

The business and economic benefits of e-invoicing

A Cebr report for Avalara June 2025

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Executive Summary

Electronic Invoicing (e-invoicing) is rapidly growing in prevalence and impact due to the improvements it drives in the invoicing process. Integrating technology, automation and structure into invoicing can potentially deliver benefits such as enhanced productivity, speed of payment, tax compliance and fraud security. This report, produced by Cebr for Avalara, presents the outputs of comprehensive research and analysis to test this hypothesis and assess said benefits. Our research had two main elements to its approach:

- Primary data collection through a survey of 1,720 businesses across 6 major global markets (United States of America, United Kingdom, Germany, France, India and Australia); exclusively targeting B2B companies with at least 10 employees;
- Detailed modelling and analysis undertaken discretely in each market to quantify the impacts of e-invoicing at an individual invoice, per-business and ultimately economywide level, with all monetary figures converted and presented consistently in USD (\$).



AWARENESS AND ADOPTION OF E-INVOICING

- On average, businesses receive slightly more invoices than they issue, at **1,928** and **1,497 invoices received and issued respectively** per week.
- Large businesses followed this trend, but it was reversed in small and mediumsized business as received invoices constituted only 27.8% and 43.4% of invoicing volumes respectively.
- Average value per invoice issued was fairly consistent across small and large firms at \$753 and \$790 respectively, but notably higher in medium sized businesses at \$924
- E-invoicing adoption is already rather widespread, with 71.5% of invoices received and 68.2% issued being E-Invoices in our sample. Amongst countries surveyed, adoption was highest in India and lowest in Australia.
- Firms processing greater volumes of invoices are considerably more likely to use E-invoicing
- E-invoicing is also significantly more prevalent in large firms. E-invoices constituted **71.6%** of invoices issues in large businesses, **nearly double the 37.0%** rate for small businesses.
- 95% of businesses still using manual invoicing are aware of e-invoicing; nearly three-quarters intend to adopt it within five years, with 30% in the next year.
- Boosting productivity and increasing fraud protection and security were the two biggest drivers of e-invoicing uptake, selected by almost two thirds of firms as a reason for adoption of the technology.
- Of business who had not adopted invoicing throughout all of their accounts payable or receivable processes, **43% identified staff training needs and integration challenges** as key barriers to further adoption.
- Regulatory momentum is growing globally: while UK and US businesses are in discussion stages, firms in other markets are increasingly preparing for mandated adoption, although at varying speeds.



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PRODUCTIVITY IMPACTS OF E-INVOICING

- Leveraging e-invoicing over manual invoicing processes saves firms 19.1 and 19.9 minutes on average for every invoice issued and received.
- E-invoicing delivers the strongest time savings in the US, France and Australia.
- The time saving generated through e-invoicing frees up employee time for other productive uses, generating productivity benefits for firms and economies.
- Efficiency gains drive significant monetary productivity improvements, equivalent to \$15.16 and \$11.13 per invoice received in the US and France, or \$13.67 and \$8.36 for each invoice issued in Australia and Germany.
- Per-invoice productivity gains accumulate to substantial financial benefits for firms on an annual basis, topping \$1.1m in the US and \$649k in Australia.
 Benefits are significantly stronger in large businesses, due to invoicing volumes.
- E-invoicing productivity gains drive substantial associated benefits to the wider economy, with these economy-wide impacts exceeding **\$10 billion in every** surveyed market except India.
- The **US leads** with e-invoicing economic impacts of **\$116.2bn per year**, driven by strong per-business benefits and a very large business population.
- France and Australia experience significant benefits despite their smaller economies, generating impacts of approximately \$17bn and \$15bn respectively.
- Benefits are evenly distributed between accounts payable and receivable in most markets, although **impacts in the US and India** are heavily weighted towards **accounts payable and receivable** respectively.



E-INVOICING IMPACTS ON SPEED OF PAYMENT

- E-invoicing **reduced the time to pay invoices on average by 1.4 days** versus manual invoicing, equivalent to a **5.2% increase** in speed of payment. Time to pay reductions in the US and Australia were both greater than 2 days.
- E-invoicing reduced the proportion of invoices paid late by **0.9 percentage** points (ppts) on average, and by **3.2ppts and 4.8ppts in UK and Australia**.
- Improved payment speeds as a result of e-invoicing generated benefits via improving firms' cashflow and access to capital, which we quantified through the mitigated 'opportunity costs' associated with the time value of money.
- E-invoicing generated benefits of **\$0.24 per invoice in the US and Australia**, and approximately **\$0.10 per invoice in Germany and France**.
- Mitigated per-invoice opportunity costs accumulate to a business-wide level, delivering **annual benefits of \$9,295 and \$5,926** to US and Australian firms.
- E-invoicing generates sizeable mitigated opportunity costs at economy-wide level, particularly in **the US**, where the total annual benefit from improved payment speeds reached **\$1.4bn**, **75% of which** was delivered by small firms.
- Economy-wide benefits amounted to **\$400m in Australia and approximately \$70m in both Germany and France**.
- Over 60% of businesses reported satisfaction with e-invoicing time to pay and rate of late payments, with an overall net satisfaction rate of 43.7%.



MITIGATING FINES & FRAUD THROUGH E-INVOICING

- Invoice-related issues are relatively prevalent in our sample, in which 44.1% and 34.1% of businesses had suffered from tax fines and fraud respectively in the last year These issues were significantly more commonplace in Indian firms, at 72.8% and 42.8% respectively.
- Prevalence of these issues peaked within businesses in which 21-80% of invoices either issued or received where e-invoices, whilst those that had fully adopted e-invoicing enjoyed the lowest incidence at 20% for both tax fines and fraud.
- The average annual cost of invoice-related tax fines and fraud to all businesses in our sample measured **\$23,500 and \$18,100 respectively**, as again average costs were significantly greater in India, at **\$41,300 and \$28,400 respectively**.
- The cost of invoice-related tax fines and fraud grows significantly with business size, but this is largely a product of increased invoicing volumes and activity.
- Business perceptions around the strength of data and information security were notably more positive for e-invoicing, with a net satisfaction score of 58.9% versus 46.2% in manual invoicing.
- Survey responses unequivocally indicated that e-invoicing reduced the frequency
 of lost invoices, tax fines, invoice related fraud and information breaches, with a
 net improvement score in frequency of 40% for lost invoices (net balance of
 firms reporting e-invoicing made these incidents less versus more frequent).



1. Introduction

1.1 Report background and purpose

This is a report produced by the Centre for Economics and Business Research (Cebr) on behalf of Avalara. The research assesses the current prevalence and adoption of e-invoicing, before identifying the potential benefits of e-invoicing technology and quantifying this benefit to business invoicing processes. Our analysis estimates impacts on an individual invoice, perbusiness and economy-wide level. Analysis is conducted separately in each of the six markets considered, as discussed further below.

E-invoicing (electronic invoicing) fundamentally constitutes the exchange of invoicing documents in a structured, digital format. Significantly more advanced than paper invoices and PDF invoices exchanged via email, the entire e-invoicing process throughout generation, processing and transmission is delivered in an automated, electronic manner.¹ The following key characteristics define e-invoicing:²

- Structured format: E-Invoices are issued in machine-readable formats such as XML, UBL etc., going beyond readable documents such as PDFs.
- **System to system exchange:** Invoices are transmitted directly from one financial system to another, with minimal requirements for human involvement.
- Automation and validation: E-invoicing automates data capture and entry along with integrated validation checks, minimising mistakes and manual intervention.
- Security and compliance: Leverages secure networks and digital signatures to uphold invoice integrity, while complying with tax and reporting legislation.

The structured, automated nature of this process and its key characteristics deliver significant benefits for e-invoicing, over the manual equivalent. These benefits comprise improved productivity, speed of processing and payment, traceability and monitoring, compatibility and integration, accuracy and compliance amongst many others. E-invoicing benefits and their application within this research are discussed further in Section 2.1.

These benefits are driving significant growth in the prevalence and uptake of e-invoicing technology. The number of e-invoices processed globally eclipsed 125bn during 2024, as the total market value of the underpinning technology has grown substantially to \$8.9bn in the same year and is forecast to reach \$23.7bn by 2028. This represents a CAGR for the e-invoicing market of 27.7%.

A comprehensive evidence base around the tangible benefits of e-invoicing will therefore contribute significantly to broader e-invoicing discourse.

1.2 Scope of the research

This analysis adopts a comprehensive perspective under which to assess the benefits of einvoicing. Our research identifies three fundamental e-invoicing business benefits, that operate within both the accounts payable (invoices received) and accounts receivable (invoices issued) aspects of invoicing (these terms are used interchangeably throughout our



¹ICAEW (2024) Economy explainers: E-Invoicing

²NRD Companies (2025) Understanding e-Invoicing: Key Features and Impact

³<u>True Commerce (2024) E-Invoicing vs. Traditional Invoicing: A Side-by-Side Comparison</u>

⁴ Billentis (2024) The Global E-Invoicing and Tax Compliance Report

reporting). In addition to this, we also conduct a detailed examination of broader e-invoicing trends and adoption, firm perceptions around e-invoicing legislation and general business invoicing practices. The three overarching e-invoicing benefits covered by this research are:

- Improved invoicing productivity
- Reduced time to pay and risk of late payments
- Mitigating tax fines and fraud

Benefits are initially assessed on a highly granular, per-invoice basis, before a detailed modelling approach is employed to scale these impacts up to the business- and economywide level. The scope of our analysis is global and covers the following six major international markets, focussing solely on B2B companies with at least 10 employees:

- United States of America (US)
- United Kingdom (UK)
- Germany
- France
- India
- Australia

1.3 Report overview

The remainder of this report is structured as follows:

• Section 2: Methodology

Explains the approach of our project and overall methodology employed to derive our findings. The conceptual framework of our methodology is first set out followed by an explanation the survey element, and finally our modelling approach is detailed.

• Section 3: E-invoicing awareness and adoption

Establishes the underlying context and trends for our research, with results derived directly from survey data. Covers general business invoicing practices, followed by rates of e-invoicing adoption and awareness and country-specific trends.

• Section 4: Productivity impacts delivered by e-invoicing

Sets out our survey results and modelling findings around the first impact channel, presenting the impact of improved invoicing productivity on accounts payable and receivable, at individual invoice, business- and economy-wide level.

• Section 5: Impacts of e-invoicing on late payments and time to pay

Presents survey and modelling findings around the effects of e-invoicing on increased speed of payment, and the economic impacts of this to both businesses and aggregate economies under a time value of money approach.

• Section 6: Mitigation of fines and fraud through e-invoicing

Details insights around the prevalence of fines and fraud amongst businesses along with their average annual cost, followed by survey findings around the impact of e-invoicing on tax fines and invoice-related fraud.

2. Methodology

2.1 Conceptual framework

In order to comprehensively understand the impact of e-invoicing on individual invoices, businesses and whole economies, our research is underpinned by a robust conceptual framework. This conceptual framework was developed through extensive desk-based research along with consultation with Avalara e-invoicing experts, to ensure it is consistent with expert knowledge and broader discourse, while also fulfilling the requirements, interests and operations of Avalara.

Figure 1 visualises our conceptual framework in detail. In essence, this framework identifies three primary impact channels through which e-invoicing delivers benefits to the firms that use it, which then accumulate across firms up to an economy-wide level. This is by no means intended to serve as an exhaustive list of all e-invoicing benefits, but represents the primary impact channels in the context of this research due to their conceptual importance per background and expert research, data availability and modelling feasibility, and Avalara preferences. Figure 1 identifies each impact channel then sets out how e-invoicing facilitates benefits, before explaining further how this impact could deliver benefits for businesses.

Figure 1: Overview of primary E-invoicing impact channels considered within this research

1	IMPROVED INVOICING PRODUCTIVITY	The structured, machine-readable electronic format of E-Invoices increases the efficiency of the invoice process, and more elements of this can be automated or handled electronically.	Increased invoicing efficiency drives time savings for invoice processing and greater productivity within those that are responsible for these tasks, productive time can also be diverted elsewhere.
2	REDUCED LATE PAYMENTS AND TIME TO PAY	Digitisation and automation of invoice processing increases the speed at which invoices can be paid, and also reduces the likelihood of errors and queries which slow the payment process.	Business benefit from increased speed of payment for invoices they issue and reduced likelihood of late payments , which is highly important for cashflow and access to capital.
3	MITIGATING TAX FINES AND INVOICE FRAUD	Automation of information and data entry, along with reducing manual requirements and human involvement, improves accuracy, mitigates errors, misreporting and fraudulent invoices.	Improved invoice accuracy and fewer errors reduces the likelihood of tax-based violations and fines, along with invoice fraud , both reducing potential costs to invoicing businesses.

As explained above, e-invoicing delivers benefits to businesses that adopt it through improved invoicing productivity, increased speed of payment and mitigating fines and fraud. Improved invoicing productivity arguably represents the most important e-invoicing benefit and materialises within both the accounts payable and receivable sides of invoicing.

The speed of payment impact channel applies predominantly to the accounts receivable aspect of invoicing, and the cashflow of the business issuing the invoice. This impact channel would likely also implicate the business paying the invoice on the accounts payable side, but for the purposes of this research we focus on the accounts receivable side of invoicing here.

⁵ Results for this impact channel are therefore presented cautiously as benefits or impacts accruing to business issuing invoices, as opposed to whole economy boosts or uplifts. This reflects the fact that increased cashflow access in businesses receiving payment could potentially be offset by decreased cashflow access in those sending payment, but the value and necessity of this cashflow is arguably far greater in the former. There are also potential benefits for paying businesses as some invoices are subject to slight discounts for early payment.



Mitigation of fines and fraud is involved in both aspects of invoicing. In general, tax-related fines apply predominantly to accounts receivable whilst invoice fraud applies predominantly to accounts payable, but the delineation is less discrete than other impact channels.

2.2 Primary data collection

Cebr partnered with Opinium to conduct a survey and collect data around the impacts of einvoicing on businesses. Given the lack of public data availability in this space, along with the ever-changing nature of business practices and technology adoption, direct collection of primary data represents the best approach to ensure a comprehensive, accurate dataset from which to conduct our analysis. Our survey was designed to primarily collect data around the three impact channels, but also asked further questions around e-invoicing adoption, perceptions and broader invoicing practices. The main areas covered by our survey are summarised by the following list:

- General business invoicing practices: number of invoices issued and received on a weekly basis, average salaries of those processing invoices;
- Proportion of invoices sent and received that are E-Invoices;
- Invoicing time requirements across accounts payable and receivable processes, broken down by manual invoicing vs e-invoicing and different invoicing tasks;
- Average time to pay for invoices issued and proportion that are paid late, across manual invoicing and e-invoicing;
- Rates of incidence of invoice related tax fines and fraud, along with annual financial cost of these two issues;
- Business perceptions of both manual invoicing and e-invoicing, regarding efficiency, financial cost, skills and training requirements, security, compliance and time to pay;
- Reasons for adopting e-invoicing and barriers to broader adoption;

Following a comprehensive, iterative drafting process, the survey was conducted amongst a total of 1,720 businesses across six major global markets. The survey was distributed to a specific, targeted sample of managers with a responsibility for financial technology, working within business-to-business (B2B) companies of 10 or more employees.⁶ Figure 2 below visualises the entire survey sample in more detail, and a precise specification of business size categories in each market is detailed in the appendix.

Similarly to impact channels, these sample requirements were specifically selected based on broader research and the expertise and preference of Avalara. This represents the sample of organisations in which e-invoicing is most suited to their operations and are most likely to derive benefit from the technology. Specific roles were also targeted to ensure respondents had appropriate knowledge on the utilisation and application of their organisations financial and invoicing processes, including specifically on the use (or non-use) of E-invoicing.

As a consequence of this sample selection, our subsequent modelling of economy-wide impacts only considers aggregate benefits across firms with these characteristics. Our economy-wide figures are therefore likely rather conservative as they do not attribute benefit to firms with less than 10 employees or who to sell to consumers via invoice.

6 Business-to-business (B2B) organisations are those that sell their goods and services to other businesses, rather than direct to individual consumers.





Figure 2: Total survey sample size, across different markets and business sizes

Source: Opinium, Cebr Analysis

Crucially, our data collection approach also disaggregated by business size within each market. Business size was dictated in terms of number of employees, with slight variation in size bands across different markets to align with publicly available data in each, and ensure adequate subsample size.⁷ Full detail around business size specifications and categories in each market is provided within the Appendix. Business size disaggregation was driven by existing research indicating that both e-invoicing impacts and broader invoicing practices vary by firm size, and allows for our analytical approach to reflect this. Subsample disaggregation by business sector was not pursued in this research, as e-invoicing technology applies to firms across all sectors, and the greater number of sectors than size categories would generate subsamples too small to facilitate effective sector-specific analysis.

2.3 Modelling invoice, firm-level and economy-wide impacts

Having collected and processed primary survey data, detailed modelling was undertaken to derive relevant and impactful insights around the benefits of e-invoicing. Principally, this modelling served to scale up highly granular data around individual invoices, firstly to reflect the average whole business impacts and then to the overall, economy wide level, across all applicable organisations. However prior to this, the survey data collected around the invoicing productivity and speed of payment had to be translated from temporal measures to more actionable monetary insights.

We adopted a labour productivity-based approach to monetise time improvements for the invoicing productivity impact channel. This therefore operates under the assumption that efficiency and time savings from e-invoicing adoption free up time for the financial and accounting employees that undertake these tasks, which they could then allocate to other productive uses and tasks, generating benefits to their business. To model this impact channel,

categories for Australia were merged together. Further detail on this is provided in the appendix.



⁷ In line with public business population data and to ensure adequate subsample size, 'Small' and 'Medium' business size

we combined e-invoicing time savings with average invoicer salaries[°] in each individual market, across accounts payable and receivable individually. This derived a monetary productivity value associated with the time saving generated by e-invoicing for each individual invoice.

The process for monetising reduced time to pay was slightly more complex as we adopted a time value of money approach. In line with traditional economics and accounting methods, this follows the reasoning that improved speed of payment through e-invoicing increases firms' cashflow and access to capital. There is a definitive monetary value to this time improvement and earlier payment, as firms can utilise that capital earlier to generate returns, as we conceptualise this primarily through mitigating the opportunity costs associated with payment delays.

We computed the time value of money through the opportunity cost associated with the slower payment speeds of manual invoicing relative to e-invoicing. This involved calculating the future value of the invoice when it would have theoretically been paid under manual invoicing, then subtracting this from the future value of an equivalent e-invoice paid quicker, as this difference represents the opportunity cost that e-invoicing mitigates. To do this, we utilised official data around real effective interest rates, [°] combined with the average invoice value and the time to pay differential between manual invoicing and e-invoicing, both derived from our survey data.

Having monetised the temporal measures for both invoicing productivity and time to pay impact channels, the same fundamental approach was then employed to scale both up to business- and economy-wide level. Tax fines and fraud figures were presented at perbusiness level, therefore this scaling process was not required. Figure 3: Overview of modelling approach and processFigure 3 sets out our process in more detail. Crucially, both impact channels were modelled under the same counterfactual perspective of full e-invoicing adoption, such that all invoices currently issued or received using manual invoicing were

Figure 3: Overview of modelling approach and process

converted to this technology.



To construct this counterfactual, we utilised data around e-invoicing adoption rates which are specified in further detail in Section 3.2 These rates enabled us to derive the current proportion of manual invoices that were subject to potential e-invoicing improvements, and this proportion was applied to invoicing volumes on the accounts payable and receivable sides to calculate per-business figures. Per-business figures were then applied to official business population

8 Utilising average invoicer salaries collected within the survey as a proxy for invoicing productivity, we were able to circumvent issues around availability of labour productivity data in some markets, and also construct a more invoicing-specific perspective of productivity. Our survey also disaggregated invoicing salaries (and hence productivity) further by type of invoicing (accounts payable vs receivable).

9 As opposed to policy rates, effective interest rates represent a more realistic perspective of interest rates that businesses would feasibly be subject to on loans or deposits, which were then adjusted for inflation in each market to express in real terms.



data, adjusted in line with national accounts data to reflect specifically the B2B proportion of business population, to produce final economy-wide impact figures.



3. Awareness and adoption of e-invoicing

3.1 General business invoicing practices

To provide the essential context within which the use of e-invoicing can be viewed holistically, we first set out general invoicing trends across our sample and in specific markets. General invoicing trends cover the volume of invoices (electronic and manual) both issued and received by businesses along with the average value of said invoices.

3.1.1 Businesses issue and receive a significant volume of invoices, but do the latter more frequently

On average, businesses in the sample received 1,928 invoices and issued 1,497 invoices on a weekly basis, equating to 100,256 and 77,853 invoices received and issued per year. Figure 4 visualises these figures along and how they vary in each market surveyed. Trends of invoices received exceeding those issued hold in all markets except France, and are most pronounced in India where volumes of invoices received are 80% greater than invoices issued, at 3,827 versus 2,127 per week. Australia and France exhibit the smallest volumes of both invoices issued and received, whilst US invoicing practices fall very closely in line with the whole sample average.



Figure 4: Total number of weekly invoices received and issued per business, across markets surveyed

Source: Opinium, Cebr Analysis

Unsurprisingly, the volume of invoices both issued and received increases substantially in line with business size. For both sides of the invoicing process, this disparity by business size is most pronounced in India, as invoicing volumes in large businesses exceed their small counterparts by factors of 187 and 138, for invoices received and issued respectively. Throughout other markets this invoice differential between small and large business is far less drastic and largely ranges between factors of 50 to 60. In addition to France exhibiting the lowest total invoicing volumes out of all markets, the differential in these volumes by business size is also smallest of all markets, as invoices issued and received by large firms exceed small businesses by only a factor of 10.

A more unexpected trend uncovered in our sample revolves around the composition of invoicing by business size. Whilst invoices received outnumber those issued in both our overall



sample and the large business portion of this, trends appear to reverse in small and mediumsized businesses where invoicing practices are dominated more by invoices issued. Across all markets large businesses on average receive and issue 3,535 and 2,543 invoices respectively on a weekly basis, meaning invoices received account for 58.2% of all invoices. In contrast, invoices received constitute just 27.9% and 43.4% of total invoicing for small and medium businesses respectively, indicating invoicing patterns shift away from accounts payable in smaller businesses. This is visualised further in Figure 5.



Figure 5: Total number of weekly invoices received and issued per business, by business size

Source: Opinium, Cebr Analysis

3.1.2 Invoice value varies significantly by market but is more consistent across business size

Throughout our whole sample, the value of each invoice on average amounted to \$808. Average value was relatively consistent between small and large businesses at \$753 and \$790 respectively, whilst medium-sized businesses reported a greater average value of \$924. These results show the core difference in invoicing practices between businesses sizes lies in the frequency of transactions with the transaction size showing significantly less variation. Figure 6 visualises this lack of variation between business size.



Figure 6: Average invoice value across all markets, distributed by business size (\$, 2025 prices)

Source: Opinium, Cebr Analysis

Average invoice value however displays significantly more variation across different markets. Illustrated in Figure 7, value per invoice ranges between a minimum of \$578 in India up to \$1,186 and \$1,076 in Germany and France respectively, as average values in the US, UK and Australia lie much closer to the whole sample average. Trends in average invoice value also deviate from the sample norms in some markets. In both the US and UK, the largest average invoice values are reported by small businesses as opposed to their medium-sized counterparts, as small firm invoice values exceed the overall average by factors of 5.9 and 4.4 in the US and UK respectively. Large businesses also report the lowest average invoice value in Germany, India and the UK.



Figure 7: Overall average invoice value, across all markets (\$, 2025 prices)

Source: Opinium, Cebr Analysis



3.2 Rates of E-invoicing adoption and awareness

Next, we turn to e-invoicing adoption, observing uptake at an aggregate level and its trends across markets and business sizes. To gauge e-invoicing uptake we calculate two measures:

1. First is the proportion of total invoices which are e-invoices, which sums the total e-invoices amongst the businesses in the sample or a given subsample (i.e. all businesses in France or small businesses) and divides this by the total invoices for the respective group. We label this **the proportion of e-invoices**, as this measure acts functionally as a weighted average, accounting for the frequency with which different businesses handle invoices.

2. Second, we calculate the proportion of e-invoices for each individual firm and then average this. We identify as the **average share of e-invoices**, reflecting within the average firm, the proportion of invoices sent electronically.

3.2.1 E-invoicing is prevalent across all markets in our sample, particularly within larger firms that process greater invoicing volumes

By all measures, e-invoicing constitutes the majority of invoices received and issued in our sample, indicating uptake of the technology is already rather widespread. Figure 8 details the two different metrics of e-invoicing adoption in both invoices received and issued across all markets in our sample. Overall, the proportion of E-Invoices received measured 71.5% and proportion issued 68.2%, as e-invoicing appeared slightly more prevalent in invoices received throughout most markets in our sample. This trend is bucked only in Germany and Australia where the e-invoicing proportion is over 10ppts greater in invoices issued than received. Across both invoicing types, e-invoicing adoption proved strongest in India and weakest in Australia, whilst rates in the UK and US aligned with the overall sample.



Figure 8: Proportion of E-Invoices and average share of E-Invoices, across all markets and invoicing

Source: Opinium, Cebr Analysis

Almost exclusively throughout our sample, the proportion of e-invoices measure is significantly greater than the average share of e-invoices. In our overall sample, the proportion of E-Invoices received was almost 20ppts higher than the average share of E-invoices received, at 71.5% versus 52.8%, and this disparity in measures was approximately 18ppts for invoices issued. Greater e-invoicing proportions than average shares are observed robustly across all invoicing types and markets, except Australia. This trend signifies that those processing



greater invoice volumes are generally more likely to use e-invoicing, and conversely those who invoice less frequently are more likely to use standard invoicing methods. Prior to our explicit analysis of the impacts of e-invoicing, the fact that firms with greater invoicing volumes have a higher propensity to adopt the technology is already potentially implicit of the benefits that it may generate for these processes.

Following from these trends e-invoicing adoption is also positively correlated with business size. Nearly three quarters (73.0%) of invoices received for larger businesses were e-invoices, whereas the proportion for small businesses was less than half (46.7%). For issuing invoices the difference is even wider, as just 37.0% of invoices issued by small businesses were e-invoices, compared with 71.6% of those issued by large firms. Figure 9 visualises how pronounced these trends are.



Figure 9: Proportion of E-Invoices received and issued, by business size

Source: Opinium, Cebr Analysis

Further data suggests that e-invoicing has proliferated rather rapidly and widely in recent years. Within firms that had fully adopted e-invoicing, over four-fifths (81%) of respondents reported that they were still working at their business either before e-invoicing adoption or during the adaptation process, implying e-invoicing technology adoption has proved a rather recent phenomenon. Furthermore, of firms that were yet to adopt e-invoicing at all, 95% were aware of the technology and 30% planned to adopt it within the next year. In total 73% of manual invoicing businesses planned to adopt e-invoicing within the next 5 years, as displayed in Figure 10.



Figure 10: Future plans to adopt e-invoicing, of firms that currently use manual invoicing

3.2.2 Productivity and security are the primary drivers of e-invoicing adoption, whilst training and integration requirements could be inhibiting further adoption

Business rationale for e-invoicing adoption aligns very strongly with the primary benefits and impact channels identified in this research. Boosting productivity and fraud protection and security represented the two most popular drivers of e-invoicing adoption, as almost two-thirds of firms that had already implemented the technology did so for these reasons. Adherence with tax procedures and broader company-wide technology integration were also popular reasons in businesses that had already adopted e-invoicing, as the latter also proved the second most popular driver within businesses that planned to adopt e-invoicing. Figure 11 sets out reasons in further detail.



Figure 11: Reasons for adopting or planning to adopt e-invoicing

Source: Opinium, Cebr Analysis



Source: Opinium, Cebr Analysis

Looking forward, firms may need further support with upskilling staff and integration into current systems to facilitate further proliferation of e-invoicing technology. These were the most commonly-cited barriers to broader e-invoicing adoption, reported by 43% of businesses for both. Other prevalent barriers included compliance with relevant regulations, initial cost of purchasing software and insufficient management capacity to implement change, with all three identified as barriers by approximately one-third of our business sample.



Figure 12: Barriers to adopting e-invoicing more broadly

Source: Opinium, Cebr Analysis

3.3 Country-specific trends and regulatory environments

To develop a more nuanced perspective of e-invoicing and better gauge trends across different countries, our survey asked individual, tailored questions within each market. Questions tested business perceptions of broader regulatory and legislative environment specific to each economy. This section outlines country-specific findings from this process.

Despite a lack of tangible e-invoicing legislation in both the UK and US, on the whole business sentiment around future legislation was decidedly positive. Visualised in Figure 13, businesses on the whole agreed that government should consider e-invoicing legislation, as net agreement rates measured 50% or over for both countries. Net agreement rates are calculated by taking all agreement shares as positive and disagreement as negative, then summing for each option to produce an aggregate measure.

Despite this, there was slightly broader business support for a less interventionist government approach through encouraging but not mandating e-invoicing uptake. Approximately one-third of firms in both the US and UK were in strong agreement with this approach.

¹⁰ Shares sum to greater than 100% here as businesses were able to select multiple options.





Figure 13: Business agreement with government e-invoicing legislation, across the UK and US

Source: Opinium, Cebr Analysis

Operating in Europe's far more developed e-invoicing regulatory environment, awareness of upcoming legislation proves strong in both France and Germany. In the former, over two-fifths (41%) have begun actively preparing for legislation that will require all French companies to have capacity to receive E-Invoices and register with e-invoicing providers by September 2026. Over one-third (36%) of businesses have discussed this legislation but are yet to take any definitive action.

More embedded e-invoicing legislation in Germany is reflected in slightly higher levels of both business awareness and planning in response. However, despite business capacity to receive E-Invoices being mandated in January 2025, the most popular response in our sample was one of lacking preparation, as almost half (48.5%) of businesses had not fully considered the details and implications of this. A significant proportion of German businesses were more prepared however, with 42% having developed plans, 39% invested in technology/software and 30% invested in training or hiring new workers.





Figure 14: Business preparation and awareness of e-invoicing legislation in Germany

Source: Opinium, Cebr Analysis

Looking to markets with government-specific e-invoicing mandates, businesses are anticipating further legislation and regulation going forward. While Australia's broader initiative to promote e-invoicing uptake is known by over half (52%) of businesses, interestingly an even greater proportion are anticipating and planning for an e-invoicing mandate in the coming years, at 58% of firms surveyed. India exhibits arguably the most extensive e-invoicing mandate of all markets studied, and an overwhelming majority of firms (80%) expect this to expand in the coming years. Perceptions here are rather pessimistic with almost two-thirds (64%) of firms exclusively utilising e-invoicing for their tax records and preferring not to send them to business partners, whilst 27% did not view the technology as helpful to their business.

¹¹ Shares sum to greater than 100% here as businesses were able to select multiple options.



4. Productivity improvements delivered by e-invoicing

4.1 Impact of E-invoicing on time savings and productivity

4.1.1 E-invoicing drives efficiency and time savings holistically across our global sample

E-invoicing unlocks productivity gains for businesses surveyed across all markets, business sizes, types of invoicing and stages of the invoice process. Across our global sample of 6 major markets, leveraging E-invoicing technology over manual invoicing processes saves an average of 19.1 minutes throughout each business for every invoice issued, growing slightly to 19.9 minutes for invoices received. E-invoicing efficiency gains increase further with business size as time savings exceed the overall average in large businesses, at over 23 minutes saved per invoice for both accounts receivable and payable.¹² Figure 15 visualises this below.



Figure 15: Average time saving per invoice delivered by e-invoicing over manual invoicing, by type of invoicing and business size, minutes

Source: Opinium, Cebr Analysis

Businesses benefit from significant time savings across all tasks when integrating e-invoicing into their accounts payable processes, as demonstrated in Figure 16 below. Overall productivity gains are driven particularly by the security checking and internal approval components of invoicing, as time requirements in these two tasks were reduced by 5.1 minutes and 6.1 minutes respectively under e-invoicing processes. E-invoicing efficiency increased further with business size throughout our sample. Medium-sized businesses benefitted from accounts payable productivity increases of 19.6 minutes, whilst large businesses were able to

¹² It is important to emphasise that these figures reflect time savings for each individual invoice across the business (all individuals involved with the invoicing process), as opposed to per-person time savings. It encompasses a broad range of tasks as detailed in Figures 16 and 17.



leverage this technology particularly effectively to drive invoicing productivity increases of 23.3 minutes per invoice received.

Looking across markets, e-invoicing technology delivered the strongest benefits to accounts payable processes in Australia, France and the US. Invoicing time savings in the former amounted to 25.2 minutes, whilst French and US firms both enjoyed productivity gains of over half an hour per invoice received. Indian firms appeared to benefit least from e-invoicing technology as their accounts payable productivity improved by just 6.8 minutes, with only large firms experienced stronger benefits than this at a rather modest 7.0 minutes per invoice. Delving further into business size breakdowns, time savings grew extensively to 54.4 minutes per invoice in large French businesses, while this trend was inversed in the US market. Interestingly, despite global patterns of e-invoicing impacts intensifying with firm size, small-and medium-sized US businesses benefitted most from the technology, seeing productivity gains of 30.6 and 34.2 minutes per invoice respectively.



Figure 16: E-invoicing time differential versus manual invoicing for accounts payable, by type of task and market, minutes

Source: Opinium, Cebr Analysis

Emulating trends in accounts payable, firms across major global markets have seen significant improvements to their accounts receivable processes when employing e-invoicing. This technology drives productivity gains particularly by mitigating the additional administration that businesses undertake after issuing invoices (through chasing payments and further queries), decreasing time requirements for this specific task by 13.7 minutes. E-Invoices are also approximately 4 percentage points less likely to require additional administration work than the manual invoice equivalents. Businesses reported further substantial productivity gains embedded within the preparation and delivery stages of issuing invoices, measuring 5.0 and 4.5 minutes respectively.





Figure 17: E-invoicing time differential versus manual invoicing for accounts receivable, by type of task and market, minutes

Source: Opinium, Cebr Analysis

The benefits of e-invoicing in business' accounts receivable processes were particularly pronounced in Germany and France but proved strongest in Australia. Firms here reported overall time savings of 27.6 minutes for the average invoice, as e-invoicing reduced the time requirements of invoice delivery alone by over 9 minutes. Following from accounts payable trends, accounts receivable benefits were again weakest in India, although productivity gains in small businesses were much stronger at 25.7 minutes saved per invoice. Overall, large businesses benefitted especially from this technology, delivering time savings of 23.4 minutes compared to manual invoicing. These trends were captured in Germany where e-invoicing drove the greatest productivity gains in large firms, equivalent to over 26 minutes per invoice.

4.1.2 Improved e-invoicing productivity is reflected strongly in business satisfaction with the technology

Firms' perceptions around the efficiency, financial cost and ease of the e-invoicing process were comprehensively positive throughout our global sample. Over two-thirds of businesses reported satisfaction with both the financial cost and ease of e-invoicing, as over a third of firms were 'extremely satisfied' with both aspects. Although being offset marginally by some negative sentiment, this produced very strong net satisfaction rates that were particularly positive for the training and skill requirements of e-invoicing, measuring over 52%.¹³ Given that financial cost is often cited as a significant barrier to e-invoicing adoption, overwhelmingly positive business sentiment here indicates a powerful rejection of this hypothesis.

¹³ Net satisfaction rates are calculated by taking all 'satisfied' answers as positive and all 'dissatisfied' as negative, then summing for each option, to present a net, aggregate perspective that facilitates comparison between answers.





Figure 18: Business satisfaction with e-invoicing, various aspects of the invoicing process

Source: Opinium, Cebr Analysis

Delving into country-specific results uncovers further positive perceptions around the time requirements of e-invoicing, corroborating the quantitative evidence presented above. E-invoicing efficiency produced a net satisfaction rate of 51.7% within the global sample, encapsulating over one-third (34.8%) of firms that reported they were extremely satisfied with time requirements of the technology. Business sentiment was particularly positive in the US and India, who recorded net satisfaction rates of 55.7% and 68.0% respectively. This perspective reconciles with significant E-invoicing productivity gains observed in the US, particularly on the accounts payable side, but interestingly over half (50.2%) of Indian firms were extremely satisfied with e-invoicing efficiency despite rather modest time savings relative to other markets. Conversely, despite Australia benefitting from some of the most substantial quantitative time savings, this is only somewhat reflected in business satisfaction rate with e-invoicing efficiency despite precedent in the usiness satisfaction results. Nevertheless, Australian firms exhibited a reasonably strong net satisfaction rate with e-invoicing efficiency of 43.3%.



Figure 19: Business satisfaction with the time requirements and efficiency of e-invoicing, by market

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4.2 E-invoicing impacts on firm-level productivity

4.2.1 E-invoicing efficiency drives monetary productivity improvements for each individual invoice

Time saving and efficiency improvements delivered by e-invoicing translate to significant monetary productivity gains at a per-invoice level. Figure 20 compares per-invoice monetary productivity improvements across accounts payable and receivable, in consistent USD terms across all six markets. This is estimated by considering the relative per-invoice time saving associated with e-invoicing, then considering the value of this time, based upon the average hourly wage of the individual with responsibility for undertaking the task. Calculation of monetary productivity gains therefore operates under the assumption that time savings from e-invoicing technology are reallocated to other productive uses and tasks.

Looking initially at both accounts payable and receivable together, Figure 20 illustrates substantial per-invoice monetary productivity gains across the vast majority of markets surveyed. Country-level trends largely continue from the time saving perspective, with the US, France and Australia benefitting most from the technology, as overall invoicing benefits are strongest in the latter. Implementation of e-invoicing technology in Australian firms delivers a monetary productivity value of \$12.27 and \$13.67 for each invoice received and issued respectively.



Figure 20: Monetary productivity value of e-invoicing on a per-invoice level, AR&AP across all market, \$, 2025 prices

Source: Opinium, Cebr Analysis, US BEA, ONS, Destatis, INSEE, MoSPI, Australian BoS

E-invoicing drives significant monetary productivity savings within firms' accounts payable processes throughout all markets surveyed. Although the absolute monetary value of these savings is lower in India, this likely reflects broader economic factors such as lower average wages as opposed to reduced effectiveness of e-invoicing technology itself. The US benefits from the most valuable savings across different markets at over \$15 per invoice received for the average business, increasing even further to \$16.89 per invoice in medium-sized businesses.



Monetary productivity gains were rather consistent between business sizes in the US, but as seen in Figure 21, in other markets larger firms tended to benefit most from implementing the technology into their accounts payable processes. This was most pronounced in France, as despite a strong average productivity improvement worth \$11.13 per invoice, this value more than doubled to a substantial \$24.17 per invoice in large businesses. These trends were emulated in the UK and Australia where large businesses benefitted from a productivity improvement worth \$11.01 and \$13.91 respectively per invoice received.



Figure 21: Monetary productivity value of e-invoicing on accounts payable processes at a per invoice level, across all business sizes in selected markets, \$, 2025 prices

Whilst accounts payable accounted for stronger productivity gains in the US and France, einvoicing delivered greater benefits through accounts receivable processes in the majority of markets surveyed. For Indian firms, e-invoicing productivity improvements were twice as strong in accounts receivable than accounts payable, amounting to \$1.30 per invoice on average and increasing to \$2.03 in small businesses. Germany also benefitted from valuable accounts receivable productivity gains that increased in value with business size, measuring \$9.90 per invoice in medium firms and as much as \$12.10 in their larger counterparts.

4.2.2 Per-invoice productivity gains translate to significant financial benefits for businesses on an annual basis

E-invoicing productivity benefits accumulate across invoicing processes, firm activity and time to drive substantial benefits for entire businesses. Under the scenario of expanding to full e-invoicing coverage (adopting the technology throughout all invoicing), the average US firm could expect to derive productivity benefits worth over \$1.1m on an annual basis, relative to the baseline scenario of current levels of adoption. This represents the aggregation of both accounts payable and receivable benefits, but in line with per-invoice trends, the vast majority of this total (68%, \$753,100) is delivered through productivity gains on the accounts payable side.



Source: Opinium, Cebr Analysis, US BEA, ONS, INSEE



Figure 22: Total per-business monetary productivity benefit of increasing to full e-invoicing adoption, annual basis, across all markets, \$, 2025 prices

Full e-invoicing adoption delivers similarly substantial benefits to firms across all other markets, but monetary productivity improvements are weighted more towards the accounts receivable side. As displayed in Figure 22, the average business in Germany, Australia and UK could expect full e-invoicing adoption to deliver annual productivity benefits of \$493,900, \$649,200 and \$584,600 respectively, with over half of these benefits materialising on the accounts receivable side.

Despite the weaker per-invoice monetary benefits relative to other markets identified above, the substantial volume of invoices processed by Indian firms drives significant accumulation of these benefits to produce per-business benefits that somewhat catch up with other markets For example, Indian e-invoicing benefits are just 9% of those in France on a per-invoice level but 29% on a per-business level. In the same vein, the relatively low invoice volumes processed by French firms is a significant driver of per-business benefits ranking rather poorly, in spite of strong improvements at per-invoice level.

Substantial increases in invoicing volumes by firm size drive substantial increases in the monetary benefits of full e-invoicing adoption. Figure 23 visualises increasing benefits by firm size in three major markets as this trend, along with annual benefits exceeding \$1m in the average large business, was observed across all six countries surveyed. Reflecting their significantly greater volume of invoices processed, the benefits of full e-invoicing adoption are much more pronounced in larger US firms at approximately \$1.81m per business per year. In relative terms, this trend was most evident in France, where the potential annual benefits of full e-invoicing adoption in large businesses exceeded the whole sample average by a factor of 3.3.

As shown in Figure 23, some markets even exhibited negative annual benefits in small businesses, due to this subsample reporting greater time requirements for e-invoicing than manual invoicing. This potentially indicates that either smaller businesses may need additional support to properly leverage and derive financial benefit from this technology, or this may simply be a function of lower sample sizes within the survey, when segmenting by business size within each market.



Source: Opinium, Cebr Analysis, US BEA, ONS, Destatis, INSEE, MoSPI, Australian BoS



Figure 23: Total per-business monetary productivity benefit of increasing to full e-invoicing adoption, across firm sizes in selected markets, \$, 2025 prices

Accounts Payable
Accounts Receivable

Source: Opinium, Cebr Analysis, US BEA, ONS, INSEE

4.3 Economy-wide productivity impacts of e-invoicing adoption

4.3.1 Productivity improvements across accounts payable and receivable deliver substantial uplifts at economy-wide level

Consolidating per-business productivity benefits, e-invoicing technology drives substantial economy-wide impacts across the major global markets we analysed. We modelled full adoption of this technology within invoicing processes and B2B transactions versus the baseline of current adoption rates. This delivers productivity improvements throughout private sector businesses, which at an aggregate level generates Gross Value-Added (GVA) impacts exceeding \$10bn in all economies surveyed, except for India. These GVA figures conceptually represent the benefit to the wider economy within each market, as a result of enhanced productivity facilitated by e-invoicing.

Aside from the US, impacts appear to show relatively little correlation with the scale of the wider economy in each market. E-invoicing generates the second and third largest GVA impacts in France and Australia respectively, the two smallest economies of those surveyed in total GDP terms. Total GVA figures represent an aggregation of accounts payable and receivable productivity benefits, as the US and India represent the two most unevenly distributed total impacts, weighted towards accounts payable and receivable respectively. Total impacts in all other markets are weighted largely evenly across invoicing types.



Figure 24: Total economy-wide GVA impacts of full e-invoicing adoption, by market, \$m, 2025 prices

Source: Opinium, Cebr Analysis, US BEA, ONS, Destatis, INSEE, MoSPI, Australian BoS

Owing to a combination of very strong per-business e-invoicing benefits and a substantial business population, economy-wide benefits in the US far outweigh those in any other market. Figure 24 illustrates this in more detail, as full e-invoicing adoption throughout B2B transactions and the business economy would deliver substantial GVA impacts of \$116.2bn per year. Almost two-thirds, or \$75.8bn of these impacts are delivered through productivity improvements on the accounts payable side, whilst over \$40bn of GVA impacts are still derived from the accounts receivable process.

A significant proportion of total US impacts (83.4% or \$96.9bn) are generated through small and medium sized businesses, as despite more modest per-business e-invoicing productivity benefits, these subgroups make up the vast majority of the US business population. This signifies that although greater invoicing volumes dictate greater benefits for larger firms on an individual basis, e-invoicing may have a more transformative effect in the US through the sheer accumulation of per-business impacts in their small and medium-sized counterparts. Despite this, the total GVA impacts from large US businesses (\$19.3bn) still exceed economy-wide impacts in four out of the five other markets surveyed.



Figure 25: Total economy-wide GVA impacts of full e-invoicing adoption in the US, by invoicing type and business size, \$m, 2025 prices

Source: Opinium, Cebr Analysis, US BEA

Cebr

4.3.2 Significant economic impacts are observed across all markets surveyed, with varying distribution by invoicing type and business size

Although the US represents somewhat of an outlier in the scale of e-invoicing benefits, substantial economic impacts were observed within all other markets surveyed. Total GVA generated by full e-invoicing adoption ranged from \$3.7bn in the UK up to \$17.0bn in France, and was again particularly significant in Germany and Australia. This reflects our modelling approach and the fact that total e-invoicing impacts were also a function of variables such as current (baseline) e-invoicing adoption and per-business impacts, specifically their composition by business size.¹⁴ Total e-invoicing impacts were largely balanced between accounts payable and receivable, as no persistent pattern emerged across different countries of a more dominant component of the two.

Figure 26 visualises a rather varied composition of accounts payable impacts across different economies. Of this subset of markets (excluding the US), France benefits from the strongest economy-wide GVA impacts of implementing e-invoicing across accounts payable processes (\$9.9bn), a significant majority of which are generated within small businesses. Deviating from this business size trend however, accounts payable impacts in both the UK and Australia can be predominantly attributed to large businesses, at \$5.8bn and \$5.9bn respectively,¹⁵ whilst economy-wide impacts have a more diverse composition by business size in India and

¹⁴ To illustrate this we can examine the case of France, a country with one of the smallest economies and business populations of markets we surveyed. Despite France also displaying rather modest per-business impacts, the fact that these impacts were very favourable in small businesses was a significant driver of strong economy-wide impacts, as small firms constitute the vast majority of overall business population. UK and Germany exhibited negative per-business impacts in small businesses which therefore inhibited economy-wide impacts in these two markets.

¹⁵ Total accounts payable impacts across all business sizes in the UK are offset slightly by negative impacts in small businesses, due to negative E-invoicing time savings that are touched on in Section 4.2.2. This explains why large business impacts in the UK exceed overall impacts across all business sizes.

Germany. At a higher level, accounts payable is also responsible for the majority of total GVA impacts in Australia and France.¹⁶

Figure 26: Total economy-wide GVA impacts of full e-invoicing adoption within the accounts payable process, by business size and market, 2025, \$m



Source: Opinium, Cebr Analysis, ONS, Destatis, INSEE, MoSPI, Australian BoS

Figure 27 illustrates that whilst also rather unevenly distributed by business size, the composition of economy-wide accounts receivable benefits largely emulates the accounts payable perspective. Accounts receivable is a significant driver of economy-wide e-invoicing benefits in India, constituting almost 70% of total GVA impacts, but these impacts display a rather similar distribution across business size as accounts payable benefits. Mirroring the trends and underlying rationale in the US, over two-thirds of economy-wide GVA impacts in India are generated by productivity gains in small businesses.

Similarly to accounts payable, large businesses are responsible for the majority of economywide e-invoicing benefits in both the UK and Australia. In these two countries, the scale of perbusiness e-invoicing productivity benefits in large firms (across both aspects of invoicing) outweigh their smaller proportion of the overall business population, to generate this deviation from overall trend.

¹⁶ Due to the structure of official data and subsample size in our survey, small and medium-sized businesses were merged into one category in Australia. Hence here they are presented within the 'medium business' series to align with chart formatting.



Figure 27: Total economy-wide GVA impacts of full e-invoicing adoption within the accounts receivable process, by business size and market, \$m, 2025 prices



Small Businesses Medium Businesses Large Businesses

Source: Opinium, Cebr Analysis, ONS, Destatis, INSEE, MoSPI, Australian BoS



5. Impacts of e-invoicing on late payments and time to pay

5.1 Business perceptions and speed of E-Invoice payments

5.1.1 E-invoicing improves average time to pay and reduces the incidence of late payments throughout all businesses

E-invoicing reduces both the time taken to receive payments for businesses surveyed across all markets and business sizes. Throughout our global sample, utilising e-invoicing technology in place of manual invoicing processes improves the time taken for payments to be received by 1.4 days on average, equivalent to a 5.2% increased speed of payment.

Looking at Figure 28 below, across all markets, e-invoicing had the greatest impact on average time to pay in Australia and the US. The former saw a decrease of 2.5 days in the average time to pay while the latter saw a 2.0-day decrease, equivalent to time savings of 9.9% and 8.0% respectively. These improvements were most significant in Australian small/ medium-sized businesses with a time saving of 14.8%, while a similar trend was observed in the US, where small and medium sized businesses saw the greatest time saving improvements. These trends in Australia and the US were aligned with global patterns of e-invoicing delivering the strongest time to pay improvements in small and medium-sized businesses.



Figure 28: Average time to pay per invoice across all markets, for different types of invoicing, days

Source: Opinium, Cebr Analysis

Compounding our findings on average time to pay, leveraging e-invoicing decreases the proportion of payments that are received late by 0.9 percentage points on average. Figure 29 below illustrates that e-invoicing delivers benefits in incidence of late payments across almost all markets surveyed. Australia and the UK saw the greatest improvements here with reductions of 4.8 and 3.2 percentage points respectively, with large businesses in Australia benefitting even further through a 6.3 percentage point reduction in the proportion of late payments. This aligns with global patterns of the impact of e-invoicing on the proportion of late payments increasing with firm size. Notably, however, small businesses in the UK saw the greatest reduction by 5.3 percentage points, more than double the 2.0 percentage point reduction observed in medium-sized businesses.





Figure 29: Proportion of late payments across all markets, for different types of invoicing, %, difference in ppts

Source: Opinium, Cebr Analysis

Overall, e-invoicing therefore improves both the speed and reliability of payments, but not uniformly across business sizes. Small businesses benefitted most from the technology in terms of the average time to pay, with an improvement in time to pay of 1.9 days or 8.0%. Meanwhile, medium-sized and large business saw the greatest reductions in the proportion of late payments, with falls of 1.0 and 1.1 percentage points respectively. These differing trends by business size could potentially be driven by factors such as buyer relationships or established payment infrastructure. Small businesses saw a much smaller reduction of 0.3 percentage points in their proportion of late payments, suggesting that these businesses experience improved speed of payments but do not see as an equivalent in terms of reliability of payments, as almost one quarter (24.2%) of their invoices are still paid late.

5.1.2 The improvements that e-invoicing delivers in average time to pay and late payment proportions is reflected clearly in business perceptions

Business perceptions around the time taken for customers to pay invoices and the rates of late payments were overwhelmingly positive in our global sample, as seen in Figure 30 below. Over 60% of businesses reported satisfaction with this aspect of e-invoicing as almost one-third (31.0%) of these businesses were 'extremely satisfied'. Robust, positive experiences with e-invoicing technology significantly outweigh any negative sentiment, producing a strong net satisfaction rate of 43.7% across the six diverse markets. On balance, this signifies that this technology notably improves businesses' invoicing experience in terms of both timeliness and reliability of payments.





Figure 30: Business satisfaction with e-invoicing, in terms of the time taken for customers to pay invoices and the rates of late payments

Source: Opinium, Cebr Analysis

Country-specific results further highlight strong positive perceptions in this area, reinforcing the perceived benefits of e-invoicing technology. Business sentiment was extremely positive in India, with a net satisfaction rate of 64.4%, followed by the US with a rate of 49.0%. This perspective aligns with the significant late payments time saving improvements and reductions in proportion of late payments observed in the US when using e-invoicing technology.

Interestingly, nearly half (47.8%) of Indian businesses were extremely satisfied with this aspect of e-invoicing, even with rather modest improvements in time savings relative to most other markets, and an increase in the proportion of late payments. Conversely, despite Australia benefitting the most in terms of both average time to pay and proportion of late payments, this is only somewhat reflected in business satisfaction results as a quarter (25.4%) of businesses reported being extremely satisfied. Nonetheless, Australia closely follows the US with a strong net satisfaction rate of 45.5%.

Firms were even more positive regarding the impact of e-invoicing on customer relationships and communication. Over two-thirds of global businesses reported satisfaction with this aspect, and over one-third of these businesses were 'extremely satisfied', whilst negative sentiment is lower here leading to a strong net satisfaction rate of 51.9% across all markets. These findings suggest that e-invoicing technology also brings with it strong reputational and relationship-building benefits. Delving into country-specific results further validates these benefits as business sentiment was, again, extremely positive across all markets studied. Net satisfaction rates were strongest in India, the US and Australia at 69.6%, 57.2% and 47.6% respectively.





Figure 31: Business satisfaction with e-invoicing, in terms of the impact on customer relationships and communication

Source: Opinium, Cebr Analysis

5.2 Firm-level effects of reduced payment time and late payments

5.2.1 E-invoicing mitigates opportunity costs for each individual invoice received

Improvements in average time to pay generated by e-invoicing technology translate to significant financial benefits, as firms gain earlier access to capital and can then redeploy this on other productive uses that generate returns, such as investment.¹⁷ There is an opportunity cost associated with delayed receipt of payments, therefore we refer to the benefits of e-invoicing here as mitigated opportunity costs, which occur fundamentally at a per-invoice level. Figure 32 compares the mitigated opportunity cost in consistent USD terms across the six markets. The increased speed of e-invoicing payments therefore generates benefits to firms worth between \$0.04 and \$0.24 for each individual invoice.

¹⁷ It is theoretically possible that slower payments under manual invoicing provide a financial benefit to the payer, by allowing them to access capital for a longer period, but we do not factor this into our modelling. This is because the capital is earmarked for invoice payments and so returns to it over that marginal period is assumed to be negligible.





Figure 32: Benefits of e-invoicing through mitigated opportunity cost on a per-invoice level, across all markets, \$, 2025 prices

Source: Opinium, Cebr Analysis, US BEA, ONS, Destatis, INSEE, MoSPI, Australian BoS

Country-level monetary trends largely result from the time saving perspective, with Australia and the US benefitting the most from the technology. Implementation of e-invoicing technology leads to a benefits of \$0.24 for each invoice in both markets through mitigated opportunity cost. At the per-invoice level, the value of benefits in small/medium sized Australian firms and small US firms are even stronger, equivalent to \$3.76 and \$1.48 in mitigated opportunity costs respectively. Despite being positive on balance, per-invoice impacts in France, Germany, India and the UK were relatively modest.

Per-invoice impacts in the US, Australia, and Germany were positive throughout small, medium, and large businesses, demonstrating the effectiveness of e-invoicing in mitigating opportunity costs delivering benefits to all firms in these markets. Across France, India, and Germany medium sized businesses derived the greatest financial benefits from e-invoicing. This is displayed in Figure 33 below, as increased speed of payment versus manual invoicing mitigated opportunity costs of \$0.53, \$0.51 and \$0.21, respectively.

Conversely, negative opportunity cost values were observed within small businesses in India and large businesses in France. These findings are a product of increased time to pay for E-Invoices as opposed to manual invoices in these subsamples, indicating that these businesses may need additional support to derive the full benefits of this technology. On balance, e-invoicing is a broadly effective tool in increasing payment speeds and delivering benefits to firms through mitigated opportunity cost, but impacts vary by firm size and market.



Figure 33: Monetised mitigated opportunity cost from e-invoicing on a per-invoice level, across firm sizes in selected markets, \$, 2025 prices

Source: Opinium, Cebr Analysis, Destatis, INSEE, MoSPI

5.2.2 Mitigated opportunity costs at a per-invoice level build up to significant financial benefits for businesses on an annual basis

The opportunity costs mitigated by e-invoicing accumulate across firm activity and time to generate notable benefits for entire businesses. Under the counterfactual scenario of expanding to full e-invoicing adoption, the average business in the US could experience benefits of \$9,295 on an annual basis through earlier access to capital and the potential returns and investment this facilitates. This is more than double the monetary benefits for the average business in all other with the exception of Australia, as seen in Figure 34.

Figure 34: Monetised mitigated opportunity cost from e-invoicing on a per-business level, across all market, \$, 2025 prices



Source: Opinium, Cebr Analysis, US BEA, ONS, Destatis, INSEE, MoSPI, Australian BoS



Largely indicative of their greater volume of invoices received, the impacts of full e-invoicing adoption are more than 1.5 times greater in larger US firms relative to the average business. Annual benefits of e-invoicing in these firms amount to \$14,149 in mitigated opportunity costs. Figure 35 visualises increasing benefits by firm size in the US, UK and India, as these three major markets notably follow this trend. This trend was most pronounced in the UK, where the potential annual benefits of full e-invoicing adoption in large businesses exceeded the whole sample average by more than double, with a mitigated opportunity cost of \$4,062.



Figure 35: Monetised mitigated opportunity cost from e-invoicing on a per-business level, across firm sizes in selected markets, \$, 2025 prices

Source: Opinium, Cebr Analysis, US BEA, ONS, MoSPI

Negative annual benefits were observed in Indian and UK small businesses, as this finding was more pronounced in the latter. These figures are a function of reported payment times at the per-invoice level, as the small businesses subsample was marginally more likely to report longer payment times for E-Invoices than manual invoicing. Translating these payment time differentials to monetary form and aggregating to the per-business level therefore produces a negative mitigated opportunity cost. This touches on a general trend of weaker e-invoicing benefits in small businesses, potentially indicating that this technology is better leveraged for larger invoicing volumes, or small businesses require more support to benefit from it.

5.2.3 E-invoicing significantly reduces the volume of late payments that firms receive

As discussed previously, e-invoicing not only decreases the average time to pay but also reduces the proportion of late payments that businesses receive. Most notably, on an annual basis, the average business in Australia and the UK benefits from a fall in the total number of late payments by 1,184 and 1,493 respectively. These results are presented in Figure 36 below. Reductions can be seen throughout the majority of markets apart from France and India, that experience increases (negative reductions) in number of late payments, founded in longer times to pay for e-invoices versus the manual equivalent.



Figure 36: Annual reduction in number of late invoices in the scenario of full e-invoicing adoption, across all markets

Source: Opinium, Cebr Analysis

Figure 37 visualises the volume of reduced late payments by business size across three of our major markets surveyed. This highlights a rather uneven distribution of reduced late payments across business size, with large businesses in Australia experiencing an annual reduction of 3,736 late payments as opposed to a reduction of only 41 late payments in their small/medium-sized counterparts. The UK exhibits similarly strong impacts in large businesses as e-invoicing reduces the volume of late invoices by a factor 2.2 times the overall average. Nonetheless, it is crucial to contextualise these figures in line with total invoices processed in each subsample. Despite the seemingly large disparity in absolute terms, the reduced number of late invoices in Australian business ranges between just 1.9% and 2.5% of total invoices processed, across business size categories.



Figure 37: Annual reduction in the number of late invoices in the scenario of full e-invoicing adoption, across all firm sizes in selected markets



Analogous to the France and India all-business results, small and medium-sized US businesses see an increase in the number of late payments annually. These subsamples reported a greater proportion of late payments for e-invoicing compared to manual invoicing, suggesting that these businesses may be facing barriers that limit or even reverse the expected benefits. Larger firms in Australia, the UK, and the US appear better positioned to leverage e-invoicing technology to effectively reduce the number of late payments, perhaps due to their scale and infrastructure.

5.3 Economy-wide impacts of reduced payment times

5.3.1 Mitigated opportunity costs deliver substantial cost savings at the economy-wide level

Aggregating per-business mitigated opportunity costs, e-invoicing technology drives significant economy-wide impacts across several of the major global markets we analysed. Full adoption of this technology within accounts receivable and B2B transactions generates improvements to payment speed throughout private sector businesses, delivering economic benefits at an aggregate level through mitigated opportunity costs. These benefits apply to all markets, with the exception of the UK, due to a combination of a notable negative per-invoice opportunity cost and relative scale of UK business population across business size categories.

Total economy-wide impact is an increasing function of business population and the mitigated opportunity cost per business. Therefore, Table 1 shows the impacts are greatest in the US, continuing trends from the per-business findings to the economy-wide level, generating economy-wide benefits of \$1.4bn. These economy-wide impacts of e-invoicing through reduced payment times overshadow benefits observed in any other market. Total mitigated opportunity costs exceed that observed in Australia by a factor of 3.5 and those in any other market by more than a factor of 19. A significant proportion of total US mitigated opportunity costs (75.8% or \$1.1bn) are attributed to small businesses, as despite lower mitigated opportunity costs at the per-business level, this subgroup makes up over 90% of the US business population.

	US	UK	Germany	France	India	Australia
Small Businesses	1,059	-69	0	36	-39	0
Medium Businesses	258	7	65	39	35	393
Large Businesses	81	16	4	-3	10	7
Total	1,398	-46	70	73	6	400

Table 1: Economy-wide benefits of full e-invoicing adoption through mitigated opportunity costs, by firm size and market, \$m, 2025 prices

Source: Opinium, Cebr Analysis, US BEA, ONS, Destatis, INSEE, MoSPI, Australian BoS

Analogous to US findings and their interpretation in the productivity analysis, this implies that although greater invoicing volumes lead to larger mitigated opportunity costs for large firms on an individual basis, e-invoicing may again have a greater effect in the US through the accumulation effects of per-business cost savings in small businesses. Despite this, the total mitigated opportunity costs for both medium and large sized US businesses (\$258m and \$81mn, respectively) still exceed the total economy-wide mitigated opportunity costs in four out of the five other markets in our sample.

5.3.2 Economy-wide impacts are observed across other markets surveyed, with varying distribution by business size

Although the US represents somewhat of an outlier in the scale of benefits delivered through e-invoicing reducing payment times, substantial cost savings were observed within other markets including Australia, Germany, and France. Excluding the UK, mitigated opportunity costs generated by full e-invoicing adoption ranged from a relatively modest \$6mn in India to \$400mn in Australia, demonstrating relatively little correlation with economy or business population size. This reflects other variables that were important to our modelling approach, particularly current (baseline) rates of e-invoicing adoption, time to pay differentials and perbusiness impacts.

Table 1 also shows that while smaller businesses contribute to most of the total mitigated opportunity cost in the US, this business size trend is mostly unseen in other markets. Impacts in Germany and India are generated predominantly through medium-sized firms, with cost savings of \$65mn and \$35mn respectively, whilst France has an almost equal split of contributions between small and medium-sized firms. In Australia, small and medium-sized firms (combined in our sample) contribute almost entirely to the total mitigated opportunity cost.



6. Mitigating fines and fraud through einvoicing

6.1 The prevalence and costs of invoice-related fines and fraud

6.1.1 Invoice-related fraud and fines are rather commonplace amongst firms in our sample, but prevalence decreases with e-invoicing adoption rates

Invoice-related tax fines and fraud impacted a relatively significant proportion of businesses in our sample, with the former proving a more widespread issue. During the last year over two-fifths (44.1%) of firms in our sample had experienced tax fines due to non-compliance of invoicing practices with regulations, whilst just over one-third (34.1%) had suffered from invoice-related fraud incidents. Invoice-related tax fines proved more prevalent than fraud throughout all countries surveyed. Looking across markets, these invoice related incidents were experienced particularly broadly in India, with 72.7% and 48.8% of firms suffering from tax fines and fraud respectively. Firms in US and France appeared to be less affected as incidence rates for both tax fines and fraud were below the sample average.



Figure 38: Prevalence of invoice-related tax fines and fraud, across all markets

Source: Opinium, Cebr Analysis

Disaggregating our sample by e-invoicing adoption uncovers interesting trends that potentially signify the benefits of this technology. Figure 39 visualises the prevalence of both invoice-related tax fines and fraud, broken down by the average share of e-invoicing throughout the sample.¹⁸

18 For invoice-related tax fines, average E-Invoicing share for invoices issued is used here, whereas for invoice-related fraud we take the average E-invoicing share of invoices received.







Prevalence of both invoice-related issues peaks towards the middle of the e-invoicing distribution, as rates of tax fines are highest in business with e-invoicing shares of 21-40%, whilst maximum rates of fraud occur in the 61-80% average e-invoicing share group. Conversely, incidence rates are actually lower in business who undertake almost exclusively manual invoicing (1-20% E-invoicing share). This could potentially reflect a number of underlying causes, such as: majority manual invoice businesses having a greater propensity to apply more caution and rigour to the invoicing process, or being more likely to process more simplistic transactions and invoice requirements.

Nevertheless, businesses who exclusively use e-invoicing experience significantly fewer invoice-related issues than other subgroups, as the prevalence of both tax fines and fraud measured approximately 20%. These trends are indicative of the improved data and information security offered by e-invoicing and tangible improvements the technology can deliver in mitigating these issues.

6.1.2 Invoice-related fines and fraud carry significant annual costs to the average business

The costs of invoice-related fines and fraud represent notable burdens on the average business' annual balance sheet. The average annual cost throughout all businesses in our sample, including firms who do not experience these issues, amounts to \$23,500 and \$18,100 for tax fines and fraud respectively. Given average costs are partly a function of the incidence of these issues, trends here largely emulate those observed in the prevalence data. Average cost of invoice-related tax fines exceeds the equivalent value for fraud in our overall sample and throughout all markets surveyed. Costs are most severe in India, at \$41,300 and \$28,400 for tax fines and fraud respectively, whilst cost of tax fines also exceeds the overall sample value in the UK at over \$25,000. Firms in both France and Australia enjoy particularly low costs across both issues.



Source: Opinium, Cebr Analysis



Figure 40: Average annual cost of invoice-related tax fines and fraud across all markets, \$, 2025 prices

Source: Opinium, Cebr Analysis

The severity of invoice-related tax fines and fraud grows with business size across almost all markets in our sample. Despite larger businesses having highly developed processes and governance in place to mitigate these issues, substantially increased average costs are very likely a product of substantially increased volumes of invoices that these firms process, relative to their smaller counterparts. Figure 41 visualises the distribution of average costs by business size across our overall sample and two major markets. Across the three samples, annual costs of tax fines and fraud in large businesses are between a factor of 1.9 to 2.4 times greater than their small counterparts. However, when these absolute cost figures are expressed relative to total invoicing volume or turnover, these disparities are eroded.



Figure 41: Average annual cost of invoice-related tax fines and fraud, across business sizes in selected markets, \$, 2025 prices

Source: Opinium, Cebr Analysis

6.2 Business perceptions around the impacts of e-invoicing on fines and fraud

6.2.1 Business perceptions indicate that e-invoicing delivers notable improvements in data and information security

Business perceptions around the strength of invoicing data and information security are notably more positive for e-invoicing relative to manual invoicing. Over two-thirds (68.5%) of businesses reported positively on security and less than 10% expressed any negative sentiment when using e-invoicing processes. Conversely, for manual invoicing processes less than three-fifths (59.4%) reported strong perceptions around data and information security, and a larger proportion of 13.2% believed their invoicing processes could be vulnerable. As seen in Figure 42, the relatively superior experience with e-invoicing produces a strong net balance score of 58.9%, surpassing the 46.2% equivalent score in manual invoicing. Interestingly, the overall difference in perceptions between invoicing types is almost entirely driven by business being significantly more likely to perceive e-invoicing as 'very strong'.



Figure 42: Business perceptions around the strength of information and data security, across e-invoicing and manual invoicing

Source: Opinium, Cebr Analysis

Data and information security of e-invoicing proved superior across almost all markets surveyed. Figure 43 visualises this trend in the US, UK and Australian context, as net balance scores were at least 16 percentage points stronger for e-invoicing across these three major markets. Following from the overall sample trend, differences in these scores were again primarily driven by businesses being far more likely to perceive e-invoicing security as 'very strong' than the manual equivalent. India represented the only market surveyed in which perceptions of data and information security were not improved for e-invoicing. Differences here were negligible however as only 0.4 percentage points separated net balance scores across the two invoicing types.



Figure 43: Business perceptions around the strength of information and data security, across e-invoicing and manual invoicing in selected markets

Source: Opinium, Cebr Analysis



6.2.2 E-invoicing also scored very highly amongst firms in terms of fraud protection and tax compliance

Delving further into specific elements of the invoicing process, e-invoicing technology yielded very positive perceptions around protection from fraud and exploitation. As displayed in Figure 44 below, more than 70% of businesses reported satisfaction with this aspect of e-invoicing, as over one-third (36.9%) of businesses were 'extremely satisfied'. Strong positive experiences with the technology produce a high overall net satisfaction rate of 55.3%, and notably net rates exceeded 40% in all countries. These findings suggest that business trust in e-invoicing processes is high across these markets, reinforcing the technology's role as a secure platform for financial transactions globally.

Strong positive perceptions are further validated when exploring country-specific results. Indian business sentiment was remarkably more positive than other markets, reporting a net satisfaction rate of 76.9%. Although not as high, the US and Australia also saw strong net satisfaction rates of 64.0% and 57.7% respectively.



Figure 44: Business satisfaction with e-invoicing across all markets, in terms of protection from fraud and exploitation

Source: Opinium, Cebr Analysis

Firms were similarly very positive around the effectiveness of e-invoicing for compliance and transparency with tax bodies, avoiding fines and audits as a result. Nearly 70% of global businesses expressed satisfaction in this area, and relative to the impacts on fraud, an even greater proportion of firms (37.2%) were extremely satisfied. Despite negative sentiment being relatively higher than for the fraud aspect, the overall net satisfaction rate produced remains strong at 51.7%. Figure 45 delves further into business responses and uncovers very positive business sentiment in each individual market. Net satisfaction rates again proved strongest in India, Australia and the US at 74.1%, 63.0% and 52.9% respectively.



Figure 45: Business satisfaction with e-invoicing across all markets, in terms of compliance and transparency with tax bodies

Source: Opinium, Cebr Analysis

6.2.3 E-invoicing generates material improvements in the incidence at which firms suffer from fines, fraud and security issues

Survey responses unequivocally indicate a reduction in invoice-related fines, fraud and security issues after e-invoicing adoption. Figure 46 visualises significantly improved outcomes across four major types of invoicing issue. E-invoicing was observed to have the strongest effects in mitigating lost invoices, with 55.8% of businesses reporting an overall reduction in incidence as 39.4% experienced much lower frequency, producing a strong net improvement in frequency of 40.0%.



Figure 46: Changes in frequency of key issues experienced by businesses since introducing e-invoicing



Although slightly less pronounced, the positive impacts of e-invoicing other major invoicerelated issues were also significant. On balance, e-invoicing adoption reduced the frequency at which firms suffered from tax fines, invoice related fraud and information/data breaches, generating net improvements in the incidence of these issues of 26.7%, 29.7% and 29.7% respectively. These findings demonstrate that positive business perceptions of e-invoicing data and information security are driven by the tangible improvements that the technology delivers across various invoice-related issues.



7. Appendix

7.1 Business size categories in each market

In order to generate more granularity in both our modelling approach and analysis of findings, businesses were disaggregated by size according to number of employees. Conceptually, this disaggregation was also driven by broader e-invoicing research suggesting that experiences with the technology differed significantly according to business size, which our findings also corroborated. Business size categories were therefore constructed for each market individually, and differed slightly within each one in order to align with classifications and official data availability within the market. In some cases, construction of categories also took our survey sample size into consideration, to generate sufficient subsample size for analysis. Table 2 below sets out business size categories in detail for each market; for the our overall analysis, business size categories align with those in the UK, France and Germany.

Market	Small Businesses	Medium Businesses	Large Businesses
US	10-99 employees	100-499 employees	500+ employees
UK	10-49 employees	50-249 employees	250+ employees
France	10-49 employees	50-249 employees	250+ employees
Germany	10-49 employees	50-249 employees	250+ employees
Australia	10-199 employees	10-199 employees	200+ employees
India	10-99 employees	100-499 employees	500+ employees

Table 2: Business size categories across all markets in our sample

¹⁹ Small and medium categories are merged in Australia, due to the structure of official data and survey subsample sizes.



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