare accountants for business. We work to open up the profession to people of all backgrounds and remove artificial barriers to entry, ensuring that our qualifications and their delivery meet the diverse needs of trainee professionals and their employers.

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ACCA is a member of the UK National E-invoicing Forum.

This report is based on data from a sample of 20,000 UK businesses and nearly 3,000 loan and overdraft applications as recorded by the independent SME Finance Monitor. It updates and expands ACCA's 2012 estimates of e-invoicing adoption among UK SMEs, and investigates the relationship between e-invoicing and SMEs' access to finance.

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1. The e-invoicing agenda

E-invoices are invoices that are issued and received in an electronic format that ensures tax and general regulatory compliance; they are transmitted, processed and archived fully electronically from end to end throughout their life cycle (ACCA 2012a).

In all but a few countries around the world, only a minority of invoices are processed fully electronically. Nevertheless, the potential benefits from wholesale adoption of e-invoicing are very substantial. Only the most obvious of these relate to the removal of administrative, paper, printing and postage costs. In fact, most of the economic gains from e-invoicing do not arise from these savings, but rather from the full process automation and integration from order to payment between trading parties (EC 2010a).

Bearing this in mind, in December 2010 the European Commission published a Communication entitled Reaping the Benefits of Electronic Invoicing for Europe (EC 2010a). This set out the Commission's vision for making e-invoicing the dominant form of invoicing in Europe by 2020. In order to coordinate policy and commercial initiatives to promote the adoption of e-invoicing in Europe, the Communication proposed the creation of a European Multi-Stakeholder Forum (EMSF) on e-invoicing, as well as the creation of corresponding national multi-stakeholder forums in the member states. Its recommendations were accompanied by a Commission Decision (EC 2010b) specifying the terms of reference for the EMSF.

The UK e-invoicing Advocacy Group (UKeAG) was founded in 2010, and in 2011 the Department for Business, Innovation and Skills (BIS) endorsed it as the UK's national forum. Accordingly, the UKeAG has since been renamed as the UK National E-invoicing Forum. The activities of the forum, like those of the EMSF, are organised around the following four strands of work:

1. monitoring e-invoicing adoption in member states and at EU level
2. exchanging experiences and good practices
3. proposing appropriate solutions to remaining cross-border barriers
4. moving towards a single e-invoice standard data model.

Results from the UK forum's work were soon evident. In February 2012, as part of its Finance Fitness campaign, BIS explicitly endorsed e-invoicing as a means of making it more efficient for SMEs to extend credit to their customers and removing some administrative barriers to prompt payment.

In December 2012, in support of the EMSF's adoption monitoring agenda, ACCA published its first estimates of e-invoicing adoption by UK small and medium-sized enterprises (SMEs) (ACCA 2012b), drawing on a new source of information: the SME Finance Monitor. The report discussed the drivers of adoption and found that, while 'true' e-invoicing was still rare among SMEs, adopters already accounted for over £100bn of turnover.

By the time ACCA's report (2012b) was published, developments in both Europe and the UK were accelerating rapidly. Partly as a result of the EMSF's work, the European Commission's Single Market Act II, published in late 2012, included the aspiration of making e-invoicing the standard form of invoicing in government throughout Europe by 2015 (EC 2012). The EMSF met in October 2013 and formally adopted two reports on good practices for e-invoicing use in public procurement (EMSF 2013a) and in SMEs (EMSF 2013b).

The UK government's Information Economy Strategy of 2013 (HM Government 2013) echoed the European Commission's aspiration for greater use of e-invoicing in government procurement, and a BIS workshop on the subject was held in December 2013. On the following day, a parliamentary inquiry headed by Stephen McPartland MP started taking oral evidence on how e-invoicing adoption could improve the fortunes of small government suppliers.

The present report is timed to build on these initiatives and the availability of new data. It aims to repeat and expand the market sizing exercise carried out by ACCA (2012b) using a larger set of information, and to add to the original study an in-depth investigation into the link between e-invoicing adoption and SMEs' access to finance.

2. Methodology

ABOUT THE SME FINANCE MONITOR

The SME Finance Monitor (BDRC 2013) is a major business survey providing the definitive evidence of how UK SMEs manage their finances and gain access to bank finance. Since early 2010, it has been carried out by independent consultants BDRC Continental on behalf of the British Bankers Association (BBA) Business Finance Taskforce. The Monitor is a telephone survey of a nationally representative sample of 5,000 SMEs per quarter. It contains questions on the demand for and use of finance by SMEs, their financial and organisational capabilities, the challenges they face in doing business, their plans for the future, and their perceptions of the banks and their products.

At the recommendation of ACCA and the Forum of Private Business, both of which sit on its SME Finance Monitor Advisory Group, in 2012 BDRC agreed to introduce a new question on the sending of electronic invoices by SMEs in the second and third quarters of each year. Despite several limitations, which will be discussed in detail later, these additions have created the largest and most detailed dataset ever on SME's use of e-invoicing in the UK, and its determinants.

DEFINING AND IDENTIFYING E-INVOICING ADOPTION

This report largely follows ACCA's methodology (2012b) in identifying 'true' e-invoicing adopters among the UK SME population on the basis of the aforementioned addition to the SME Finance Monitor questionnaire. The e-invoicing adoption question is phrased as follows:

'[Does your business] submit invoices to customers electronically over the internet in a format that can be processed automatically and transferred directly from your application into the recipient's own system? The transmission protocol might be XML, EDI, PDF or other similar formats.'

To date, this question has been included in four waves of the SME Finance Monitor: the second and third quarter waves of 2012 and 2013.¹ ACCA's earlier report (2012b) could only rely on the first of these (Q2 2012), but the present analysis uses the complete dataset from all four waves.

The direct responses to the e-invoicing question shown above are combined with a derived indicator of e-invoicing adoption 'potential' in order to create several proxies for e-invoicing adoption by SMEs. The derived indicator, which distinguishes between 'high' and 'low' adoption potential, is calculated by modelling the probability of a positive response to the e-invoicing question through binary regression analysis.

The variables introduced as predictors can be summarised as follows:

- business size (turnover, employment, credit balance)
- internationalisation (importer and exporter status)

- formalisation (legal form, business planning, formal HR policies, regular management reporting and presence of financially trained staff)
- innovation (online trading, new products and services or business improvement over the last three years)
- sector (including for-profit/non-profit/franchise status)
- business track record (age of business, start-up status, risk rating)
- owner/manager's demographic characteristics (gender and age)
- region, and
- sources of finance used
- use of online banking.

Since the 2012 exercise, the regression model has been marginally simplified in order to ensure that the entire sample of 20,000 observations can be used and that the model can be run with similar results every quarter. In practice, this means the some variables could no longer be used, namely turnover growth and an additional dummy variable for fast turnover growth, as well as proxies for formalisation, internationalisation and types of financing calculated through factor analysis.²

1. Due to the length of the SME Finance Monitor Questionnaire, BDRC alternate some questions between quarters. This maximises the range of topics that can be discussed in depth with interviewees without risking survey fatigue.

2. The original questions from which these proxies were derived have been retained in the model; this, combined with the much larger sample size of this study compared to its predecessor, means that removing the proxies should have a very limited effect on the outcome.

The new model also does not control for interactions between variables, which ACCA found to be of only marginal significance (ACCA 2012b). Of course, the most obvious implication of these changes is that the adoption levels reported in the present report will not match those of ACCA (2012b) except by coincidence. Nonetheless, harmonised figures for Q2 2012 can be inferred and compared with the previously published totals.

Table 2.1 summarises the variables associated with statistically significant effects, as well as their relationships to e-invoicing adoption. The strongest predictors tend to be:

- adoption of key technologies (eg online banking or online trading)
- business-to-business sales
- the ability to implement organisation-wide policies (eg HR, remuneration or credit card politics)
- owners' limited liability
- region
- small business size
- use of alternative finance
- imports/exports
- young owners
- mixed gender entrepreneurial teams
- process and product innovation.

Table 2.1: Predictors of electronic invoicing among UK SMEs in 2012 and 2013

Predictors	Sign of relationship	Strength of relationship
Use of online banking	Positive	1,452
Written HR policy	Positive	262
Sector	Variable. Strongest positive bias in b2b service sectors, as well as transport, storage and communication. Strongest negative bias in hospitality, health and social work	261
Adherence to formal quality standards	Positive	255
Trading online	Positive	163
Credit balance	Mildly positive until typical credit balance reaches £100k – strongly negative afterwards	54
Legal status	Variable. Strongest positive bias among limited liability companies. Strongest negative bias among partnerships	45
Recent business improvement	Positive	40
Region	Variable. Biggest negative bias in the West Midlands, Yorkshire & the Humber and Northern Ireland	33
Credit card use	Positive	33
Headcount	Negative	31
Turnover	Mostly negative, with a peak ahead of the VAT threshold and a trough after the £5m mark	28
Formal written business plan	Positive	23
Owner's age	Negative (ie positive bias among younger owners)	22
Performance-related pay	Positive	19
Exports	Positive	11
Export/import finance	Positive	11
Owner's gender	Negative bias among female-owned enterprises; strong positive bias among enterprises of mixed ownership	11
Recent product/service innovation	Positive	11
Bank loans	Negative	8
Regular management reporting	Positive	5
Leasing or hire purchase used	Positive	4
Import activities	Positive	3

Note: The strength of each variable's relationship with e-invoicing adoption is a standardised score. It corresponds to its respective Wald coefficient in the regression used to model the likelihood of e-invoicing adoption.

To qualify as a 'high-potential' adopter, an SME needs to have a 65% or higher probability of adoption, according to the model. The 65% level is not arbitrary, but rather points to a break in the distribution of probabilities that ACCA (2012b) argues could indicate a qualitative change in business practices. Despite this, not all 'high-potential' SMEs were classified as 'true' adopters: only those that also claimed to send electronic invoices were classified in this way.

By emphasising a high probability of adoption, this methodology ensures that businesses cannot register as probable adopters simply because they

are small, innovative or in the 'right' sectors; rather, they need to draw their adoption potential from multiple sources, including at least some element of formalisation.

ACCA (2012b) noted that, due to the phrasing of the SME Finance Monitor question on e-invoicing, the survey could return a particular kind of 'false positive' response where businesses send .xls, .doc, or unstructured .pdf copies of invoices via email and respondents misinterpret these as e-invoicing. 'False negatives' are also a possibility, where the business does send e-invoices but the respondent is

not aware of this. In order to account both for such errors and for a more complex adoption landscape, this report considers a more detailed classification of SMEs, introducing two new groups that were not previously considered. The resulting classification is summarised in Table 2.2.

The 2013 exercise led to the identification of 1,239 responses from 'true' adopters across all four quarters studied, as well as another 6,605 responses from low-potential adopters and high-potential non-adopters, out of a sample of 20,040 interviews (Table 2.3).

Table 2.2: E-invoicing adoption: a classification of SMEs using SMEFM data

Modelled potential for e-invoicing adoption	High potential	High-potential non-adopters	'True' adopters
	Low potential	Low-potential non-adopters	Low-potential adopters
		Nominal non-adopters	Nominal adopters
		Respondent's self-classification	

Table 2.3: Pooled sample sizes by adoption status (unweighted)

	Frequency	Valid percentage	Cumulative percentage
Low-potential non-adopter	12,196	60.9	60.9
High-potential non-adopter	689	3.4	64.3
Low-potential adopter	5,916	29.5	93.8
True adopter	1,239	6.2	100.0
Total	20,040	100.0	

APPROXIMATING E-INVOICING VOLUMES

The SME Finance Monitor was not designed to support a market sizing exercise. Since the single question on e-invoicing does not consider the share of invoices sent electronically, it is impossible to discuss actual volumes of e-invoicing. What is possible, however, is to calculate the total turnover of e-invoicing adopters (which will be referred to as potential e-invoicing volumes) by sector, region and size band, and then consider how this has grown between 2012 and 2013.

This is a three-step process.

1. Converting turnover size bands to point estimates. The Finance Monitor allows for 14 different turnover size bands. A conservative approach to conversion would treat the lowest end of each size band as representative, while an approach based on midpoints would treat the middle of each size band as representative. For the purposes of this exercise, the average of the two has been used – for instance, a turnover size band of £75k to £99.9k would yield a conservative point estimate of £75k, a midpoint estimate of £87.5k, and a

‘representative’ point value of £81.25k. Responses where an actual size band was not selected for whatever reason were omitted from this calculation.

2. Deriving turnover shares by sector, region and employment size band. Once the sample is weighted, it is possible to calculate the sums of all point estimates of turnover by sector or size and level of e-invoicing adoption in a manner that is representative of the SME population. Shares of total SME turnover can then be allocated to each cross-section. Samples were pooled across quarters within the same year in order to ensure that all cross-sections would be well-represented.
3. Importing actual turnover estimates from BIS Business Population Statistics. BIS publishes annual figures on the turnover of UK businesses by employment size band, region and sector, so it is easy to apply the shares of turnover calculated in step 2 to annual headline figures. This makes it possible to estimate growth rates between 2012 and 2013 for each cross-section.

The resulting ‘growth rates’ must be interpreted carefully for two reasons.

First, they record changes in the potential volume of e-invoices: the total value of e-invoices that would be sent if all adopters used only this one method of invoicing, and used it for all orders.

Second, they are the product of two processes – the changes in total SME turnover for the various cross-sections of the population and the changes in e-invoicing penetration within each cross-section.

Despite these caveats, these estimates provide a good broad indicator of the potential for e-invoicing adoption, and should be particularly useful when combined with other industry intelligence.

3. Estimates and findings

E-INVOICING ADOPTION RATES AMONG UK SMES

Table 3.1 summarises the evolution of e-invoicing adoption rates between 2011 and 2013, drawing on the SME Finance Monitor data and the latest figures from Eurostat (Eurostat 2013). Table 3.2 extends this analysis by contrasting adopters' shares of the SME population with their shares of the SME sector's turnover.

A number of general trends can be inferred from these tables.

First, there are at least three different tiers to what survey respondents understand as 'electronic' invoicing. While ACCA's measure of 'true' adoption more or less matches Eurostat's, the measure of 'low-potential' adoption is significantly narrower than Eurostat's measure of invoices 'sent electronically but not suitable for automatic processing' owing to the different specification of acceptable formats.

Second, 'true' e-invoicing is much less common than the use of unstructured electronic invoices, under both the Eurostat and ACCA definitions.

Third, adoption rates have risen steadily across size bands, especially among small businesses (10 to 49 employees). The majority of UK small and micro enterprises still do not send electronic invoices of any kind, but this is definitely changing.

Fourth, adoption rates have risen regardless of how e-invoicing is defined: only the numbers of low-potential non-adopters have fallen – from 70% of the SME population in 2012 to 65% in 2013.

Table 3.1: Penetration of electronic invoicing within the UK SME population

Indicator	Employment size band			
	0	1 to 9	10 to 49	50 to 249
Eurostat 2011: Any invoices sent electronically	:	:	49%	65%
BDRC 2012: Any invoices sent electronically	28%	28%	38%	45%
Eurostat 2013: Any invoices sent electronically	:	:	62%	74%
BDRC 2013: Any invoices sent electronically	32%	35%	45%	53%
Eurostat 2011: Businesses sending electronic invoices suitable for automatic processing	:	:	4%	14%
BDRC 2012: 'True' e-invoicing estimate from model	1%	3%	9%	14%
Eurostat 2013: Businesses sending electronic invoices suitable for automatic processing	:	:	10%	18%
BDRC 2013: 'True' e-invoicing estimate from model	3%	5%	12%	19%

Table 3.2: E-invoicing adopters as a proportion of total SMEs and their share of total SME turnover

		Businesses		Turnover	
		2012	2013	2012	2013
	Low-potential adopters	26.4%	29.3%	28.9%	34.2%
	True adopters	1.9%	3.6%	7.4%	12.0%
	Nominal adopters	28.4%	32.8%	36.3%	46.2%
E-invoicing adoption classification	Low-potential non-adopters	70.4%	65.3%	58.9%	46.6%
	High-potential non-adopters	1.2%	1.9%	4.8%	7.2%
Total		100%	100%	100%	100%

The share of SMEs that can be classified as 'true' adopters almost doubled in 2013, rising from 1.9% in 2012 to 3.6% in 2013 – just under 180,000 businesses. 'True' adopters tend to be larger businesses, and therefore their share of SME turnover is disproportionately large, growing from 7.4% in 2012 to 12% in 2013 (see Table 3.2) – the equivalent of £184bn. Even so, a comparison of population and turnover shares

suggests that the average 'true' adopter was likely to be a slightly smaller business in 2013 than in 2012.

Meanwhile, low-potential adopters, who are most likely to send unstructured invoices (as .pdf, .xls or .doc documents) over email, made up 29.3% of the SME population (1.4m businesses) in 2013, up from 26.4% in 2012. Their share of SME turnover stood at 34.2% (a combined

£710bn), up from 28.9% in 2012. Unlike 'true' adopters, low-potential adopters were slightly larger business in 2013 than in 2012.

Correlations between the various groups' proportions in the SME population and their shares of the sector's turnover suggest that most of the movement of businesses and turnover in 2013 was from the 'low-potential non-adopter' segment of the population to the 'low-potential adopter' segment. That said, the general quality of adoption also seems to be rising. 'True' adopters made up a consistent 11% of all adopters in 2013, up from 7% in 2012, and accounted for 26% of all SMEs' turnover, up from 20% in 2012.

CHARACTERISTICS OF E-INVOICING ADOPTERS

Compared with the general SME population, 'true' e-invoicing adopters tend to be less risky and yet faster-growing businesses; more formalised, innovative and extroverted and with a greater appetite for external finance. Their directors are younger, more networked, more formally educated and come from more diverse backgrounds.

Yet these advantages are almost certainly an artefact of the way e-invoicing adoption has been modelled. It is therefore better to compare 'true' adopters with high-potential non-adopters, who provide a natural control group. 'True' e-invoicing adopters still emerge from this comparison as more financially robust and more formalised, but not more innovative or extroverted. Their owners are also more likely to be female (even though low-potential adoption is correlated with male ownership) and to have university degrees (see Table 3.3).

Table 3.3: Characteristics of e-invoicing adopters in 2012 and 2013

		Low-potential non-adopters	High-potential non-adopters	Low-potential adopters	True' adopters	All SMEs
Performance	Low or minimal risk rating	12.8%	24.7%	12.8%	26.8%	13.3%
	Business has relied on cash injections from the owner in last year	22.9%	22.2%	25.1%	18.4%	23.4%
	Any self-reported cash flow issues over the past 12 months	13.9%	21.7%	16.3%	18.8%	14.8%
	Profitable during the last financial year	61.8%	69.1%	67.2%	73.0%	63.7%
	Growth of more than 20% in the past 12 months	8.3%	21.8%	16.2%	23.8%	11.4%
Business practices	Business neither wants nor has recently used external finance	38.2%	21.8%	33.6%	24.1%	36.3%
	Formal written business plan	29.6%	67.3%	39.6%	74.5%	34.2%
	Regular management accounts	38.3%	77.5%	49.1%	82.0%	43.1%
	Business is a LLC	22.0%	60.2%	30.9%	69.2%	26.4%
	Financially trained staff in charge of business finances	22.7%	50.4%	27.7%	56.7%	25.4%
	New products or services in the past 3 years	13.9%	52.6%	21.4%	49.5%	17.6%
	Trading online	45.3%	96.2%	63.8%	95.9%	52.6%
	Total quality management or recognised quality standard	15.6%	66.3%	26.3%	76.0%	21.1%
	Online banking	18.0%	32.3%	46.1%	62.0%	27.3%
	Exports	5.7%	29.1%	9.0%	25.9%	7.5%
Imports	6.4%	31.0%	9.8%	29.3%	8.3%	
Owner characteristics	Owner is 30 or younger	7.0%	13.1%	9.0%	13.9%	7.9%
	Owner has university degree	20.5%	32.9%	28.4%	38.2%	23.7%
	Business is at least 50% female owned	27.1%	18.1%	23.2%	23.4%	25.8%
	Business belongs to business group or industry body	19.8%	46.6%	28.4%	42.5%	23.7%
	Business owner belongs to an ethnic minority	8.0%	15.2%	6.4%	11.2%	7.7%

DYNAMICS OF E-INVOICING ADOPTION

The potential volume of e-invoicing among UK SMEs is very substantial – ‘true’ adopters accounted for £180bn worth of sales in 2013. Only some of this volume of invoices will, of course, have been handled electronically end-to-end, but the rate at which potential volumes are growing is a reasonable starting point when estimating the growth in actual volumes. As Table 3.4 demonstrates, the potential volume of e-invoices grew by 67% in 2013 alone, and almost all this growth came from increased market penetration – the SME sector’s overall turnover grew by only 3%.

Meanwhile, the turnover of low-potential adopters (who probably send unstructured invoices electronically) grew at only one-third of the pace of ‘true’ adopters, at around 22%. This is still a substantial growth rate, considering the large number of low-potential adopters, and still mostly due to increased penetration.

These two ends of the adoption spectrum are driven by very different dynamics, and this is reflected in different potential growth rates. The most striking example can be found in wholesale and retail trade, where ‘true’ adopters’ turnover more than tripled in 2013,³ while that of low-potential adopters grew by a more modest 23%. The construction sector saw similar patterns of adoption.

As Table 3.4 demonstrates, manufacturing and B2B services account for the majority (59%) of e-invoicing potential in the UK SME sector, with ‘true’ adopters turning over around £108bn per year. These sectors are very large in their own right but they additionally demonstrate significantly higher e-invoicing penetration rates among SMEs than others, and significant rates of growth (see Figure 3.1). On the other hand, primarily consumer-facing sectors such as hotels and restaurants or health and social work are likely to send invoices by electronic means, but hardly any of these would constitute true e-invoices.

The South East and London led the rest of the UK for e-invoicing penetration, having 55% of potential SME e-invoicing volumes in the UK between them. Even in these regions, however, penetration still has a long way to go: ‘true’ adopters accounted for less than one-fifth of SME turnover. The North East emerged as a strong contender in 2013, with e-invoicing potential nearly tripling on 2012 (see Figure 3.2), and a penetration rate of 13% of total SME turnover. At the other end of the spectrum, Yorkshire and the Humber and the South West lagged behind the rest of the UK, with low penetration and growth rates. Finally, a third cluster was made up of Wales and Northern Ireland, where penetration was still low in 2013 but growth rates were extremely high – with e-invoicing potential quadrupling year-on-year. Public sector

initiatives in Wales and the Republic of Ireland could go some way towards explaining these growth rates.

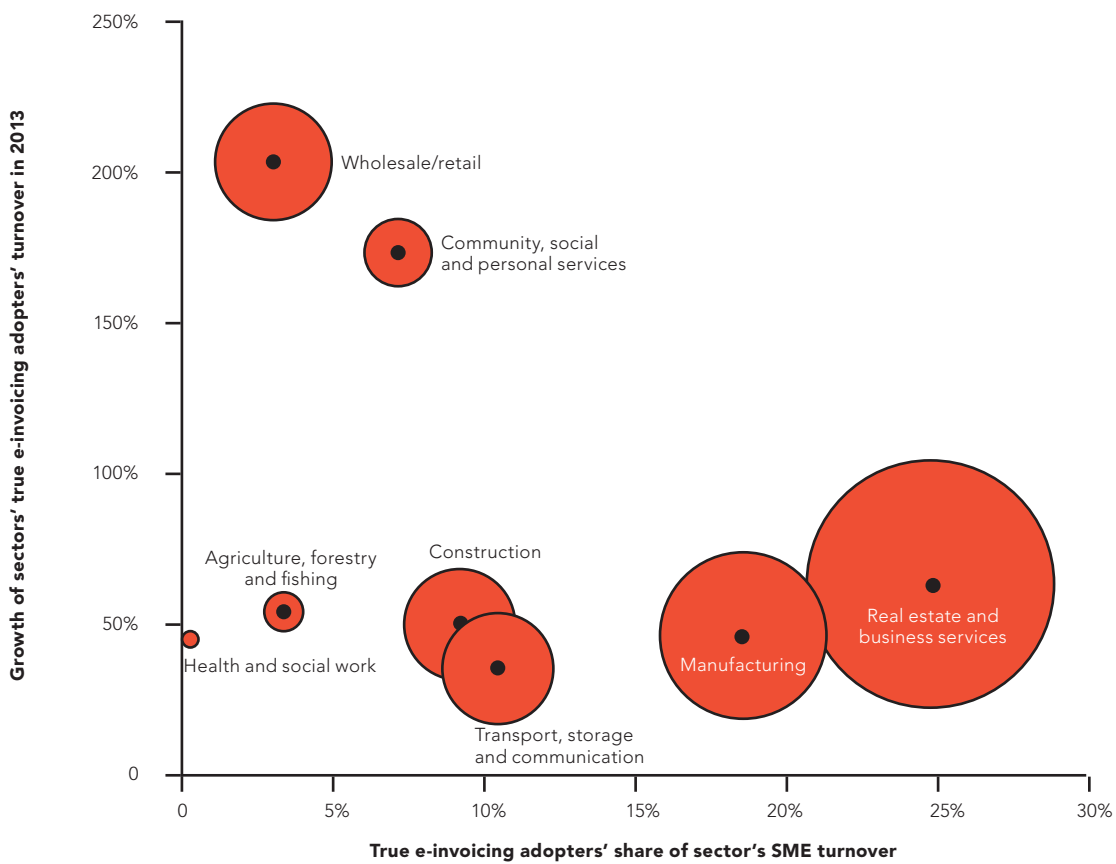
Finally, even though ‘true’ adopters are much more likely to be larger SMEs, growth in potential e-invoicing volumes was much greater among smaller enterprises (see Table 3.4), in line with first impressions from the headline e-invoicing penetration figures presented earlier in this report.

3. The growth rate would almost certainly have been more striking if the figures could be disaggregated between retail trade, where true e-invoicing should be rare, and wholesale trade, where it should be more common.

Table 3.4: Potential e-invoicing volumes and trends in 2013, by sector, location and size

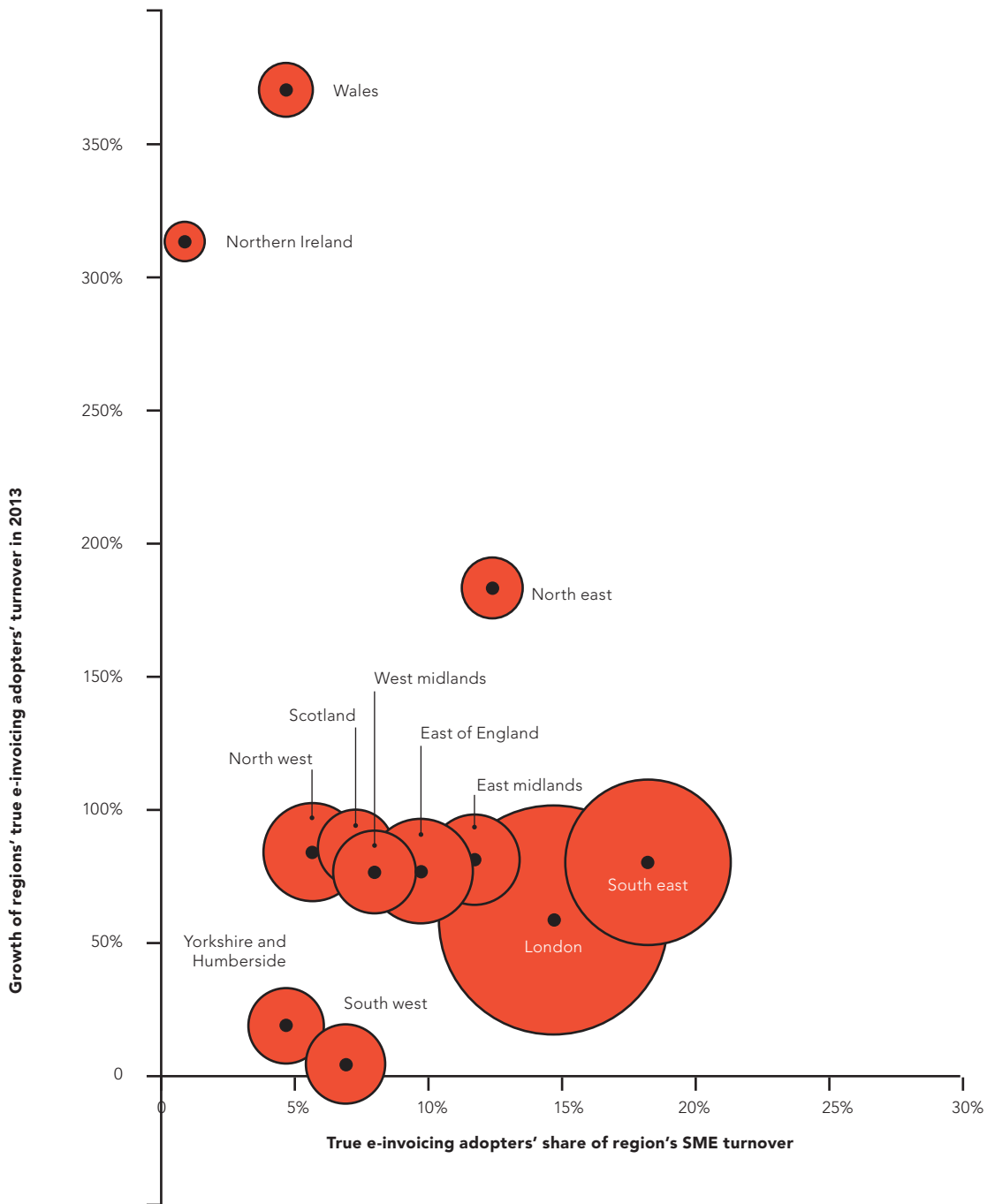
		Adopters' share of SME turnover		Adopters' combined turnover (£m)		Adopter groups' turnover growth	
		All nominal adopters	'True' adopters	All nominal adopters	'True' adopters	All nominal adopters	'True' adopters
Sector	Agriculture, hunting and forestry, fishing	38%	3%	13,409	1,214	48%	54%
	Manufacturing	57%	19%	104,039	33,844	38%	47%
	Construction	42%	9%	68,838	15,185	16%	51%
	Wholesale/retail	40%	3%	220,166	16,736	29%	204%
	Hotels and restaurants	34%	*	15,107	*	38%	*
	Transport, storage and communication	50%	10%	74,546	15,523	6%	37%
	Real estate, renting and business activities	51%	25%	152,604	74,265	34%	63%
	Health and social work	30%	0%	15,219	48	9%	45%
	Community, social and personal services	52%	7%	31,920	4,407	61%	173%
Nation or region	North east	50%	13%	18,039	4,785	33%	185%
	Yorkshire and the Humber	48%	8%	48,797	7,719	28%	18%
	North west	47%	8%	71,006	12,494	66%	85%
	West midlands	43%	10%	46,353	10,880	-5%	77%
	East midlands	45%	13%	40,416	11,499	28%	80%
	East Anglia	49%	11%	67,365	15,588	55%	77%
	South west	40%	9%	39,746	9,042	10%	4%
	London	51%	15%	209,622	62,122	34%	59%
	South east	43%	18%	94,174	38,981	14%	79%
	Scotland	41%	9%	39,443	9,063	48%	85%
	Wales	49%	8%	21,650	3,325	122%	373%
Northern Ireland	47%	5%	17,995	1,769	15%	316%	
Headcount	0	41%	5%	84,460	10,523	97%	322%
	1-9	41%	10%	154,633	39,429	3%	149%
	10-49	49%	13%	236,162	60,670	34%	50%
	50-249	55%	19%	258,828	91,540	29%	23%
Total		46%	12%	709,959	184,214	31%	67%

Figure 3.1: A visualisation of e-invoicing adoption dynamics by sector



Note: The size of the circle is directly proportionate to the total value of invoices sent by true SME adopters in the sector.

Figure 3.2: A visualisation of e-invoicing adoption dynamics by region



Note: The size of the circle is directly proportionate to the total value of invoices sent by true SME adopters in the region.

E-INVOICING AND ACCESS TO FINANCE

ACCA (2012b) made a first attempt at measuring the impact of e-invoicing on SMEs' access to finance, but the limitation of a small effective sample size prevented an in-depth analysis. Even with the substantially larger pooled sample employed in the present report, such an assessment remains a significant challenge.

The four waves of the SMEFM used in the present study yielded detailed information on 1,951 overdraft applications, 2,377 overdraft auto-

renewals, and 1,000 loan applications. Of those, 'true' adopters accounted for barely 133 overdraft applications, 171 auto-renewals and 45 loan applications. Low potential adopters accounted for another 579 overdraft applications, 729 auto-renewals and 316 loan applications.

Table 3.5 shows the headline outcomes of these applications. Overall, 'true' e-invoicing adopters were more likely to have their loan applications approved, and although they were not more likely to have overdraft applications approved, they appeared to be better placed to seek alternative sources of

finance when the bank did not offer exactly what they wanted.

Several factors, however, could account for these differences. 'True' adopters are, after all, larger and more professionally managed SMEs. Compared with other SMEs they are more likely to be repeat borrowers, and more likely to be seeking to extend or increase existing overdraft facilities or to be seeking to refinance loans. These traits should generally make it easier for them to obtain finance. In order to tease out the actual effect of e-invoicing, two multinomial regression analyses (one for loans and one for

Table 3.5: Outcomes of loan and overdraft applications

		Low-potential non-adopter	High-potential non-adopter	Low-potential adopter	True adopter	All applicants
Overdraft outcomes	Offered what wanted and took it	58.2%	45.2%	53.3%	54.3%	56.4%
	Have overdraft after issues	11.8%	2.3%	14.5%	11.8%	12.3%
	Took other funding	3.5%	.6%	3.2%	8.7%	3.5%
	No overdraft after issues	26.5%	51.9%	29.0%	25.2%	27.8%
Total		100%	100%	100%	100%	100%
Auto-renewals	Auto-renewals as % of all overdraft facilities agreed	59.2%	58.0%	60.5%	57.2%	59.5%
Loan outcomes	Offered what wanted and took it	44.2%	46.4%	37.5%	65.2%	42.9%
	Have loan after issues	14.7%	11.8%	12.5%	7.8%	13.9%
	Took other funding	9.3%	9.0%	4.4%	1.3%	7.8%
	No loan after issues	31.8%	32.9%	45.7%	25.7%	35.4%
Total		100%	100%	100%	100%	100%

overdrafts) were carried out in which the application outcome was the dependent variable and the following were introduced as controls:

- risk rating
- self-reported cash flow issues
- profitability over the last year
- headcount and turnover
- sector and region
- legal form, for-profit vs. non-profit, independent vs. franchisee status
- business formalisation, business planning and innovation, financially trained staff, use of online banking
- age of business
- application to main bank
- external advice prior to application
- timing of application
- size of facility applied for, facility size as % of total funds needed, first time vs. repeat application, new vs. adjusted facility, purpose of facility
- race and gender of business owner.

After accounting for all these controls, it is clear that e-invoicing adoption did not make it more or less likely that an SME would have a loan or overdraft application approved. Nonetheless, it did have one significant effect on financing outcomes: it significantly increased the probability of being able to obtain finance from alternative sources when the bank offered unfavourable terms on overdrafts. Table 3.6 summarises the results of this analysis. It should be noted that most of the benefit from this effect accrued to small businesses (10 to 49 employees), and these have also been the most enthusiastic adopters of e-invoicing.

Table 3.6: Effect of e-invoicing on financing outcomes: a summary of regression coefficients

		Offered what wanted and took it		Have facility after issues		Took other funding after issues	
		B	Sig.	B	Sig.	B	Sig.
Loan applications	Probable adopter	.276	.621	.056	.937	-.007	.994
	Nominal adopter	-.275	.692	-.100	.911	-1.757	.130
Overdraft applications	Probable adopter	.573	.251	.680	.199	2.517	.006
	Nominal adopter	.162	.800	.991	.174	1.550	.212

Notes: The effects described here obtain after controlling for other factors as described earlier, as well as the interaction between nominal and model-predicted adoption. The reference category is: No facility after issues.

Finally, Table 3.7 demonstrates the use of alternative finance options among e-invoicing adopters. Compared with other SMEs of broadly the same size, 'true' e-invoicing adopters are more likely to be using invoice finance, leasing or import/export finance products. This should come as no surprise since the model originally used to identify adopters takes the use of different types of finance into account. Comparing high-potential non-adopters with 'true' adopters, however, shows that the relationship between e-invoicing and alternative finance is not simply dependent on the properties of probable adopters – e-invoicing itself appears to make a difference.

Table 3.7: Use of alternatives to standard bank products according to e-invoicing adoption

		Employee size band			
		0	1-9	10-49	50-249
Leasing or hire purchase or vehicle finance	Low-potential non-adopter	3.5%	9.9%	19.6%	28.4%
	High-potential non-adopter	8.5%	25.2%	39.8%	51.4%
	Low-potential adopter	5.1%	13.6%	24.1%	32.7%
	True adopter	10.4%	26.7%	45.4%	51.8%
Invoice finance	Low-potential non-adopter	1.3%	3.1%	8.0%	11.0%
	High-potential non-adopter	0.0%	6.5%	17.9%	21.9%
	Low-potential adopter	1.2%	5.6%	10.9%	15.6%
	True adopter	3.6%	11.3%	18.4%	25.9%
Export/import finance (importers or exporters only)	Low-potential non-adopter	.7%	1.4%	.7%	.5%
	High-potential non-adopter	0.0%	9.9%	2.2%	1.1%
	Low-potential adopter	3.5%	.3%	1.6%	1.8%
	True adopter	0.0%	7.0%	6.3%	10.7%

4. Conclusions

This report has improved greatly on ACCA's 2012 calculations of e-invoicing adoption rates among UK SMEs. Although its headline estimates remain closely aligned to Eurostat's, it sheds much more light on adoption rates among very small businesses, the probable determinants of e-invoicing adoption, and the probable volumes of invoices sent by adopters in different sectors and regions. It also provides the most accurate snapshot of e-invoicing adopters' characteristics, resources and behaviour possible for the UK SME population.

Since 2011, e-invoicing penetration among UK SMEs has increased steadily and significantly, led by businesses with 10 to 49 employees. The total turnover of SME e-invoicing adopters grew by 67% per annum in 2013 alone, reaching 12% of the SME sector's entire volume of sales. This is mostly owing to increased e-invoicing penetration, with an estimated 90,000 SMEs newly embracing e-invoicing in 2013 alone. True e-invoicing adoption is, of course, still eclipsed by the vast numbers of UK SMEs that send unstructured invoices electronically, or email simple .doc or .xls invoices. In sectors dealing mostly with individual consumers, this is unlikely to change much in the future. Yet due to growing penetration the collective turnover of true adopters is rising three times as fast as that of 'low-potential' adopters.

For the first time, this report has been able to investigate in depth the effect of e-invoicing on SMEs' access to finance. Findings suggest that, while e-invoicing does not account for much

of the advantage adopters appear to have when seeking finance, it does make access to alternative sources of finance (including invoice discounting and specialist export finance) significantly easier, particularly for smaller SMEs.

E-invoicing is still nowhere near dominant among UK SMEs: there is still no region in the UK where adopters account for more than one-fifth of SME turnover, and no sector in which they account for more than one-quarter. The report hints at some of the influence of government policies: in Wales, for example, local councils' intentions for adopting e-invoicing could be driving adoption rates. Similarly, a significant bias towards e-invoicing adoption by firms just below the VAT threshold suggests that compliance concerns can be as much a driver as a barrier for e-invoicing penetration.

Much of the untapped potential for increasing penetration among SMEs may lie with the providers of key enabling technologies. This report has documented, for instance, the very close (and not entirely surprising) correlation between online business banking, online sales and e-invoicing adoption. Much potential also lies with government and major corporates, but some also lies with SMEs themselves – businesses that are better at making the business case for innovation and rolling out internal policies generally find adoption easier. Without appropriate professional advice, adoption rates could plateau once most of the best-prepared SMEs have been brought on board.

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