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Digital Entrepreneurship Policy in Korea, Japan, China, the United Kingdom, the United States, France and Germany, 2024

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Governments of the Republic of Korea, Japan, the People's Republic of China, the United Kingdom, the United States, France and Germany, with their legislatures, the Organization Department of the Party's Central Committee and the Office of the Central Cyberspace Affairs Commission in China, the SEC, the FCC, the CFPB and the Federal Cartel Office

Summary: This report reviews the digital entrepreneurship policy that the governments of Korea, Japan, China, the United Kingdom, the United States, France and Germany set out from January to December 2024 in six domains — regulation and law, finance, culture, support, human capital and markets — and analyses it in its context, against theory and in practice. AI and data organised the year's policy: a framework act passed by Korea's legislature, guidelines in Japan, data regulations in China, rules for federal agencies in the United States and platform rules in Japan, the United Kingdom and Germany. The best measures paid for scarce inputs through competitive calls, opened public markets to innovative products and to small or young suppliers, or let founders in on the strength of their business; the worst cut budgets for digital programmes, raised the cost of skilled hires from abroad or offered founders announcements. Much of the year's policy was a bill, plan or draft at its end, and governments reported outputs rather than effects.

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Digital Entrepreneurship Policy in Korea, Japan, China, the United Kingdom, the United States, France and Germany, 2024

Abstract

This report reviews and analyses the digital entrepreneurship policy of the governments of the Republic of Korea, Japan, the People's Republic of China, the United Kingdom, the United States, France and Germany in their own plans, laws, budgets and announcements. The policies are reviewed in six domains – regulation and law, finance, culture, support, human capital and markets – and analysed in their context, against theories of digital entrepreneurship, platforms, regulation, entrepreneurial finance and policy design, and in practice. AI and data organised the year's policy. Korea's National Assembly passed an AI Basic Act with duties for high-impact and generative AI, not yet promulgated at the end of the year; Japan relied on non-binding guidelines and asked for a bill; China issued data security regulations that will take effect in January 2025 and relaxed its rules on data exports; the United Kingdom kept a regulator-led approach; and the United States set binding rules for federal agencies' own use of AI. Public computing support was aimed mostly at researchers and cloud firms, with Japan's GENIAC, which subsidised computing for developers chosen by open call, the exception. Platform rules advanced in Japan, the United Kingdom and Germany, while Korea dropped its plan to designate dominant platforms in advance. Crypto-asset regimes took shape in Korea, France and Germany. Public purchasing opened to innovative products and to small or young suppliers in Korea, China, Japan and France; Korea opened a visa route for founders and the United States adopted one effective from 17 January 2025, while the United Kingdom raised its salary threshold for skilled workers. Changes and crises of government in Korea, Japan, the United Kingdom, France and Germany left much of the year's policy pending, and governments reported outputs rather than effects. The period covered is January to December 2024.

Keywords

AI law, regulatory sandboxes, data protection, cross-border data flows, computing power, crypto-asset regulation, platform competition, public procurement of innovation, founder visas, digital public services, venture capital

JEL Classification

L26, L86, O33, K24, L51, O38

1 INTRODUCTION

Key findings

- AI and data organised digital entrepreneurship policy in Korea, Japan, China, the United Kingdom, the United States, France and Germany in 2024, but much of it was still a bill, plan or draft at the end of the year.
- AI law diverged. Korea's National Assembly passed an AI Basic Act with duties for high-impact and generative AI, not yet promulgated; Japan relied on non-binding guidelines; China's data security regulations will take effect in 2025; the United Kingdom kept a regulator-led approach; and the United States set rules for federal agencies' own use of AI.
- Public computing support was aimed mostly at researchers and cloud firms: up to JPY 50.1 billion of the maximum JPY 72.5 billion of Japan's cloud subsidies was for one firm. Japan's GENIAC, which subsidised computing for developers chosen by open call, was the exception.
- Platform rules advanced in Japan, the United Kingdom and Germany, while Korea dropped its plan to designate dominant platforms in advance.
- Crypto-asset regimes took shape in Korea, France and Germany, and the United States approved exchange listing of spot bitcoin and ether exchange-traded products.
- Public purchasing opened to innovative products and to small or young suppliers in Korea, China, Japan and France. Korea opened a visa route for founders and the United States adopted one effective from 17 January 2025, while the United Kingdom raised its salary threshold for skilled workers from GBP 26,200 to GBP 38,700.
- An impeachment motion in Korea, a new Cabinet in Japan, a new government in the United Kingdom, three Prime Ministers in France and the dissolution of Germany's Bundestag marked the year; governments reported outputs, not effects.

Digital entrepreneurship depends on data, computing power, rules on algorithms and platforms, and markets reached through platforms that others own. Digital technologies, it has been argued, make entrepreneurial processes and outcomes less bounded (Nambisan, 2017), ecosystems built on digital affordances differ from clusters (Autio, Nambisan, Thomas, & Wright, 2018), and the governance of digital infrastructure is itself a domain of policy (Sussan & Acs, 2017). This report applies the entrepreneurial ecosystem approach (Isenberg, 2011; Stam, 2015) to the digital entrepreneurship policy of Korea, Japan, China, the United Kingdom, the United States, France and Germany in 2024. It asks three questions:

1. What policies did each of these governments set out in each domain of digital entrepreneurship in 2024?
2. How did the policies arise and how were they justified, how far were they valid in theory, and what had they achieved in practice by the end of the year?

3. What were their limitations, and what follows for policy?

The report draws on the policy studies and entrepreneurship literature where it bears on a policy – on problem representation (Bacchi, 2009; Rochefort & Cobb, 1993), digital ecosystems (Sussan & Acs, 2017), platforms (Cutolo & Kenney, 2021), data regulation and sandboxes (Cornelli, Doerr, Gambacorta, & Merrouche, 2024; Jia, Jin, & Wagman, 2021), AI investment (Babina, Fedyk, He, & Hodson, 2024), grants and tax relief (Dechezleprêtre, Einiö, Martin, Nguyen, & Van Reenen, 2023; Howell, 2017) and immigrant talent (Hunt, 2011). Sections 2 to 5 review the policies by domain and country, analyse them, set out their limitations and draw implications.

The report rests on the plans, laws, budgets and announcements of these governments in 2024, including decisions of financial regulators and competition authorities (Table 1). Quotations from sources that are not in English are IFEED's translations.

Table 1: Government plans, laws, reports and announcements reviewed

Subject	Issuing bodies	Date and type	Period covered	Description
Korea				
PPS work plan	PPS	13 February 2024 Press releases	February–December 2024	Innovative products, entry for young firms, e-procurement system.
AI start-up strategy	MSS	10 July 2024 Press release	July 2024	Five high-growth AI fields for start-ups.
Virtual asset user protection	FSC	17 July 2024 Press releases	July–November 2024	Protection of users' assets; unfair trading; committee agenda.
MSS budget and start-up notice	MSS	27 August 2024 Press releases	August–December 2024	Final budget; consolidated start-up support notice.
Platform law direction	KFTC	9 September 2024 Press releases	September–October 2024	Dominant platforms presumed after a violation; settlement deadlines.
AI strategy direction	MSIT	26 September 2024 Press release	September 2024	National AI Committee; computing centre; talent target.
Venture investment plan	MSS	2 October 2024 Plan	October 2024	Global fund of funds, bank risk weights, corporate venture capital.
Startup Korea Special Visa	MSS; MOJ	6 November 2024 Press release	November 2024	Visa for foreign founders assessed by a private committee.
COMEUP 2024 and contests	MSS	25 November 2024 Press releases	January–December 2024	Start-up festival, national contest, youth entrepreneurship schools.
Impeachment of the President	OPC	14 December 2024 Press release	December 2024	Acting presidency after the impeachment motion.
Financial sandbox	FSC	24 December 2024 Press releases	November–December 2024	Cloud software and generative-AI exemptions from network separation.
AI Basic Act	MSIT	26 December 2024 Press release	December 2024	Passage of the Act; duties, support and governance.
Tax amendments	National Assembly	31 December 2024 Acts (amendments)	December 2024	Stock-option relief extended; virtual-asset tax deferred.
Japan				
Start-up procurement rule	Digital Agency	15 January 2024 Guidelines	January–December 2024	Bonus points for young SMEs in system tenders.

Subject	Issuing bodies	Date and type	Period covered	Description
GENIAC	METI	2 February 2024 Press releases	February–October 2024	Compute subsidies for foundation-model developers.
AI and copyright	Agency for Cultural Affairs	15 March 2024 Report, guidance	March–July 2024	Training under the copyright exception and its limits.
DX Selection 2024	METI	19 March 2024 Press release	March 2024	Small and mid-sized firms named as models of digital transformation.
AI Guidelines for Business	MIC; METI	19 April 2024 Guidelines	April–December 2024	Non-binding, risk-based guidance for all AI businesses.
Cloud programme subsidies	METI	19 April 2024 Press release	April 2024	Subsidies for five projects building AI computing capacity.
Innovation strategy	Cabinet	4 June 2024 Cabinet decision	2024	AI governance, skills, start-up targets and visas.
Mobile Software Competition Act	National Diet	19 June 2024 Act	June–December 2024	Duties of designated app stores and operating systems.
Digital-nomad status	Immigration Services Agency	July 2024 Guidance	2024	Six-month stays for remote workers; no work in Japan.
Economic package	Cabinet	22 November 2024 Cabinet decision	November 2024	AI and semiconductor frame; digital government; SME support.
AI Strategy Headquarters	Prime Minister	26 December 2024 Remarks	December 2024	Headquarters of all ministers; an AI bill requested.
Interim report on an AI regime	Cabinet Office	27 December 2024 Draft report	December 2024	Statute plus guidelines; burdens workable for start-ups.
Tax reform outline	Cabinet	27 December 2024 Cabinet decision	December 2024	Abolition of the digital transformation investment tax system.
China				
Government Work Report	State Council	5 March 2024 Work report	2024	AI Plus, data, platforms, budget and entrepreneurial spirit.
Cross-border data flows	CAC	22 March 2024 Rules	March–December 2024	Exemptions and thresholds for data exports.
Digital talent action plan	MOHRSS et al.	2 April 2024 Action plan	April–December 2024	Training, overseas talent and founding by researchers.
Generative-AI filing register	CAC	2 April 2024 Announcement	April–November 2024	Filed models and the duty to show filing numbers.
Cooperative procurement	MOF	24 April 2024 Measures	June–December 2024	Co-development, advance payment and first purchase.
SME digital pilot cities	MOF; MIIT	30 April 2024 Notice	April–December 2024	Second batch of pilot cities, priorities and targets.
Legislative work plan	State Council	6 May 2024 Work plan	2024	Data regulations scheduled; AI law preparatory.
Data Elements X competition	NDA	6 May 2024 Notice	May–October 2024	Contest for data applications; links to investors.
Venture capital measures	State Council	15 June 2024 Policy measures	June–December 2024	Guidance funds, investor tax support and exits.
Funds for the pilot cities	MOF	31 July 2024 Notice	July 2024	Allocation to 28 provincial-level units.

Subject	Issuing bodies	Date and type	Period covered	Description
Data security regulations	State Council	24 September 2024 Regulations	September–December 2024	Training data, large platforms; in force from 1 January 2025.
December session drafts	NPCSC	19 December 2024 Session preview	December 2024	Revision of the Anti-Unfair Competition Law.
Enterprise data opinions	NDA et al.	20 December 2024 Opinions	December 2024	Data rights, vouchers for SMEs, sandbox exploration.
United Kingdom				
Voucher scheme evaluation	DBT	18 January 2024 Evaluation report	January 2024	Uptake and lessons of the closed voucher scheme.
AI regulation response	DSIT	6 February 2024 Command paper	February–December 2024	Regulator-led approach, AI and Digital Hub, funding.
Spring Budget	HM Treasury	6 March 2024 Budget	March 2024	Compute access promised; AI upskilling pilot; taskforce.
Immigration rules	Home Office	14 March 2024 Memorandum	March–April 2024	Higher Skilled Worker threshold; Global Talent evaluation.
Digital markets and competition	Parliament	24 May 2024 Act	May–December 2024	Strategic market status regime for digital firms.
King's Speech	Prime Minister	17 July 2024 Briefing notes	July 2024	Legislative programme, AI legislation promised.
AI Opportunities Action Plan	DSIT	26 July 2024 Terms of reference	July–December 2024	Plan commissioned, including compute for start-ups.
Exascale supercomputer	DSIT	17 September 2024 Written answer	September 2024	No new funding allocated for the exascale project.
Data (Use and Access) Bill	DSIT	23 October 2024 Explanatory notes	October–December 2024	Smart Data schemes and digital verification services.
Autumn Budget	HM Treasury	30 October 2024 Budget	October 2024	Investor reliefs and loans; taskforce extension planned.
Commencement of the Act	DBT	25 November 2024 Regulations	November–December 2024	Digital markets part in force from 1 January 2025.
Crypto-assets and PISCES	HM Treasury	25 November 2024 Speech, response	November 2024	Crypto-asset regime intended; private share market.
Public attitudes to data and AI	DSIT	16 December 2024 Research report	July–August 2024	Awareness, use and views of AI.
United States				
Crypto exchange-traded products	SEC	10 January 2024 Orders	January–December 2024	Spot bitcoin and ether products approved.
NAIRR pilot	NSF	24 January 2024 News releases	January–May 2024	Compute, data and models for researchers and educators.
End of the broadband subsidy	FCC	5 February 2024 Order	January–April 2024	Wind-down for lack of funding; enrolment frozen.
Case against Apple	DOJ	21 March 2024 Complaint	March–December 2024	Alleged monopolisation of smartphone markets.
Agency use of AI	OMB	28 March 2024 Memorandum	March–December 2024	Chief AI Officers and minimum risk practices.
National Small Business Week	President	26 April 2024 Proclamation	April–May 2024	Celebration of entrepreneurs; broadband goal.

Subject	Issuing bodies	Date and type	Period covered	Description
House crypto and tax bills	House	22 May 2024 Bills	January–May 2024	Crypto and tax bills passed by the House.
AI reporting rule	BIS	11 September 2024 Proposed rule	September–October 2024	Reports by developers of the largest models.
AI acquisition memorandum	OMB	24 September 2024 Memorandum	September–December 2024	Competitive AI market; new entrants; open source.
Cybersecurity certification	DoD	15 October 2024 Final rule	October–December 2024	Certification levels for contractors; small-firm costs.
SBIC technology initiative	SBA; DoD	22 October 2024 News release	July–October 2024	Licensed funds with guaranteed leverage.
Financial data rights	CFPB	18 November 2024 Final rule	November–December 2024	Free access to bank data for authorised parties.
H-1B modernisation	DHS	18 December 2024 Final rule	December 2024	Owners may hold H-1B status; from 17 January 2025.
AI task force report	House	December 2024 Report	December 2024	Small-business AI resources; computing and data barriers.
France				
Cancellation of appropriations	Prime Minister	21 February 2024 Decree	February 2024	EUR 10 billion of commitments cancelled.
Tibi initiative	MEFIDS	6 May 2024 Press release	May 2024	Institutional investors' commitments to approved funds.
Law on the digital space	Parliament	21 May 2024 Act	May–December 2024	Cloud credits and switching fees; digital regulators.
AI in the investment plan	SGPI	22 May 2024 Press kit	May 2024	AI clusters, training, compute, calls, SME support.
French Tech Next40/120	Mission French Tech	22 May 2024 Press kit	May 2024	Label and support for 120 growing start-ups.
I choose French Tech	Mission French Tech	23 May 2024 Press kit	May 2024	Public purchasing from start-ups: figures and targets.
Law on business financing	Parliament	13 June 2024 Act	June–December 2024	Multiple-vote shares at first listing.
Draft budget for 2025	MEFI	10 October 2024 Press kit	October 2024	Deficit plan and cuts to the investment plan's mission.
Crypto-asset ordinances	President	15 October 2024 Ordinances	October–December 2024	EU crypto-asset regime applied from 30 December.
Cybersecurity bill	Government (Senate)	15 October 2024 Bill	October–December 2024	Transposition of NIS2; thresholds and fines.
AI use cases and SME guides	MEFI	28 November 2024 Press release	November–December 2024	Showcase of AI uses; France Num guides on AI.
One-stop shop for formalities	MEFI	11 December 2024 Press release	2024	Filings in 2024; sole route from the end of the year.
Changes of government	President	13 December 2024 Decrees	January–December 2024	Three Prime Ministers; dissolution of the Assembly.
Special budget law	Parliament	20 December 2024 Act	December 2024	Taxes collected without a budget for 2025.

Subject	Issuing bodies	Date and type	Period covered	Description
Germany				
National Reform Programme	Federal Government	20 March 2024 Programme	2024	Digital policy status; digital visa procedure.
Growth Opportunities Act	Bundestag	27 March 2024 Act	March–December 2024	Research allowance raised; electronic invoices.
German Digital Services Act	Bundestag	6 May 2024 Act	May–December 2024	Federal Network Agency as coordinator and platform authority.
Research and innovation report	Federal Government	23 May 2024 Report	2024	Future Fund, digital hubs, founding competition.
Growth Initiative	Federal Government	5 July 2024 Policy paper	July 2024	Compute, procurement, venture capital, skilled workers.
Online Access Act amendment	Bundestag	19 July 2024 Act	July–December 2024	Organisation account for firms; once-only rule.
Draft budget for 2025	Federal Government	16 August 2024 Budget bill	August–December 2024	Cuts to digital titles; fund dissolved.
Microsoft decision	Federal Cartel Office	30 September 2024 Press releases	September–December 2024	Paramount significance; merger control of AI deals.
NIS2 bill	Federal Government	2 October 2024 Bill	October–December 2024	Duties for important entities; compliance cost.
Regulatory Sandboxes bill	Federal Government	21 November 2024 Bill	November–December 2024	Sandbox rules and a federal contact point.
Procurement bill	Federal Government	28 November 2024 Bill	November–December 2024	Direct awards to start-ups; young firms.
Financial market digitalisation	Bundestag	27 December 2024 Act	December 2024	EU crypto-asset regulation applied.
Dissolution of the Bundestag	Federal President	27 December 2024 Order	December 2024	Bundestag dissolved on 27 December.

Source: The plans, laws, reports and announcements listed. Periods covered and descriptions: IFEED.

Note: Where a source has several parts, citations name the part (for example, plan or press release) before the page. In China, the digital talent action plan and the enterprise data opinions were issued jointly with organs of the Communist Party of China. Abbreviations: AI, artificial intelligence; BIS, Bureau of Industry and Security; CAC, Cyberspace Administration of China; CFPB, Consumer Financial Protection Bureau; CMA, Competition and Markets Authority; CMMC, Cybersecurity Maturity Model Certification; DBT, Department for Business and Trade; DHS, Department of Homeland Security; DoD, Department of Defense; DOJ, Department of Justice; DSIT, Department for Science, Innovation and Technology; DX, digital transformation; EU, European Union; FCC, Federal Communications Commission; FSC, Financial Services Commission; GDP, gross domestic product; GDPR, General Data Protection Regulation; GENIAC, Generative AI Accelerator Challenge; HM, His Majesty's; ICT, information and communications technology; ID, identification; IPO, initial public offering; IT, information technology; KFTC, Korea Fair Trade Commission; MEFI, Ministry of the Economy, Finance and Industry (name from 21 September to 23 December 2024); MEFIDS, Ministry of the Economy, Finance and Industrial and Digital Sovereignty; METI, Ministry of Economy, Trade and Industry; MIC, Ministry of Internal Affairs and Communications; MIIT, Ministry of Industry and Information Technology; MIS, management information systems; MOF, Ministry of Finance; MOHRSS, Ministry of Human Resources and Social Security; MOJ, Ministry of Justice; MSIT, Ministry of Science and ICT; MSS, Ministry of SMEs and Startups; NAIRR, National AI Research Resource; NDA, National Data Administration; NIS2, EU directive on network and information security; NPCSC, Standing Committee of the National People's Congress; NSF, National Science Foundation; OMB, Office of Management and Budget; OPC, Office for Government Policy Coordination; PISCES, Private Intermittent Securities and Capital Exchange System; PPS, Public Procurement Service; R&D, research and development; RD, regression discontinuity; SBA, Small Business Administration; SBIC, Small Business Investment Company; SEC, Securities and Exchange Commission; SGPI, General Secretariat for Investment; SME, small and medium-sized enterprise; UK, United Kingdom; US and U.S., United States.

2 REVIEW OF DIGITAL ENTREPRENEURSHIP POLICIES

This section reviews the key policies of 2024 in six domains adapted from Isenberg's domains of the entrepreneurial ecosystem (Isenberg, 2011): regulation and law; finance, in grants, funding and financial infrastructure; culture; institutional support; human capital, in education, training and labour; and markets, including initial public offerings and exit. In digital entrepreneurship these domains take particular forms: rules on AI, data and platforms; money for computing power and rules for crypto-assets; digital public services; and public demand for digital products.

2.1 REGULATION AND LAW

Regulation turned on AI and data, from Korea's framework act and Japan's guidelines to China's data regulations and the cloud and cybersecurity rules of France and Germany.

2.1.1 KOREA: THE AI BASIC ACT AND THE FINANCIAL REGULATORY SANDBOX

On 26 December the National Assembly passed the AI Basic Act, which still needed Cabinet approval and promulgation and will take effect after a grace period of one year (MSIT, 26 December 2024, paras 1-3 and penultimate paragraph). It provides for transparency and safety duties and operator responsibilities for high-impact and generative AI (Arts. 31, 32 and 34) and for support for SMEs and start-ups (Arts. 17-18) (MSIT, 26 December 2024, pillars 2-3). The FSC used its financial regulatory sandbox to relax the separation of financial firms' internal networks: on 27 November it let nine financial companies connect 10 cloud-based generative-AI services (FSC, 24 December 2024, release of 9 December, p. 1), and on 24 December it designated 47 services, 29 of them for cloud software on internal terminals, bringing the total to 500 (FSC, 24 December 2024, pp. 1, 3).

This was a mixed policy. The sandbox was good: entry into the United Kingdom's fintech sandbox raised firms' funding and survival (Cornelli et al., 2024), and Korea's exemptions opened financial firms to AI and cloud services. The Act was mixed: it promises support for SMEs and start-ups, but no exemption of small providers from its duties is named, and compliance costs of this kind fall hardest on young and data-related ventures (Jia et al., 2021).

2.1.2 JAPAN: THE AI GUIDELINES FOR BUSINESS AND THE DRAFT INTERIM REPORT ON AN AI REGIME

Japan had no AI statute. The AI Guidelines for Business, issued by MIC and METI on 19 April, merged three earlier guidelines into one non-binding, risk-based text, chosen because detailed duties could hinder innovation; they address every business that develops, provides or uses AI, without separate treatment of start-ups or SMEs (MIC & METI, 19 April 2024, pp. 2-4). A subcommittee of the Agency for Cultural Affairs took the non-binding view on 15 March that training AI falls in principle under the copyright exception, unless it aims to reproduce a creator's expression (Agency for Cultural Affairs, 15 March 2024, pp. 19, 21). A draft interim report of 27 December proposed legislating only where voluntary effort cannot be expected, with burdens workable for businesses of every size, start-ups included (Cabinet Office of Japan, 27 December 2024, p. 10);

the day before, the Prime Minister had announced an AI Strategy Headquarters and asked for a bill (Prime Minister's Office of Japan, 26 December 2024).

This was a mixed policy. Guidelines without duties spared AI start-ups compliance costs, unlike the uniform rules under which investment in young, data-related ventures fell in Europe (Jia et al., 2021), and the copyright view told developers where training is allowed. But the guidelines bound no one, harms were left to voluntary rules, and the regime that would test burdens on start-ups was a draft, so founders gained little legal certainty.

2.1.3 CHINA: THE NETWORK DATA SECURITY REGULATIONS AND THE CROSS-BORDER DATA FLOW PROVISIONS

The State Council's Network Data Security Regulations, signed on 24 September, will take effect on 1 January 2025 (State Council, 24 September 2024, promulgation clause, Art. 64). They will require providers of generative AI to secure their training data, extend the duties for important data to processors of the personal information of 10 million or more people, and bar large platforms from coercive processing of user data and unreasonable differential treatment (State Council, 24 September 2024, Arts. 19, 28, 46). The CAC's provisions on cross-border data flows, in force from 22 March, exempted trade-related exports without personal or important data, exports needed to perform contracts with individuals and exports of the non-sensitive personal information of fewer than 100,000 people a year (CAC, 22 March 2024, Arts. 3, 5). An AI law was only among drafts to be submitted when ready (General Office of the State Council, 6 May 2024, Part I).

This was a mixed policy. The export exemptions removed a fixed cost that falls hardest on young, data-related ventures (Jia et al., 2021), and the platform article will curb large platforms' hold on users' data. But the security duties will apply to every provider of generative AI whatever its size, and uniform rules have favoured the largest firms (Johnson, Shriver, & Goldberg, 2023).

2.1.4 UNITED KINGDOM: THE RESPONSE ON AI REGULATION AND THE DATA (USE AND ACCESS) BILL

The government's response of 6 February to its AI white paper kept a regulator-led approach without general AI legislation for the time being (DSIT, 6 February 2024, pp. 6–7), and funded a pilot AI and Digital Hub of regulators designed to reduce the compliance burden on smaller businesses and start-ups (DSIT, 6 February 2024, p. 61). The King's Speech of 17 July promised legislation on those developing the most powerful AI models but named no AI bill (Prime Minister's Office, 10 Downing Street, 17 July 2024, p. 7). The Data (Use and Access) Bill, introduced in the House of Lords on 23 October, would create powers for Smart Data schemes that extend open banking to other sectors and a statutory framework for digital verification services (DSIT, 23 October 2024, paras 1, 3, 21); it was still in the Lords at the end of the year.

This was a mixed policy. Smart Data and trusted digital identity are part of the digital infrastructure on which, it has been argued, digital ventures rest (Sussan & Acs, 2017), and the regulators' hub addressed small firms' compliance costs. But the AI rules stayed principles and the data bill was not enacted, so founders gained little legal certainty.

2.1.5 UNITED STATES: MEMORANDUM M-24-10, THE PROPOSED AI REPORTING RULE AND THE CMMC RULE

OMB memorandum M-24-10 of 28 March, the first binding governmentwide policy on federal agencies' use of AI, required Chief AI Officers (OMB, 28 March 2024, p. 1), minimum risk practices for safety- and rights-impacting AI by 1 December (OMB, 28 March 2024, p. 15) and the release of custom-developed AI code as open source (OMB, 28 March 2024, p. 12). On 11 September BIS proposed quarterly reports from developers training models above a computing threshold or holding very large clusters, which it expected to cover between zero and 15 well-resourced companies (BIS, 11 September 2024, pp. 73612, 73616); it remained a proposal. DoD's CMMC rule, in force from 16 December, will require defence contractors' cybersecurity to be verified once a separate acquisition rule puts it into contracts (DoD, 15 October 2024, pp. 83092, 83099); 75 % of the 31,338 awardees a year are small, a small firm's Level 2 assessment is put at USD 101,752, and DoD refused small firms a slower phase-in (DoD, 15 October 2024, pp. 83151, 83178, 83185).

This was a mixed policy. The reporting rule was confined by design to the largest developers, sparing small firms. But M-24-10 governed agencies rather than markets, the reporting rule was a proposal, and the CMMC rule will put a six-figure cost on small defence suppliers.

2.1.6 FRANCE: THE LAW TO SECURE AND REGULATE THE DIGITAL SPACE AND THE CYBERSECURITY BILL

Law No. 2024-449 of 21 May to secure and regulate the digital space limits free cloud credits for businesses to a period, to be set by decree, of at most one year, bars tying them to exclusivity, with fines of up to EUR 1 million, forbids switching fees above actual costs and makes the electronic communications regulator the authority for data-intermediation services (Parliament of France, 21 May 2024, Arts. 26-27, 36). The bill transposing the EU's NIS2 directive, tabled in the Senate on 15 October, would raise the number of regulated entities from about 500 to nearly 15,000 (Government of France, 15 October 2024, p. 8), covering firms in critical sectors with at least 50 staff, or turnover and balance sheet above EUR 10 million (Government of France, 15 October 2024, p. 40), with fines of up to EUR 7 million or 1.4 % of worldwide turnover for important entities (Government of France, 15 October 2024, p. 56); it was pending at the end of the year.

This was a mixed policy. The cloud articles target lock-in through which large providers, it has been argued, hold power over dependent firms (Cutolo & Kenney, 2021). But the cybersecurity bill would bring firms of 50 staff or more under duties and fines, in a form unknown at the end of the year.

2.1.7 GERMANY: THE GERMAN DIGITAL SERVICES ACT, THE NIS2 BILL AND THE REGULATORY SANDBOXES BILL

The German Digital Services Act, in force from 14 May, made the Federal Network Agency the coordinator for the EU's digital services regulation and the enforcer of the EU's rules on fairness for business users of online platforms (German Bundestag, 6 May 2024, Art. 37, ss. 14, 22). The government's NIS2 bill of 2 October would cover firms in listed sectors with at least 50 employees, or turnover and balance sheet above EUR 10 million (Federal Government of Germany, 2 October 2024, pp. 35-36), at an estimated cost to business of about EUR 2.2 billion a year (Federal

Government of Germany, 2 October 2024, p. 5). A Regulatory Sandboxes bill of 21 November would ask authorities to weigh innovation in sandbox decisions and create a federal portal, because start-ups and SMEs often lack the capacity to deal with sandboxes (Federal Government of Germany, 21 November 2024, pp. 7–9, 21). These bills were pending when the Bundestag was dissolved on 27 December (Federal President of Germany, 27 December 2024).

This was a mixed policy. The sandbox bill fits the evidence that sandbox entry raised fintech firms' funding and survival (Cornelli et al., 2024), and national enforcement protects firms that sell through platforms. But the sandbox bill was a draft at the dissolution, and the cybersecurity bill would add a recurring cost of about EUR 2.2 billion a year.

2.2 FINANCE: GRANTS, FUNDING AND FINANCIAL INFRASTRUCTURE

Finance took three forms: public money and tax relief for AI and venture investment, budget cuts, and rules for crypto-assets.

2.2.1 KOREA: THE VENTURE INVESTMENT MARKET PLAN AND THE VIRTUAL ASSET USER PROTECTION ACT

MSS's plan of 2 October aimed at making Korea a "global top four" venture-investment power (MSS, 2 October 2024, release, p. 1) through a global fund of funds in Singapore (MSS, 2 October 2024, plan, p. 3), and a cut in banks' risk weight on policy-purpose venture funds from 400 % to 100 % (MSS, 2 October 2024, plan, p. 4). The Virtual Asset User Protection Act took effect on 19 July, protecting users' deposits and crypto-assets and banning unfair trading (FSC, 17 July 2024, p. 1); on 6 November the Virtual Asset Committee put second-phase legislation and stablecoin rules on its agenda (FSC, 17 July 2024, release of 6 November, p. 2). Tax amendments of 31 December extended the exemption of gains of up to KRW 200 million a year from venture-company stock options (National Assembly of Korea, 31 December 2024, Restriction of Special Taxation Act, Art. 16-2) and deferred the taxation of virtual-asset income by two years (National Assembly of Korea, 31 December 2024, Income Tax Act, reasons for amendment), but capped the yearly tax reduction for SMEs founded from 2025 at KRW 500 million (National Assembly of Korea, 31 December 2024, Restriction of Special Taxation Act, Art. 6(13)).

This was a mixed policy. The plan draws private and foreign investors into funds beside public money, the combination that the evidence on government venture capital favours (Brander, Du, & Hellmann, 2015), and stock-option relief helps venture companies pay in equity. But the plan's measures were to come later, stablecoins were left to a second law, crypto taxation stayed unsettled, and the start-up tax reduction was capped.

2.2.2 JAPAN: GENIAC AND THE CLOUD PROGRAMME SUBSIDIES

METI launched GENIAC on 2 February: it procures computing power in bulk and, after an open call and expert review, subsidises its use by developers of foundation models, at two-thirds of the cost for SMEs and one-half for large firms (METI, 2 February 2024, releases of 2 and 16 February); a second round on 10 October added 20 foundation-model themes to the first round's 10 (METI, 2

February 2024, release of 10 October). On 19 April METI decided on subsidies of up to JPY 72.5 billion under the Economic Security Promotion Act for five projects building computing capacity for AI, up to about JPY 50.1 billion of it for Sakura Internet (METI, 19 April 2024, ss. 1-2). The economic package of 22 November set a frame of more than JPY 10 trillion of public support for AI and semiconductors over several fiscal years, partly through financial support that needs a bill (Cabinet of Japan, 22 November 2024, pp. 33, 59).

GENIAC was a good policy: it pays for the scarce input of model development and selects projects by open call, like early-stage grants, whose effect has been found largest for financially constrained firms (Howell, 2017), and it pays SMEs a higher share. The cloud subsidies and the AI frame were a mixed policy: up to JPY 50.1 billion of the maximum JPY 72.5 billion was for one firm, and a frame of this scale is the kind of large state programme that has often failed (Lerner, 2009).

2.2.3 CHINA: THE VENTURE CAPITAL MEASURES AND THE FUNDS FOR SME DIGITALISATION

The 17 measures issued by the General Office of the State Council on 15 June asked venture capital to invest earlier, in smaller firms and in hard technology (General Office of the State Council, 15 June 2024, s. 1). National guidance funds are to work through funds of funds, equity participation and direct investment (General Office of the State Council, 15 June 2024, measure 3); tax support for investors in seed- and start-up-stage technology firms was reaffirmed (General Office of the State Council, 15 June 2024, measure 11), differentiated regulation of venture funds promised (General Office of the State Council, 15 June 2024, measure 12), and firms that break through key technologies are to get “green channels” for listing and mergers (General Office of the State Council, 15 June 2024, measure 14). On 31 July MOF allocated CNY 2.765 billion to 28 provincial-level units for the pilot cities for SME digital transformation (MOF, 31 July 2024, allocation table).

This was a mixed policy. Guidance funds that invest through funds of funds beside private money follow the evidence that public venture capital does best alongside private investors (Brander et al., 2015), and the SME money was allocated within the year. But the measures restated tax relief, deferred regulatory changes and steer capital to technologies that the state selects, although high-growth firms, it has been argued, cannot be picked reliably (Mason & Brown, 2013).

2.2.4 UNITED KINGDOM: THE AUTUMN BUDGET, PUBLIC COMPUTING POWER AND THE CRYPTO-ASSET STATEMENT

The Autumn Budget of 30 October announced the extension of the Enterprise Investment Scheme and Venture Capital Trust schemes and committed over GBP 250 million for the next financial year to the British Business Bank’s small business loans (HM Treasury, 30 October 2024, para. 3.57). The Spring Budget of 6 March had promised to set out later in the year how researchers and innovative companies would secure public computing power (HM Treasury, 6 March 2024, para. 4.55); on 17 September a minister said that the exascale project announced in March 2023 had been allocated no new funding (DSIT, 17 September 2024). On 25 November HM Treasury said that its crypto-asset proposals of 2023 would be implemented in full and that issuing stablecoins would become a

regulated activity, but not one brought into payments regulation “at this time” (HM Treasury, 25 November 2024, speech).

This was a mixed policy. Stable investor reliefs and loans support the private finance that start-ups and scale-ups need, and the crypto statement gave issuers a direction. But no new funding followed for the exascale project, and crypto firms ended the year without rules.

2.2.5 UNITED STATES: THE SBIC CRITICAL TECHNOLOGY INITIATIVE, THE DATA RIGHTS RULE AND THE HOUSE BILLS

On 22 October SBA reported that 13 funds had been approved to be licensed under the SBIC Critical Technology Initiative, planning to raise USD 2.8 billion of private capital, matched with SBA-guaranteed loans, to invest in more than 1,000 start-ups and small businesses (SBA, 22 October 2024, para. 1). The CFPB’s rule of 18 November, effective from 17 January 2025, will oblige banks and other providers, in stages, to give authorised third parties free access to consumer data through interfaces (CFPB, 18 November 2024, pp. 90838–90839). The SEC approved exchange rule changes to list and trade spot bitcoin and ether exchange-traded products on 10 January and 23 May (SEC, 10 January 2024, p. 3008, and order of 23 May). The House passed a bill allowing research and software costs to be deducted at once on 31 January, and on 22 May a crypto bill exempting token offerings of up to USD 75 million a year from registration (United States House of Representatives, 22 May 2024, bill of 31 January, sec. 201, and crypto bill, sec. 301); they were not enacted in 2024.

This was a mixed policy. The SBIC initiative puts public leverage behind privately managed funds, as the evidence on government venture capital advises (Brander et al., 2015), and the data rights rule will open bank data to fintech entrants. But the funds’ capital was planned rather than raised, and the immediate deduction of research costs, a relief that has raised the R&D of smaller firms (Dechezleprêtre et al., 2023), remained a bill.

2.2.6 FRANCE: THE TIBI INITIATIVE, THE AI CALL FOR PROJECTS AND THE CANCELLATION OF APPROPRIATIONS

On 6 May the government reported that 35 institutional investors had committed EUR 7 billion to approved funds under the Tibi initiative (MEFIDS, 6 May 2024, p. 1). The State’s innovation investment plan opened a call to accelerate the use of generative AI in the economy (SGPI, 22 May 2024, p. 25). Ordinance No. 2024-936 of 15 October adapted French law to the EU’s crypto-asset regulation and lets banks refuse accounts to crypto-asset providers only for anti-money-laundering reasons or excessive risk (President of the French Republic, 15 October 2024, Arts. 7, 49). But Decree No. 2024-124 of 21 February cancelled EUR 10 billion of commitment authorisations, EUR 904.2 million of them for research and higher education (Prime Minister of France, 21 February 2024, Art. 1, annex), and the draft budget of 10 October would cut the payment credits of the plan’s budget mission from EUR 7.70 billion to EUR 5.80 billion (MEFI, 10 October 2024, p. 70).

This was a mixed policy. Tibi steers institutional savings into approved private funds, and the AI call selects projects by competition, the support whose effect has been found largest for constrained firms (Howell, 2017). But cancellations and the proposed cut in the plan's payment credits made public money less predictable.

2.2.7 GERMANY: THE RESEARCH ALLOWANCE, THE FUTURE FUND AND THE DRAFT BUDGET FOR 2025

The Growth Opportunities Act of 27 March raised the maximum base of the research allowance from EUR 4 million to EUR 10 million a year, with 10 more percentage points for SMEs (German Bundestag, 27 March 2024, Art. 27). The Future Fund provides EUR 10 billion through KfW and other intermediaries, including a fund of funds of about EUR 1 billion for large institutional investors (Federal Government of Germany, 23 May 2024, p. 101); on 5 July KfW Capital was asked to launch its direct-investments module by the end of 2024 (Federal Government of Germany, 5 July 2024, item 33(b)). The Financial Market Digitalisation Act of 27 December implemented the EU's crypto-asset regulation (German Bundestag, 27 December 2024, Art. 1, s. 1). The draft budget for 2025 would halve the title for developing digital technologies from EUR 148.7 million to EUR 74.8 million (Federal Government of Germany, 16 August 2024, pp. 1109–1110), and the special fund for digital infrastructure had been dissolved on 30 March (Federal Government of Germany, 16 August 2024, memorandum, p. 20).

This was a mixed policy. The higher allowance, with an SME premium, is the kind of tax relief that has raised the R&D of smaller firms (Dechezleprêtre et al., 2023), and the Future Fund pairs public money with institutional investors, as the evidence on government venture capital advises (Brander et al., 2015). But the direct-investments module was a request, and the draft budget would halve support for digital technologies and was not adopted.

2.3 CULTURE

Culture was the thinnest domain: festivals, contests, labels and surveys, but few programmes that change attitudes to founding firms.

2.3.1 KOREA: COMEUP 2024, CHALLENGE! K-STARTUP AND THE YOUTH ENTREPRENEURSHIP SCHOOLS

MSS's start-up festival COMEUP, held on 11–12 December, exhibited about 260 start-ups, more than half of them from abroad (MSS, 25 November 2024, p. 3, and release of 11 December). The national contest Challenge! K-Startup 2024, run jointly by ministries, drew 6,238 teams for 20 final prizes worth KRW 1.5 billion in all, with preferred evaluation in support programmes (MSS, 25 November 2024, release of 12 December). The Youth Management Experience School, which MSS says has reached 950,000 pupils over five years, opened a call in January to select 212 schools for two years of entrepreneurship classes (MSS, 25 November 2024, release of 11 January, p. 1).

This was a mixed policy. A school programme of this reach can spread entrepreneurial attitudes early, and a festival with foreign founders and investors builds the networks and role models through which, it has been argued, an entrepreneurial culture is reproduced (Spigel, 2017). But the

contest rewards a few winners, although high-growth firms, it has been argued, cannot be picked reliably (Mason & Brown, 2013), and MSS reported participants, not effects.

2.3.2 JAPAN: DX SELECTION 2024, J-STARTUP AND THE JAPAN OPEN INNOVATION PRIZE

On 19 March METI named 32 small and mid-sized firms as model cases of digital transformation in DX Selection 2024, now open to nomination across the country (METI, 19 March 2024, ss. 1-2). The Integrated Innovation Strategy of 4 June recorded the award in February of the Japan Open Innovation Prize for role-model efforts, and planned further selections for J-Startup, the government's label for promising start-ups (Cabinet of Japan, 4 June 2024, p. 62).

This was a mixed policy. Model firms, the prize and the J-Startup label provide the role models through which, it has been argued, entrepreneurial culture spreads (Spigel, 2017). But DX Selection honoured established firms rather than founders, the new J-Startup selections were a plan, and no programme was aimed at attitudes to founding digital firms.

2.3.3 CHINA: THE DATA ELEMENTS X COMPETITION AND THE CALL FOR ENTREPRENEURIAL SPIRIT

The Government Work Report of 5 March called for promoting the entrepreneurial spirit and supporting entrepreneurs who focus on innovation and dare to venture (State Council, 5 March 2024, para. 51). The NDA's Data Elements X competition, announced on 6 May, had 12 sector tracks and national finals planned for October (NDA, 6 May 2024, s. III); only projects already in use and producing benefits could enter, and finalists were to be linked to government, industrial and venture capital investors and to banks (NDA, 6 May 2024, ss. V(2), VI(1)).

This was a mixed policy. A competition that links finalists to investors builds the networks through which, it has been argued, entrepreneurial ecosystems work (Spigel, 2017). But the entry rule favoured established products over new ventures, prizes pick winners that, it has been argued, cannot be picked reliably (Mason & Brown, 2013), and the call for entrepreneurial spirit was a statement.

2.3.4 UNITED KINGDOM: THE PUBLIC ATTITUDES TRACKER ON DATA AND AI

DSIT's tracker survey, published on 16 December, found that 96 % of adults were aware of AI and that "scary" was the word most often associated with it (DSIT, 16 December 2024, ss. 7.1-7.2); in its foreword the minister for AI and digital government tied the benefits of data and AI to public trust and to the Data Bill (DSIT, 16 December 2024, s. 1).

This was a poor policy. Measuring public attitudes is a basis for policy on trust in AI, but a survey is not a programme: it offered nothing on attitudes to founding firms or on role models, the relational elements of an entrepreneurial culture (Spigel, 2017).

2.3.5 UNITED STATES: NATIONAL SMALL BUSINESS WEEK

By Proclamation 10733 of 26 April the President declared 28 April to 4 May National Small Business Week, calling on Americans to recognise the contribution of small businesses (President of the United States, 26 April 2024, pp. 34945–34946), and linked entrepreneurship to the aim that every home and business should have affordable high-speed internet by the end of the decade (President of the United States, 26 April 2024, p. 34945).

This was a poor policy. A proclamation celebrates entrepreneurs but offers no programme to change attitudes or to build the networks of an entrepreneurial culture (Spigel, 2017), and its broadband aim sat beside the wind-down of the main federal broadband subsidy (Section 2.4.5).

2.3.6 FRANCE: THE FRENCH TECH NEXT40/120 COHORT AND THE CALL FOR AI USE CASES

The 2024 cohort of the French Tech Next40/120 label, announced on 22 May, groups 120 start-ups that reported more than EUR 10 billion of revenue in 2023 (Mission French Tech, 22 May 2024, p. 11); half the places are now awarded on revenue and half on fundraising, and the firms receive a year of support (Mission French Tech, 22 May 2024, pp. 5, 7). On 28 November the government opened a call for AI use cases in the service of efficiency, to “create a movement” among business leaders through examples of success (MEFI, 28 November 2024, p. 1).

This was a mixed policy. A label with a year of support makes visible the role models that, it has been argued, carry an entrepreneurial culture (Spigel, 2017). But it goes to firms that are already large, and the AI call was to showcase users of AI rather than founders.

2.3.7 GERMANY: THE FOUNDING COMPETITION FOR DIGITAL INNOVATIONS

Through the Founding Competition – Digital Innovations, the Federal Ministry for Economic Affairs and Climate Action gives up to six digital founding ideas in each of two rounds a year prize money as start capital, with publicity, networks and coaching (Federal Government of Germany, 23 May 2024, p. 98), and the Digital Hub Initiative’s 12 hubs connect start-ups with established firms, investors and science (Federal Government of Germany, 23 May 2024, p. 97). The draft budget for 2025 put start-up culture and succession at EUR 3.7 million within a start-up title of EUR 176.0 million (Federal Government of Germany, 16 August 2024, pp. 1135–1136).

This was a mixed policy. A competition with coaching, and hubs that connect founders with firms and investors, build the relations through which, it has been argued, ecosystems reproduce an entrepreneurial culture (Spigel, 2017). But the competition supports at most 12 ideas a year, and start-up culture had EUR 3.7 million in a draft that was not adopted.

2.4 SUPPORT: INSTITUTIONAL SUPPORT

Institutional support turned on computing power, digital public services for firms and programmes for the digitalisation of SMEs.

2.4.1 KOREA: THE AI START-UP LEVEL-UP STRATEGY AND THE NATIONAL AI COMPUTING CENTRE PLAN

MSS's strategy of 10 July targets five high-growth AI fields: small language models, AI chip design, and AI transformation in manufacturing, health care and content (MSS, 10 July 2024, task 1). At the first meeting of the National AI Committee on 26 September, chaired by the President, the government announced a National AI Computing Centre of up to KRW 2 trillion with private investors (MSIT, 26 September 2024, s. 4, flagship project 1). MSS's budget for 2025 will fund new support for AI and fabless start-ups (MSS, 27 August 2024, release of 10 December), but its consolidated notice put start-up support for 2025 at KRW 3.294 trillion, KRW 418.1 billion less than in 2024 (MSS, 27 August 2024, release of 30 December).

This was a mixed policy. Targeted support and a public computing centre address barriers for AI model builders, which matters as the gains from AI investment, it has been found, go mostly to larger firms (Babina et al., 2024). But the centre was a plan, and total start-up support was cut.

2.4.2 JAPAN: G-BIZ ID, J-GRANTS AND THE REGIONAL LABS FOR DIGITAL TRANSFORMATION

The economic package of 22 November continued the G-Biz ID authentication base and the J-Grants online subsidy system, linking G-Biz ID to base registries to cut firms' administrative burden (Cabinet of Japan, 22 November 2024, pp. 31–32), and widened support for adopting digital tools with local banks, software vendors and consultants, linking 43 regional labs for digital transformation with support centres for SMEs (Cabinet of Japan, 22 November 2024, p. 12). The tax reform outline would abolish the digital transformation investment tax system at the end of its period and remove digitalisation equipment from the SME investment tax scheme (Cabinet of Japan, 27 December 2024, pp. 35–38, 49).

This was a mixed policy. Single sign-on and online subsidy applications lower the cost of running a firm, and regional labs bring digital advice to SMEs. But these continued existing services, and digital investment would lose tax relief.

2.4.3 CHINA: THE SME DIGITAL TRANSFORMATION PILOT CITIES AND THE ENTERPRISE DATA OPINIONS

The notice of 30 April by the general offices of MOF and MIIT opened a second batch of about 35 pilot cities for SME digital transformation, each for two years (MOF & MIIT, 30 April 2024, s. 3), with priority for "specialised and new" SMEs and industrial SMEs above designated size (MOF & MIIT, 30 April 2024, s. 4(2)), and a target of at least 90 % of the firms concerned at digital level 2 (MOF & MIIT, 30 April 2024, s. 4(3)). Joint opinions of 20 December led by the NDA encouraged localities to issue data, algorithm and computing vouchers to lower SMEs' costs, and called for a regulatory sandbox to be explored (NDA, Office of the Central Cyberspace Affairs Commission, MIIT, Ministry of Public Security, & State-owned Assets Supervision and Administration Commission of the State Council, 20 December 2024, ss. IV(8), VI(13)).

This was a mixed policy. Funded pilots with measurable targets and vouchers for data and computing address the costs that keep small firms from digital tools. But the pilots favour established industrial SMEs, the vouchers were left to localities, and the targets measure adoption rather than new ventures.

2.4.4 UNITED KINGDOM: THE AI OPPORTUNITIES ACTION PLAN COMMISSION AND THE SME DIGITAL ADOPTION TASKFORCE

On 26 July the Secretary of State commissioned an AI Opportunities Action Plan (DSIT, 26 July 2024, para. 2.3), to consider among other things how computing infrastructure is made available to start-ups, with recommendations due in September (DSIT, 26 July 2024, press release of 26 July); in October it was still to be published (HM Treasury, 30 October 2024, para. 3.73). The SME Digital Adoption Taskforce, announced in March with a GBP 7.4 million pilot fund for AI skills in SMEs (HM Treasury, 6 March 2024, para. 4.56), was to be extended under the Autumn Budget, with a GBP 4 million package of pilots to follow and more money for Made Smarter from April 2025 (HM Treasury, 30 October 2024, paras 3.58–3.59). DBT's evaluation of Help to Grow: Digital, a GBP 296 million voucher scheme closed in February 2023, found 1,507 applications in just over a year against a lifetime objective of 100,000 SMEs (DBT, 18 January 2024, pp. 8, 10).

This was a mixed policy. The taskforce's extension and Made Smarter funding address SME adoption, and the evaluation of the closed scheme is evidence of a kind that entrepreneurship policy has often lacked (Acs, Åstebro, Audretsch, & Robinson, 2016). But the plan to make computing power available to start-ups was unpublished at the end of the year, although the gains from AI investment, it has been found, go mostly to larger firms (Babina et al., 2024).

2.4.5 UNITED STATES: THE NAIRR PILOT AND THE END OF THE AFFORDABLE CONNECTIVITY PROGRAM

NSF launched the National AI Research Resource pilot on 24 January, giving US researchers and educators access to computing, data and models as a proof of concept without funding for the full resource (NSF, 24 January 2024, para. 2); its first 35 projects were announced on 6 May (NSF, 24 January 2024, release of 6 May). The House task force on AI found capital and computing power to be significant barriers to entry for small AI start-ups, and recommended giving small businesses computing power and AI-ready data (United States House of Representatives, December 2024, pp. 178, 183). The FCC began to wind down the Affordable Connectivity Program, which had brought discounted internet to more than 22 million low-income households, for lack of further funding from Congress (FCC, 5 February 2024, p. 7627).

This was a poor policy. The research resource served researchers and educators, not firms, and remained a pilot; the House task force named the barrier that computing power poses for small AI start-ups but only recommended action; and the main broadband subsidy for low-income households, part of the digital infrastructure on which, it has been argued, digital ventures rest (Sussan & Acs, 2017), was being wound down for lack of money.

2.4.6 FRANCE: AI SUPPORT FOR SMES AND THE ONE-STOP SHOP FOR BUSINESS FORMALITIES

A programme run with Bpifrance since June 2023 to help SMEs and mid-sized firms integrate AI had enabled more than 250 firms to carry out a self-diagnosis by May (SGPI, 22 May 2024, p. 32), and in November the government published a France Num guide and four sheets on AI for small firms (MEFI, 28 November 2024, p. 2). The one-stop shop for business formalities handled almost 4 million filings in 2024 up to 11 December, including more than 1.4 million company registration requests (MEFI, 11 December 2024, p. 2), and was to become the only route on 31 December, when the alternative “continuity” route was to close because it had caused errors in passing information to the national register (MEFI, 11 December 2024, p. 1).

This was a mixed policy. A single online route for formalities lowers the cost of complying with entry regulation, which has been found to deter the creation of firms (Klapper, Laeven, & Rajan, 2006). But the shop needed a parallel route throughout 2024, and the AI measures reached hundreds of firms, not the mass of SMEs.

2.4.7 GERMANY: THE ONLINE ACCESS ACT AMENDMENT AND THE SME DIGITAL CENTRES

The amended Online Access Act, in force from 24 July, created an organisation account for companies and a once-only rule under which authorities retrieve evidence for applicants (German Bundestag, 19 July 2024, ss. 2, 5), but gives users a legal claim to electronic access only after the end of the fourth calendar year following promulgation (German Bundestag, 19 July 2024, s. 1a). The government aims in the long term at company formation within 24 hours (Federal Government of Germany, 23 May 2024, p. 97), and in July said it was working to open high-performance computing to start-ups (Federal Government of Germany, 5 July 2024, item 7). The draft budget for 2025 would cut the funds for the SME Digital centres, aligned with AI readiness since mid-2024, and for IT security in business from EUR 60.4 million to EUR 54.0 million (Federal Government of Germany, 16 August 2024, p. 1112).

This was a mixed policy. The organisation account and the once-only rule cut the cost of dealing with the state, and formation within 24 hours would lower entry costs that have been found to deter the creation of firms (Klapper et al., 2006). But the legal claim lies years ahead, the 24-hour aim has no date, and computing power for start-ups was an aim.

2.5 HUMAN CAPITAL: EDUCATION AND TRAINING, AND LABOUR

Human capital policy turned on visas for founders and skilled workers and on training in AI.

2.5.1 KOREA: THE STARTUP KOREA SPECIAL VISA

MSS and the Ministry of Justice opened applications for the Startup Korea Special Visa from 7 to 20 November, after announcing it in July at the opening of a Global Startup Center for foreign founders (MSS & Ministry of Justice, 6 November 2024, para. 1). A private committee of investors and foreign experts assesses business potential and innovation, MSS recommends and the

Ministry of Justice issues the visa, whereas the earlier visa required points, a contest place or a government programme (MSS & Ministry of Justice, 6 November 2024, para. 5 and reference table). The first visa went to the head of a Spanish AI start-up, who exhibited at COMEUP (MSS, 25 November 2024, release of 11 December).

This was a good policy. Judging founders on their business, by investors and experts rather than by points, opens a route for immigrant founders, and immigrants, it has been found, start companies more often than natives with similar education (Hunt, 2011); the first visa was issued within weeks. Its weakness is scale: there was one application round.

2.5.2 JAPAN: THE DIGITAL-NOMAD STATUS AND THE START-UP VISA PLAN

Japan's status for digital nomads, set out in questions and answers of July, allows stays of up to six months that cannot be renewed, for applicants with an annual income of at least JPY 10 million, and bars any work for organisations or persons in Japan (Immigration Services Agency of Japan, July 2024, answers 1–3, 9). The Integrated Innovation Strategy of 4 June planned to extend the maximum stay under the start-up visa to two years within 2024 (Cabinet of Japan, 4 June 2024, p. 62) and called for more education in AI skills and literacy, including pilot programmes in schools (Cabinet of Japan, 4 June 2024, p. 6).

This was a mixed policy. A longer start-up visa and wider AI education would help founders and their first hires, but they were plans, and the nomad status admits remote workers who may not work for anyone in Japan, so it brings no founders or first employees to Japanese start-ups.

2.5.3 CHINA: THE DIGITAL TALENT ACTION PLAN

A joint action plan of 2 April by MOHRSS, the Organization Department of the Party's Central Committee and other bodies called for digital-economy start-up carriers and entrepreneurship colleges and for incubators for digital talent in Beijing, Shanghai and the Greater Bay Area (MOHRSS et al., 2 April 2024, s. II(4)). It promised to bring in overseas high-level digital talent and to support returnees who start firms (MOHRSS et al., 2 April 2024, s. II(3)), and to let researchers in the digital field start firms while in post or on leave (MOHRSS et al., 2 April 2024, s. III(5)).

This was a mixed policy. Letting researchers found firms without leaving their posts lowers the cost of academic spin-offs, and the plan joins training to founding. But its measures depend on implementation by local authorities, and it brings in overseas talent in batches selected by the state rather than through an open route for foreign founders.

2.5.4 UNITED KINGDOM: THE SKILLED WORKER SALARY THRESHOLD AND THE GLOBAL TALENT VISA

From 4 April the general salary threshold for Skilled Worker visas rose from GBP 26,200 to GBP 38,700 (Home Office, 14 March 2024, memorandum, para. 5.2), while the threshold for the Scale-up route, for workers joining fast-growing firms, rose only from GBP 34,600 to GBP 36,300 (Home Office, 14 March 2024, memorandum, para. 5.8). The Home Office's evaluation of the Global Talent visa, published on 28 March, found that 45 % of holders endorsed by the digital technology

body cited the ease of setting up a business as a motivation, against 14 % of all holders (Home Office, 14 March 2024, evaluation of 28 March, s. 3.2).

This was a poor policy. The higher threshold raises the cost of hiring skilled workers from abroad, for start-ups as for other sponsors; the Scale-up route spares only firms that already grow fast. Global Talent holders endorsed in digital technology valued the ease of setting up a business, yet the year's change to the rules raised barriers.

2.5.5 UNITED STATES: THE H-1B MODERNISATION RULE

DHS's final rule of 18 December, effective from 17 January 2025, will let owners of a petitioning company hold H-1B status, with limits of 18 months on the initial petition and first extension where the owner has a controlling interest (DHS, 18 December 2024, pp. 103054, 103056); DHS said the aim was to encourage more beneficiary-owned businesses, because entrepreneurs with H-1B status can create jobs and new industries (DHS, 18 December 2024, p. 103137). The rule will also keep F-1 students in status while a change to H-1B is pending (DHS, 18 December 2024, p. 103055).

This was a good policy. Letting founders hold H-1B status in their own firms will open a route for immigrant founders, and immigrants who entered on student or temporary work visas, it has been found, patent at higher rates than natives (Hunt, 2011); the cap-gap rule will keep graduates in work. Its limit is the 18-month term for controlling owners.

2.5.6 FRANCE: THE AI CLUSTERS AND THE AI TRAINING PROJECTS

On 22 May the government announced nine AI clusters, centres of excellence for AI research and training, with EUR 360 million from the State's innovation investment plan (SGPI, 22 May 2024, p. 14). It reported EUR 87 million for 14 AI training projects that together are to offer 400,000 training places (SGPI, 22 May 2024, p. 18); one, with EUR 1.1 million, trains very small firms, SMEs and mid-sized firms to integrate AI (SGPI, 22 May 2024, p. 22).

This was a mixed policy. Training on this scale and research clusters build the skills base for AI firms, and one project trains small firms. But the money was mainly for research and higher education institutions, and the training places will be filled over years.

2.5.7 GERMANY: THE SKILLED-IMMIGRATION MEASURES AND THE DIGITAL VISA PROCEDURE

The Growth Initiative of 5 July proposed that newly arrived skilled workers keep 30 %, 20 % and 10 % of gross wages tax-free in their first three years (Federal Government of Germany, 5 July 2024, item 27). The National Reform Programme of 20 March reported online visa applications at 24 missions, covering about 30 % of the skilled-worker volume of 2022, and aimed to digitalise the visa procedure worldwide by 1 January 2025 (Federal Government of Germany, 20 March 2024, p. 27).

This was a mixed policy. Digital visa procedures shorten the path for skilled workers, and immigrants, it has been found, start companies more often than natives with similar education

(Hunt, 2011). But the tax incentive remained a proposal at the end of the year, and the measures were aimed at employees rather than founders.

2.6 MARKET: MARKET AND INDUSTRY SUPPORT, IPO AND EXIT

Market policy combined rules on platform power, public purchasing aimed at innovative products and at small or young suppliers, and changes to the routes to listing.

2.6.1 KOREA: INNOVATIVE-PRODUCT PROCUREMENT AND THE PLATFORM ACT DIRECTION

PPS said on 13 February that its pilot purchases of innovative products had reached KRW 53 billion a year, and planned a higher limit for private contracts with young and venture firms (PPS, 13 February 2024, work plan, task 4, and reference material, task 1); on 1 November it added 45 innovative products, many based on AI, which can be bought without competition for up to six years (PPS, 13 February 2024, release of 1 November). The KFTC dropped its plan to designate dominant platforms in advance: on 9 September it proposed to presume dominance only after a violation and to exclude platforms with annual sales below KRW 4 trillion, to limit the burden on start-ups (KFTC, 9 September 2024, p. 2), and on 18 October it chose to require large online brokerage platforms to settle with sellers within 20 days (KFTC, 9 September 2024, release of 18 October, p. 2).

This was a mixed policy. Innovative-product procurement was good: it gives new products a first public buyer, and procurement, it has been argued, can create early markets for innovation (Edler & Georghiou, 2007). The platform direction was mixed: settlement deadlines protect sellers who, it has been argued, depend on platforms in an asymmetry of power (Cutolo & Kenney, 2021), but dominance rules would apply only after harm and only to the largest firms.

2.6.2 JAPAN: THE MOBILE SOFTWARE COMPETITION ACT AND THE PROCUREMENT RULE FOR DIGITAL START-UPS

The Mobile Software Competition Act, promulgated on 19 June, lets the Japan Fair Trade Commission designate large operators of smartphone operating systems, app stores, browsers and search engines, and will bar them from confining app stores to their own, imposing their payment systems, blocking steering, using developers' data to compete with them and self-preferencing in search, with surcharges of 20 % of the sales concerned for some of these breaches (National Diet of Japan, 19 June 2024, Arts. 3, 5, 7-9, 19). The provisions on designation took effect on 19 December, and the duties are to follow within 18 months of promulgation (National Diet of Japan, 19 June 2024, Supplementary Provisions, Art. 1). Under the Digital Agency's rule of 15 January, national bodies award bonus points, 5 % to 20 % of the technical score in the model, to SMEs less than 10 years old in information-system tenders (Digital Agency, 15 January 2024, pp. 2, 5).

This was a good policy. The Act sets rules in advance against practices such as a platform owner's entry into its complementors' markets, which has been found to discourage them (Zhu & Liu, 2018), and the procurement rule gives young firms a first public buyer, an early market of the kind that, it

has been argued, public procurement can create (Edler & Georghiou, 2007). Its weakness is timing: the duties were not yet in force.

2.6.3 CHINA: COOPERATIVE INNOVATION PROCUREMENT AND THE ANTI-UNFAIR COMPETITION LAW REVISION

MOF's measures on cooperative innovation procurement, in force from 1 June, let public buyers commission up to three suppliers to develop an innovative product under cost-compensation contracts and then buy it, with an advance of at least 30 % of the first order (MOF, 24 April 2024, Arts. 2, 23, 32–33). They require set-asides or subcontracting for SMEs and leave intellectual property in principle with the supplier (MOF, 24 April 2024, Arts. 10–11). The NPCSC's session of 21–25 December was to deliberate a revision of the Anti-Unfair Competition Law aimed at platforms' use of data, algorithms and rules for unfair competition (NPCSC, 19 December 2024, paras 1, 10).

Cooperative innovation procurement was a good policy: it gives new products a first buyer and pays for their development, the demand-side policy that, it has been argued, can seed new markets (Edler & Georghiou, 2007). The competition revision was a mixed policy: it addresses platforms' use of data and algorithms against dependent firms (Cutolo & Kenney, 2021), but it was a bill scheduled for deliberation in the last days of the year.

2.6.4 UNITED KINGDOM: THE DIGITAL MARKETS, COMPETITION AND CONSUMERS ACT AND PISCES

The Digital Markets, Competition and Consumers Act of 24 May will let the CMA designate firms with strategic market status in a digital activity if their turnover exceeds GBP 25 billion worldwide or GBP 1 billion in the United Kingdom, impose conduct requirements and fine them up to 10 % of worldwide turnover (Parliament of the United Kingdom, 24 May 2024, ss. 2, 7, 19, 86); its digital markets part will come into force on 1 January 2025 (DBT, 25 November 2024, reg. 2). HM Treasury committed on 14 November to legislate for PISCES, a regulated market for intermittent trading in private companies' shares, in a five-year sandbox (HM Treasury, 25 November 2024, response of 14 November, pp. 8–9). From 1 October 2025 bidders for government contracts over GBP 5 million a year that do not pay suppliers within 45 days on average will be excluded, and the government sees procurement from small businesses as a growth lever (HM Treasury, 30 October 2024, para. 3.60).

This was a mixed policy. The Act sets rules for the largest platforms, whose entry into complementors' markets has been found to discourage them (Zhu & Liu, 2018), and PISCES would add liquidity for private companies. But no firm could be designated before 2025, and PISCES and the procurement statement were plans.

2.6.5 UNITED STATES: MEMORANDUM M-24-18 AND THE ANTITRUST CASE AGAINST APPLE

OMB memorandum M-24-18 of 24 September set the aim of a diverse supplier base for AI that removes barriers for small businesses and new entrants (OMB, 24 September 2024, p. 22), and barred favouring proprietary over open-source generative AI merely because it is proprietary (OMB, 24 September 2024, p. 20); it will apply to solicitations issued 180 days after its issue (OMB,

24 September 2024, p. 5). On 21 March DOJ, joined by states and the District of Columbia, sued Apple, alleging that its App Store rules extract higher fees and thwart innovation (DOJ, 21 March 2024, pp. 3–4); the case was pending at the end of the year.

This was a mixed policy. The memorandum turns federal purchasing towards new and small AI suppliers, a demand-side lever that, it has been argued, can build early markets (Edler & Georghiou, 2007), and the case against Apple targets the platform power on which, it has been argued, app developers depend (Cutolo & Kenney, 2021). But the memorandum will apply only from 2025, and the case was an allegation.

2.6.6 FRANCE: I CHOOSE FRENCH TECH AND MULTIPLE-VOTE SHARES AT LISTING

The programme I Choose French Tech reported on 23 May that public commitments to start-ups had reached EUR 1.75 billion in 2022, up 18 % from EUR 1.48 billion (Mission French Tech, 23 May 2024, p. 10); in June 2023 the State had committed to raising its orders from innovative SMEs from 2.4 % to 4 % of the total (Mission French Tech, 23 May 2024, p. 14). Law No. 2024-537 of 13 June lets companies listing for the first time, on a regulated market or a multilateral trading facility, create multiple-vote preference shares for named persons for up to 10 years (Parliament of France, 13 June 2024, Art. 1).

This was a mixed policy. Multiple-vote shares let founders list without losing control, although second-market IPOs in Europe have had far worse long-run performance (Vismara, Paleari, & Ritter, 2012). Purchase targets use public demand to open first markets, as it has been argued procurement can (Edler & Georghiou, 2007), but the targets were commitments and the figures reported predate the programme.

2.6.7 GERMANY: THE MICROSOFT DECISION AND THE PROCUREMENT TRANSFORMATION BILL

On 30 September the Federal Cartel Office found that Microsoft is of paramount significance for competition across markets; it noted that software developers depend on compatibility with Microsoft's ecosystem while Microsoft competes with them (Federal Cartel Office, 30 September 2024, paras 1, 7). On 19 December it called merger control its most important instrument, including for takeovers of AI start-ups, and noted that its transaction-value threshold reaches deals that miss the turnover thresholds (Federal Cartel Office, 30 September 2024, annual review of 19 December). The procurement bill sent to the Bundesrat on 28 November would let authorities award contracts for innovative services of up to EUR 100,000 directly to start-ups (Federal Government of Germany, 28 November 2024, p. 33).

The Microsoft decision was a good policy: it addresses developers' dependence on a platform that competes with them (Zhu & Liu, 2018), and merger review beyond the turnover thresholds reaches the kind of acquisitions that, in pharmaceuticals, have been found to end rival projects and to cluster below review thresholds (Cunningham, Ederer, & Ma, 2021). The procurement bill was a mixed policy: direct awards would give start-ups first public buyers (Edler & Georghiou, 2007), but it was pending at the dissolution.

3 ANALYSIS OF THE POLICIES

3.1 CONTEXTUAL ANALYSIS: ORIGINS, BACKGROUND AND RATIONALE OF THE POLICIES

Policy in 2024 was made amid changes and crises of government. In the United Kingdom a new government took office after the general election in July and made DSIT the digital centre of government (DSIT, 26 July 2024, press release of 8 July; HM Treasury, 25 November 2024, speech); France had three Prime Ministers, appointed on 9 January, 5 September and 13 December, saw its National Assembly dissolved on 9 June (President of the French Republic, 13 December 2024), and ended the year under a special law that let the State collect taxes without a budget for 2025 (Parliament of France, 20 December 2024, Art. 1); in Germany the Federal President dissolved the Bundestag on 27 December (Federal President of Germany, 27 December 2024); in Korea the National Assembly passed a motion to impeach the President on 14 December and the government moved to an acting presidency (OPC, 14 December 2024); and in Japan the economic package of 22 November took over the previous Cabinet's policies (Cabinet of Japan, 22 November 2024, p. 1).

The fiscal setting was tight for digital programmes in France, Germany and Korea. Korea cut its consolidated start-up support for 2025 by KRW 418.1 billion (MSS, 27 August 2024, release of 30 December); France cancelled EUR 10 billion of commitment authorisations in February (Prime Minister of France, 21 February 2024, Art. 1) and proposed to cut its deficit from 6.1 % to 5.0 % of GDP (MEFI, 10 October 2024, p. 5); Germany's draft budget would halve the title for digital technologies (Federal Government of Germany, 16 August 2024, pp. 1109-1110); and the US broadband subsidy was being wound down (FCC, 5 February 2024, p. 7627). Japan and China planned more: Japan's package carried JPY 21.9 trillion of fiscal spending (Cabinet of Japan, 22 November 2024, p. 61), and China's work report proposed a deficit of 3 % and a first issue of CNY 1 trillion of ultra-long special treasury bonds (State Council, 5 March 2024, para. 33). Each government represented the problem of digital entrepreneurship in its own way, and the representation shaped the solutions it chose (Bacchi, 2009; Rochefort & Cobb, 1993) (Table 2).

Table 2: How the governments represented the problem

Country	Problem represented	Presupposition	Left unsaid
Korea	No AI unicorn yet, and a venture market to be raised to the "global top four" (MSIT, 26 September 2024, s. 4, policy area 1; MSS, 2 October 2024, release, p. 1)	Computing power, a framework act and venture capital will create global AI start-ups	Duties for providers of high-impact or generative AI, no small-firm exemption named; the cut in start-up support
Japan	Low use of AI: 9.1 % of individuals and 46.8 % of companies used generative AI (Cabinet Office of Japan, 27 December 2024, p. 16)	Guidelines, computing subsidies and a light statute will raise use	Who bears the harms of AI under voluntary rules; work in Japan for digital nomads
China	A digital economy to be driven by "AI Plus", data and the digital empowerment of SMEs (State Council, 5 March 2024, para. 42)	State direction of data, funds and pilots spreads digital technology through industry	New ventures outside the "specialised and new" firms; the timing of an AI law

Country	Problem represented	Presupposition	Left unsaid
United Kingdom	Rules should not run ahead of understanding of AI risks (DSIT, 6 February 2024, p. 7); SMEs' adoption of digital technology needs support (HM Treasury, 6 March 2024, para. 4.56)	Existing regulators and an adoption taskforce can manage AI without new law	Public computing power for start-ups; the cost of the salary threshold for young firms
United States	Federal agencies' use of AI needs governance (OMB, 28 March 2024, p. 1); computing power and capital are barriers for small AI start-ups (United States House of Representatives, December 2024, p. 178)	Agency rules, purchasing and a research pilot can shape the AI market without a statute	The wind-down of the broadband subsidy; bills passed only by the House
France	Lock-in on the cloud market (Parliament of France, 21 May 2024, Arts. 26–27); AI as a field for the State's investment plan (SGPI, 22 May 2024, p. 7)	Cloud rules and public money for AI research and training will build national AI firms	Cancelled appropriations and the proposed cut to the plan's budget
Germany	Too little computing capacity and too much procurement bureaucracy (Federal Government of Germany, 5 July 2024, items 7, 18)	Simpler procurement, sandboxes and access to computing will free firms to innovate	The halving of support for digital technologies; the bills' fate at the dissolution

Source: IFEED analysis after Rochefort and Cobb (1993) and Bacchi (2009) of the sources cited.

Despite these differences, the governments largely shared a rationale: they treated AI and data as organising technologies of the economy and sought national capacity in them – Korea's National AI Computing Centre, Japan's cloud programme under its economic security law (METI, 19 April 2024, s. 1) and China's "AI Plus" initiative (State Council, 5 March 2024, para. 42). This is the market-creating rationale of mission-oriented innovation policy (Mazzucato, 2016) rather than the correction of particular market failures that entrepreneurship policy has traditionally required (Acs et al., 2016). The spread of regulatory sandboxes – in operation in Korea, proposed in Germany and to be explored in China (NDA et al., 20 December 2024, s. VI(13)) – and of rules set in advance for the largest platforms in Japan and the United Kingdom may also reflect policy transfer (Dolowitz & Marsh, 2000), although similarity alone does not show it.

3.2 THEORETICAL ANALYSIS: THEORETICAL VALIDITY AND RELEVANCE

Theories of digital entrepreneurship set the first test. They argue that digital ventures arise where infrastructure, users and rules let them reach markets and recombine resources beyond any one place (Autio et al., 2018; Nambisan, Wright, & Feldman, 2019; Sussan & Acs, 2017). The policies of 2024 passed this test in infrastructure, such as China's data-export exemptions and Germany's organisation account, but less so in access to computing, which outside GENIAC was aimed at researchers or a few cloud firms or remained a plan.

The evidence on regulation sets the second test. After the European Union's data protection regulation took effect, venture investment fell most for young and data-related ventures (Jia et al., 2021) and websites concentrated on the largest technology vendors (Johnson et al., 2023), whereas entry into the UK's financial sandbox raised fintech firms' capital raising and survival

(Cornelli et al., 2024). Korea's 500 sandbox designations and Japan's guidelines pass this test; duties for providers of generative AI in Korea and China and the cybersecurity bills of France and Germany are in tension with it. Table 3 applies these tests more widely.

Table 3: Theoretical validity of the main policies

Theory	Claim	Policies consistent with it	Policies in tension with it
Digital entrepreneurial ecosystems (Autio et al., 2018; Nambisan et al., 2019; Sussan & Acs, 2017)	Digital infrastructure and open platforms let ventures reach markets	Exemptions for data exports (China); Smart Data powers (United Kingdom); organisation account (Germany)	Research resource for researchers only (United States); computing centre a plan (Korea)
Platforms (Cutolo & Kenney, 2021; Parker, Van Alstyne, & Jiang, 2017; Zhu & Liu, 2018)	Platform owners hold power over dependent firms and enter their markets	Mobile Software Competition Act (Japan); Microsoft decision (Germany); case against Apple (United States)	Dominance presumed only after a violation (Korea); no designation before 2025 (United Kingdom)
Data regulation and sandboxes (Cornelli et al., 2024; Jia et al., 2021)	Uniform data rules cut investment in young ventures; sandboxes raised fintech funding	Financial sandbox (Korea); AI Guidelines (Japan); sandbox bill (Germany)	Duties for generative-AI providers (Korea, China); NIS2 bills (France, Germany)
AI investment (Babina et al., 2024)	Gains from AI investment accrue mostly to larger firms	Higher GENIAC subsidy rate for SMEs (Japan); AI start-up strategy (Korea)	Cloud subsidies concentrated on one firm (Japan); action plan unpublished (United Kingdom)
Grants and R&D tax relief (Dechezleprêtre et al., 2023; Howell, 2017)	Early-stage grants raise venture funding; tax relief raises the R&D of smaller firms	GENIAC (Japan); research allowance (Germany); generative-AI call (France)	Digital equipment removed from SME tax relief (Japan); immediate R&D deduction not enacted (United States)
Government venture capital (Brander et al., 2015; Lerner, 2009)	Public money works best alongside private investors and at moderate scale	SBIC Critical Technology Initiative (United States); venture capital measures (China)	Scale of the AI and semiconductor frame (Japan)
Immigrant talent (Hunt, 2011; Kerr & Kerr, 2020)	Immigrants start firms at higher rates than similar natives	Startup Korea Special Visa (Korea); H-1B status for owners (United States)	Higher Skilled Worker threshold (United Kingdom); nomad status without work in Japan (Japan)
Public procurement (Edler & Georgiou, 2007)	Procurement can create early markets for innovation	Innovative-product procurement (Korea); cooperative innovation procurement (China); I Choose French Tech (France)	M-24-18 only for solicitations from 2025 (United States); procurement bill pending (Germany)

Source: IFEED assessment of the policies reviewed in Section 2, against the sources named in the first column.

3.3 PRACTICAL ANALYSIS: PERFORMANCE, CONTRIBUTION AND IMPACT

By the end of 2024 much of the year's digital policy had not yet reached firms (Table 4); many of the instruments that would bring computing power and capital to start-ups were plans, bills or drafts. Where governments reported performance, they reported outputs: 500 financial sandbox designations in Korea (FSC, 24 December 2024, p. 1), 252 filed generative-AI services in China by

November (CAC, 2 April 2024, November list), 30 foundation-model themes under GENIAC (METI, 2 February 2024, release of 10 October) and almost 4 million filings by 11 December through France's one-stop shop (MEFI, 11 December 2024, p. 2). Among the few evaluations, that of the United Kingdom's closed voucher scheme found 1,507 applications in just over a year against a lifetime objective of 100,000 SMEs (DBT, 18 January 2024, p. 10). Performance measures serve to evaluate, to control, to celebrate or to promote (Behn, 2003); those of 2024 served mostly to celebrate and to promote. Table 5 summarises the assessments of Section 2.

Table 4: Status of the main measures at the end of 2024

Country	In force or launched in 2024	Adopted, in force from 2025	Pending or announced
Korea	Virtual Asset User Protection Act; sandbox; special visa; innovative-product designations	Stock-option relief; virtual-asset tax deferral	AI Basic Act (passed, not promulgated); venture plan; computing centre; platform law
Japan	AI Guidelines; GENIAC; cloud subsidies; start-up bonus points; nomad status; designation rules	Duties of the Mobile Software Competition Act	AI bill; AI and semiconductor frame (bill); tax reform outline; longer start-up visa
China	Data-export provisions; cooperative procurement; venture capital measures; SME pilot cities; AI filing	Network Data Security Regulations (from 1 January 2025)	Competition law revision; AI law (preparatory); vouchers; sandbox
United Kingdom	Response on AI regulation; higher Skilled Worker threshold	Platform regime (from 1 January 2025)	Data bill; AI legislation; AI action plan; crypto-asset regime; PISCES; taskforce extension
United States	M-24-10; NAIRR pilot; crypto exchange-traded products; SBIC initiative; CMMC rule	Data rights rule; H-1B modernisation rule; M-24-18	AI reporting rule (proposed); tax and crypto bills (House only); case against Apple
France	Law on the digital space; AI call; Law No. 2024-537; one-stop shop; crypto-asset ordinance; cancellations	—	Cybersecurity bill; draft budget for 2025
Germany	German Digital Services Act; Online Access Act amendment; Growth Opportunities Act; Financial Market Digitalisation Act; Microsoft decision	—	NIS2, sandbox and procurement bills; draft budget; tax incentive for skilled workers

Source: IFEED compilation from the sources cited in Section 2.

Table 5: Assessment of the policies by domain and country

Domain	Korea	Japan	China	United Kingdom	United States	France	Germany
Regulation and Law	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
Finance	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
Culture	Mixed	Mixed	Mixed	Poor	Poor	Mixed	Mixed
Support	Mixed	Mixed	Mixed	Mixed	Poor	Mixed	Mixed
Human Capital	Good	Mixed	Mixed	Poor	Good	Mixed	Mixed
Market	Mixed	Good	Mixed	Mixed	Mixed	Mixed	Mixed

Source: IFEED assessment of the policies reviewed in Section 2. Where a subsection assessed its policies differently, Mixed is shown.

4 POLICY LIMITATIONS

4.1 POLICY DEBATES, CONTESTED POINTS AND ISSUES

The policies of 2024 raised six points of contention, set out in Table 6. The first two concerned the state's role in AI: whether AI should be governed by a framework act with duties, by guidelines, by existing regulators or by rules for the government's own use; and whether public computing power should be built by the state, subsidised through cloud firms or opened to researchers. Japan decided on cloud subsidies of up to JPY 72.5 billion, up to JPY 50.1 billion of them for one firm (METI, 19 April 2024, ss. 1-2), and the United Kingdom had allocated no new funding to its exascale project (DSIT, 17 September 2024).

The other four concerned data, markets, money and people: how far data rules should be relaxed for small and cross-border flows; whether platform power should be checked by rules set in advance, as in Japan and the United Kingdom, or after a violation, as Korea proposed; how crypto-assets should be licensed and taxed; and whether migration control should override the supply of founders and skilled hires for digital firms.

Table 6: Debates and contested points in the policies of 2024

Issue	What the governments set out	Point at issue
AI law	Act with duties (Korea), guidelines (Japan), existing regulators (United Kingdom), rules for agencies (United States), no AI law scheduled (China) (DSIT, 6 February 2024; General Office of the State Council, 6 May 2024; MIC & METI, 19 April 2024; MSIT, 26 December 2024; OMB, 28 March 2024)	Certainty and trust against compliance costs that fall most on young firms
Public computing power	Centre planned (Korea), cloud subsidies (Japan), research pilot (United States), no new exascale funding (United Kingdom) (DSIT, 17 September 2024; METI, 19 April 2024; MSIT, 26 September 2024; NSF, 24 January 2024)	State capacity against access for start-ups on open terms
Data rules	Export exemptions (China), Smart Data bill (United Kingdom), data rights rule (United States) (CFPB, 18 November 2024; CAC, 22 March 2024; DSIT, 23 October 2024)	Protection of data against the costs of data-intensive ventures
Platform power	Duties in advance (Japan), strategic market status (United Kingdom), presumption after a violation (Korea), Microsoft decision (Germany) (Federal Cartel Office, 30 September 2024; KFTC, 9 September 2024; National Diet of Japan, 19 June 2024; Parliament of the United Kingdom, 24 May 2024)	Rules in advance against enforcement case by case
Crypto-assets	User protection act (Korea), EU regime (France, Germany), regime announced (United Kingdom), exchange-traded products (United States) (FSC, 17 July 2024; German Bundestag, 27 December 2024; HM Treasury, 25 November 2024; President of the French Republic, 15 October 2024; SEC, 10 January 2024)	Licensed innovation against investor protection; certainty of tax
Talent	Founder visa (Korea), H-1B status for owners (United States), higher salary threshold (United Kingdom), nomads barred from work (Japan) (DHS, 18 December 2024; Home Office, 14 March 2024; Immigration Services Agency of Japan, July 2024; MSS & Ministry of Justice, 6 November 2024)	Migration control against the supply of founders and first employees

Source: IFEEED analysis of the sources cited.

4.2 THEORETICAL LIMITATIONS OF THE POLICIES

The first limitation is that the policies treated AI and data as technologies to be adopted rather than as sources of new ventures. Digital affordances, it has been argued, let new firms find and pursue opportunities beyond place (Autio et al., 2018; Nambisan, 2017), but the year's instruments for culture and support — festivals, labels, diagnostics, surveys and adoption taskforces — aimed mostly at users of digital tools, and few reached founders. Ecosystem theory holds that the weakest condition limits the system (Ács, Autio, & Szerb, 2014), yet the governments assumed, without showing it, that computing power and capital were the binding conditions; and ecosystem policy, it has been argued, should connect actors rather than transact with single firms (Brown & Mason, 2017).

The second is concentration. The gains from AI investment go mostly to larger firms (Babina et al., 2024), and public computing support in 2024 was aimed at researchers and, in Japan, mostly at one cloud firm, although high-growth firms, it has been argued, are too varied to be picked in advance (Mason & Brown, 2013). Apart from Germany's attention to takeovers of AI start-ups (Federal Cartel Office, 30 September 2024, annual review of 19 December), the platform measures concerned conduct, although in pharmaceuticals 5.3–7.4 % of acquisitions ended overlapping projects and clustered below review thresholds (Cunningham et al., 2021).

The third is the uniformity of duties. Duties for providers of generative AI in China, the US certification rule for defence contractors and the cybersecurity bills of France and Germany would apply to small firms as to large ones, or leave growing firms just above a threshold with large recurring costs, although uniform rules fall hardest on young and data-intensive ventures (Jia et al., 2021) and concentrate markets (Johnson et al., 2023). The instrument with evidence behind it, the regulatory sandbox (Cornelli et al., 2024), was in 2024 a working scheme in Korea, a bill in Germany and an idea to be explored in China.

The fourth is the weakness of evaluation. Entrepreneurship policy has long been criticised for counting the number of firms rather than their quality and for lacking evaluation (Acs et al., 2016; Shane, 2009), and mission-oriented policy, it has been argued, needs organisations that learn through discovery and new ways of evaluating it (Mazzucato, 2016). The figures of 2024 repeat the counting, and large public programmes have often failed (Lerner, 2009).

5 POLICY IMPLICATIONS

First, public computing power should reach start-ups by rule. A share of public capacity should be reserved for young firms chosen by competitive calls, as GENIAC does with a higher subsidy rate for SMEs; Korea's computing centre, the United Kingdom's action plan and Germany's planned access should state how start-ups will reach it, and the US research resource should open a track for firms.

Second, digital duties should be scaled to the size of firms and settled before they apply. The decrees for Korea's AI Basic Act should exempt small providers or phase in their duties, as Japan's draft report proposes with its test of workability for start-ups; the cybersecurity bills of France and Germany should phase in duties for firms just above their thresholds, and the US certification rule should give small contractors more time. Sandboxes should run rather than be proposed, as Korea's financial sandbox shows.

Third, platform rules should be set in advance and reach AI. Japan's act and the United Kingdom's regime show the model; Korea should legislate rather than rely on a presumption after violations, China should complete its competition revision, and competition authorities should review acquisitions of AI start-ups by platforms even below turnover thresholds, as Germany's transaction-value threshold allows.

Fourth, governments should be paying first customers. Korea's innovative-product procurement, China's cooperative innovation procurement, Japan's bonus points and France's purchase targets show how public buyers can reach new suppliers; Germany should enact its direct award for start-ups, and the United Kingdom should turn its statement on procurement from small businesses into targets. Governments should publish every year the share of their digital purchases made from young firms.

Finally, talent rules and evaluation should serve digital founders. The United Kingdom should spare start-ups from the higher salary threshold, Japan should carry out the planned extension of its start-up visa, and Korea should make its special visa a standing route. Competitive grants and staged calls allow effects to be measured, and governments should commit to measuring and publishing them, as the United Kingdom did for its closed voucher scheme.

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