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Towards Sustainable Prosperity? Policy Evaluation of Jiangsu Advanced Manufacturing Clusters

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The government of China, to hone manufacturing's competitive edge, has adopted a series of regional industrial policies to stimulate advanced manufacturing clusters as facilitators of agglomeration effects, utilisers of factor endowments, and implementers of innovation solutions, by playing the role of facilitating state. Focusing on advanced manufacturing cluster policies in East China's Jiangsu Province, the research employs a mixed data analysis methodology on a sample of 52 documents collected from the Jiangsu government and affiliated units. The policy orientations and priorities are examined under the triple analytical framework in terms of themes, instruments, and controls, applying textual mining and the PMC index model. The results reveal the alignment of policy themes with high-quality development strategy, the government preferences for the supply dimension in policy instruments, the emphasis on planning directive in policy controls, together with the relatively high internal consistency of the AMC policy toolkit by Jiangsu. Therefore, the research spotlights the importance of leveraging comparative strengths based upon the facilitating state institution, and of deploying internally coherent, scientific, and efficient initiatives that exploit more potential of advanced manufacturing clusters to foster sustainable prosperity from the perspective of new structural economics.

Keywords: advanced manufacturing cluster; regional industrial policy; mixed text analysis; facilitating state; East China's Jiangsu Province

List of Abbreviations

Abbreviation	Meaning
AMC	Advanced Manufacturing Cluster
DF	Department of Finance
DHRSS	Department of Human Resources and Social Security
DIIT	Department of Industry and Information Technology
DRC	Development and Reform Commission
FDI	Foreign Direct Investment
GO	General Office
GVC	Global Value Chain
NSE	New Structural Economics
PMC	Policy Modelling Consistency
R&D	Research and Development
S&T	Science and Technology
SME	Small and Medium Enterprise

1. Introduction

Industrial clusters, particularly those in the manufacturing sector, were critical in driving local economic development throughout the industrial era, and have offered insightful lessons for emerging economies in the twenty-first century, drawing from successful praxes in the Global North (Kohli, 2004; Lin, 2017).[1] The Chinese government has underlined the urgency to transform from a large manufacturing country to a global manufacturing powerhouse. Along with its ambition to enhance economic competitiveness, China has also shouldered the responsibility to cultivate and share sustainable prosperity with domestic and international communities. One of China's initiatives is to establish world-class advanced manufacturing clusters (AMCs) capable of excelling in international strategic competition. Since 2017, China's central authorities have released policy documents directing local governments to formulate appropriate schemes to boost AMC development.

Advanced manufacturing is a form of manufacturing in which innovation is deeply embedded into products and processes, not only incontrovertibly occupying a priority in the real economy but also generating an impact on society, technology, and politics. Changing

the economy and production, advanced manufacturing exploits the potential of science and technology (S&T) to control, optimise processes of organisation and manufacturing in terms of quality and efficiency, characterised by outstanding performance and added value (Boyer et al., 1997; Canello et al., 2022). The AMC is defined as the territorial agglomeration of interconnected firms and stakeholders belonging to advanced manufacturing. The cluster strategy is tailored for advanced manufacturing given its salient characteristics, such as the knowledge-intensive and innovation-driven nature, and multiple actors and interdependence along complex supply chains (Waldman & Murray, 2013). Facing Industry 4.0, advanced manufacturing absorbs cutting-edge applications of robotics, digital transformation, industrial internet, and flexibilisation, when AMCs' disruptive nature is manifesting itself (Sirkin et al., 2015; Szalavetz, 2019; Stornelli et al., 2021). Disruptive S&T has rendered this practice of manufacturing sought after—for the trend of the times, while dynamics of climate change, geopolitics, violent conflicts, trade frictions, and pandemics frequently disturb our economies and institutions, the pushed reshaping of global value chains (GVCs) pulls the industry in turn to transform (Miroudot, 2020; Luo & Van Assche, 2023; World Economic Forum, 2023). One of the AMCs' most important functions, besides the straightforward, obvious economic performance, is the enhancement of sustainability with advantages in the resource utilisation (European Commission, 2014). AMCs have become a frontier of the game for major players in international affairs, with numerous states aggressively setting their sights on attempts to achieve sustainable prosperity through industrial policies and strategies when 'clustering' has caught the attention of academic and policy audiences (Stornelli et al., 2021).

Jiangsu Province, the most significant manufacturing base in East China, has recently emerged as a pioneer in exploring improved strategies for regional development. Supported by a set of industrial policies, Jiangsu has successfully shaped its manufacturing-centred clusters through distinctive industrial symbiosis via separate specialisation, complementary cooperation, and competitive collaboration with neighbouring upstream and downstream industries. In 2023, Jiangsu manufacturing achieved 4.66 trillion CNY of value added, which accounted 36.3% for that of all sectors. Jiangsu has fostered 10 national AMCs, 16 provincial

AMCs and 50 key industrial chains in various advanced manufacturing sectors—deploying offshore engineering equipment and high-tech vessel clusters in the coastal areas of Central Jiangsu, constructing novel textile industries based on advanced materials in South Jiangsu with the well-developed traditional textile economy, and fostering biomedicine and medical device clusters in northern and southern districts . Thus, the rise of manufacturing clusters has satisfyingly spurred economic growth. Jiangsu's thought-provoking experience exemplifies China's solutions to global development challenges and underscores the worth of scrutinising its policies (Glaeser et al., 1992; Juhász et al., 2023).

Currently, there is a pressing need for systematic research to untangle the downsides and challenges resulting from rapid urbanisation and globalisation. Regional inequality and relative poverty are exposed during the contraction phase when previous studies failed to resolve the lack of incentive for industrial transformation plus ageing and talent imbalance. To conquer the obstacles, new advocacy of high-quality development is required, as regards structure, innovation, resource allocation, coordination, and sharing, for more social benefits of fairness and sustainability than profits (Mo et al., 2020). Hence, Jiangsu's progress is not only notable to China, but provides insights for industrial centres worldwide. Its planning of facilitative policies serves as an informative case for governments at all levels. Furthermore, research on the development of Jiangsu regional industries gives evidence to domestic and international academics concerning the Chinese facilitating state and latecomer advantage, as this progress sheds light on China's strategies for supporting growth and its capacity to tap into edges albeit entering a field later than developed countries (Lin & Fu, 2022).

The published research on industrial policy evaluation contains two substantial flaws. For starters, it lacks in-depth examinations of specific strategies, including an insufficient understanding of their underlying goals and implementation approaches. Therefore, the coherence of policies remains ambiguous, engendering inefficiencies in their application at the grassroots. Following that, the extant literature delivers restricted findings based on unsubstantiated claims and inadequate explanations, hindering an accurate grasp of industrial initiatives.

This research aims to fill these gaps and solve real-world problems by analysing policy texts both qualitatively and quantitatively. Adopting the perspective of facilitating state, the research proposes a triple framework of themes, instrument dimensions, and control intensities by word frequencies, clusters, subjects, and the like, enabling identification of policy focus and enhancement for the efficiency and effectiveness of dissemination and engagement (Lin et al., 2011). Moreover, it adds to academic debates by integrating practical quantitative tools and evaluation models—not merely to comprehend the content of policies or assess their expected degree of effectiveness, but to evaluate based on actual content. This mixed approach, objectively and logically, evaluates policies by considering both the 'what' and 'how' narrative aspects of their prospects for implementation, employ textual mining and the PMC index model to elucidate the subject matters, word-frequency distributions, and other pertinent characteristics—the detailed summary of key contents facilitates improved formulation and communication, thus making a pragmatic impact while supplementing and enriching existing knowledge in the field.

The remainder of this research is structured as follows. Section 2 thoroughly reviews relevant literature on how facilitative policies contribute to prosperous clusters, and Section 3 designs our analytical framework of AMC policies. Section 4 then conducts a methodical text examination of implemented policies, followed by further evaluation in Section 5, to identify core principles, assess internal consistency, and interpret development strategies for AMCs in Jiangsu, China. Section 6 closes with the discussion and conclusions.

2. Literature Review

2.1 Industrial Cluster and Advanced Manufacturing Cluster

2.1.1 Industrial Cluster

Industrial clusters refer to geographic concentrations of organisations, consisting of suppliers, service providers and higher education institutions that support one another by agglomeration.

The presence of multiple clustered firms leads to an expansion in regional output with cost reduction and efficiency improvement (Porter, 1990, 1998; Martin & Sunley, 2003). The Chinese government utilises the benefits of industrial agglomeration; its cluster strategies accelerate industrialisation (Deng et al., 2008; Angel et al., 2011; Zhang & Su, 2016). The cluster development facilitates creation through local buzz, i.e., learning-by-doing and knowledge-spillover effects, while attracting international allocation of production factors by global pipelines (Bathelt et al., 2004; Whitfield, 2023). Consequently, cluster policies have proven effective in fostering regional innovation and prosperity (Arrow, 1962; Bottazzi & Peri, 2003; Boschma, 2005).

For clusters, it is essential to ponder the critical role of public institutions in providing facilitation and the significance of institutional innovation in surmounting barriers and preventing fragmentation (Luo & Nie, 2002). Whereas there might also be a need to limit the power of government by gradually curtailing its intervention through legal constraints (Jin et al., 2006). Avoiding flawed perceptions, it keeps authorities from pursuing unsustainable economic performance of industries by adopting extremist strategies.

It is true that Lin (2012) advances different views highlighting the facilitating state to ensure the efficient markets and cautions against an extreme laissez-faire doctrine. China's latecomer advantage and its arts on intervention have complemented each other in shaping development—as the government maintains order, safeguards society, and creates favourable conditions for prosperity as a facilitator—dismissing its role could undermine the required institutional support. In accordance with this argument, evidence from the GVCs' perspective corroborates the inference that the government should work with both hands on industrial policy (Humphrey & Schmitz, 2002; Yoon & Nadvi, 2018). Clusters rely on key institutional factors such as the local production environment, including socio-cultural characteristics, institutional coordinative networks, and industrial linkages—it is vital to utilise macroeconomic governance to enhance capabilities (O'Sullivan et al., 2013; Cai & Liu, 2015). Nevertheless, the precise mechanisms through which the facilitating state operates require further exploration and substantiation with concrete cases. In this regard, the research

conducts a preliminary exploration of how to facilitate, then extract the experience of the facilitating state governance.

2.1.2 Manufacturing Cluster

A facilitating state prevents potential crises by supporting manufacturing agglomeration and retains or creates advanced manufacturing positions like engineering and R&D, generating a long-term impact on the economy (Hira, 2008). Policies expedite digital empowerment to innovation networks (Bu & Zhang, 2023), knowledge-creating resilience (Hannigan et al., 2015), and absorptive capacity (Chandrashekar & Subrahmanya, 2017) to enhance the innovation performance of manufacturing clusters. Due to the differences in the type and distribution of manufacturing industries, the government takes into account the heterogeneity to cultivate the formation of clusters by redesigning differential incentives for diverse clusters (Fang, 2018), as well as integrating endogenous and exogenous factors to capitalise on various instruments such as fiscal and S&T finance (Cheng et al., 2021) backed by top-level design (Zeng et al., 2022).

Yet, Behrens (2013) observes that most clusters fail to deliver on expectations, there is no conclusive evidence that clusters make regions more prosperous, and the report suggests that manufacturing clusters in Canada are, not closely linked to industry-wide economic performance, and less influential than trade—they have sometimes caused adverse impacts, and even advanced ones might inevitably generate a concentration of carbon emissions and pollution (Turner et al., 2022). Accordingly, the scrutiny of Jiangsu AMC policies constitutes a useful contribution by filling knowledge uncertainties and offering fresh perspectives in untangling the facilitating state.

2.1.3 Advanced Manufacturing Cluster

Despite extensive research efforts, there remains a gap in the methodical investigation of advanced manufacturing. Advanced manufacturing employs breakthrough technologies to

promote efficiency, reduce costs and improve quality through digitalisation—connectivity analytics, and automation—manufacturing innovative products that match new demands, as a high-performance, high-growth, and high-value-added industry. Economists, meanwhile, revisit the significance of manufacturing for sustainable growth and productivity (Stornelli et al., 2021; Canello et al., 2022). Towards sustainable prosperity, various industrial strategies and initiatives on AMCs have been issued by states—'Advanced Manufacturing Partnership' (the US), 'Made Smarter' (the UK), 'Industry 4.0' (Germany), 'Connected Industries' (Japan), 'Manufacturing Innovation 3.0' (Korea), and 'Made in China 2025' (Wial, 2011; Sirkin et al., 2015; Hwang et al., 2016; Chang & Andreoni, 2020). The EU has increased subsidies for resource and energy utilisation, proactively deploying AMCs to make sustainability and development visible on the ground (European Commission, 2014). Specifically, Japan has announced 'Connected Industries' by which industries recreate added value and solutions towards 'Society 5.0' through exerting S&T innovation such as IoT and AI (METI, 2018). The UK has organised competition and mobilise infrastructure support to incentivise entrepreneurship into smart manufacturing to regenerate sustainable prosperity and overcome existing geographical inequality (DBEIS, 2019; Sunley et al., 2022).

For one thing, there is a focus on the return of advanced manufacturing. The manufacturing exodus has not only led to an outflow of SMEs engaged in low-end industries, but to offshoring by giants (Ellram, 2013; Srai & Ané, 2016). To reverse this trend, attention has to be paid to the reshoring encouragement for innovation, trust and sustainability (Müller et al., 2017). Another is on fostering new AMCs, where SMEs, start-ups and universities are key to developing innovative clusters (Reynolds & Uygun, 2018). Unlike the Global North countries as the US, less-developed countries' core is on attracting FDI and investing in education (Kowalski, 2020). Capacity development in clusters should be customised to the local context, advocating studies into local industrial policies.

In summary, despite the progress in AMCs, significant gaps remain, causing a deficient understanding of current policies. Few in-depth studies have analysed the AMCs'

development from the perspective of new structural economics (NSE), and for China, limited attempts have been made to share the experience of Jiangsu.

2.2 Industrial Policy and Sustainable Prosperity

2.2.1 Facilitating State and Industrial Policy

Economic rationality leads entrepreneurs to invest in technological innovation and industrial transformation, but this process must be facilitated by supportive infrastructures and institutions, because although monopoly profits are attractive, entrepreneurs are not free to move into new niches due to information asymmetries and risks. To realise efficient markets and then build up a national competitive superiority, the industrial policies formulated by a facilitating state consider comparative advantages of regional industries at the time-point, stimulate entrepreneurship with infrastructures, financial and legal systems (Rothwell, 1984; Tetsushi et al., 2002; Song et al., 2011; Lin & Doemeland, 2012). In short, achieving latecomer advantage cannot be separated from the government's systematic efforts to reform and accommodate the market environment, enhancing competitiveness with industrial initiatives.

However, economic evolution is not simple growth but creative destruction (Schumpeter, 1934), and industrial policies to promote innovation may save or create jobs, but at a high cost (Hufbauer & Jung, 2021).[2] The preferences and tendencies for certain industries and technologies are endogenously determined by the structure of factor endowments (Lin, 2012; Lin & Fu, 2022). Whence, policymaking needs to grasp the judgement of regional changes, systematically classify industries and differentiate incentives, following the logic of innovation (Bianchi & Labory, 2019).[3] Moreover, industrial policies act not only singly on firms but have an extensive impact, directly or indirectly, on social issues including labour mobility, wage income, health, education, pension, urban-rural gap, and so forth (Chen & Lin, 2014; Lu, 2017; Bailey et al., 2018). Consequently, the facilitating

state should catch the influence of industrial policies on people's livelihoods (Gereffi & Lee, 2014; Tsai & Liao, 2016).

With this influence, the government works on livelihood improvement with a focus on the regional economy. While a rational inclusive industrial structure contributes to equitable income distribution, industrial upgrading is not always beneficial—its role on inequality is not clear—and sometimes harmful (Wu et al., 2018; Getahun & Villanger, 2019). Industrial policy is never a panacea for the economy; the government has to guide industries towards development, coordination, and sustainability, to eschew injustices in development like worsening wealth inequality (Nadvi, 2014). For instance, the agglomeration of urban population and industries would cause imbalances in the spatial distribution of people, and China's urbanisation process, although fuelling growth, has also led to negative implications such as arable-land loss, deforestation, pollution, and 'ghost town' (Chen, 2007; DeFries et al., 2010; Chen et al., 2013). Development planning is risky, affecting equilibrium wages and labour incomes in certain sectors, which could induce a continually widening gap of incomes and savings (Bai & Qian, 2009) and a stagnant national economy (Chen & Lin, 2014). Hence, social and economic guidance should scientifically reduce regional disparities.

2.2.2 AMC Policy and Sustainable Prosperity

The significance of AMCs arises from the recognition of the pivotal role of industrial clusters as promoter of regional prosperity and sustainable development (Yu et al., 2023). Proponents of sustainable prosperity argue that shared prosperity aiming at economic, social, and environmental sustainability for all communities over space and time should replace the exclusive pursuit of economic growth as the goal of policymakers (Jackson, 2016). It is worth noting that cluster-type forms of economic organisations are the drivers that sustainability could be achieved. The last decade has offered impactful articulations related to the positive changes of cluster advantages on sustainable innovation, social embeddedness, value creation, green productivity, and regional competitiveness (Derlukiewicz, 2020).

With the facilitating state's reasonable directions, regional industrial clusters realise the efficient transformation of production patterns and the effective exploitation of factor endowments, to maximise the potential of resources and produce more output with lower opportunity costs. Since AMCs promote innovation-driven and green-driven development, the government exploits regional prosperity to foster agglomeration with policies.

Nonetheless, little is known about the policies of AMCs in China. Most of available research looks at broader or more novel topics, including regional land use (Kuang et al., 2020), digital economy (Bu & Zhang, 2023), and the like, whereas for manufacturing edge and economic policy, they are either specified to a particular sub-segment such as new energy vehicle (Wang et al., 2021), robotics (Hu et al., 2020), or broadly to a certain impact like innovation (Wu et al., 2020). Previous policy studies have not dealt with how to balance the frontiers with a solid knowledge base to avoid being groundless.

Overall, the proportion of studies on manufacturing industrial policies is insufficient, surveys concerning a given place are limited, thus there is a lack of progress—a few scholars such as Wu et al. (2020) making sense of Jiangsu advanced manufacturing industries notwithstanding, explorations to policies remain unsatisfactory except empirical tests—ergo, understanding the evidence of Jiangsu AMCs would be an effective supplement to the current research gap.

3. Materials & Methods

3.1 Data Sources and Collection

Cluster policies in China are divided into different levels, i.e., national, provincial, and municipal.[4] The State Council's *Guiding Opinions on Deepening the Integration of 'the Internet Plus Advanced Manufacturing' to Develop Industrial Internet* was issued officially at the end of 2017 as the development agenda for China's AMCs. The document's ambition is to turn China into a global manufacturing powerhouse through the deployment of advanced manufacturing, accelerating the accumulation towards the next wave of industrial revolution

around standards, technologies and platforms with the Industrial Internet as the key. From advanced manufacturing to the entire technology in society, it aims to reach the world's leading edge in a comprehensive manner, thereby realising sustainable prosperity by AMC policy praxis in each province, with Jiangsu as the core implementer.

Before Jiangsu was well-embedded in GVCs and industrialised, its local secondary sector accounted for no more than a quarter, and all goods produced in villages and towns immersed themselves in the least value-added stages of the smile curve. Although the degree of specialisation was solid as each village or town targeted a specific industrial chain, the firms mainly supplied household necessities like textiles and suffered from chaotic market competition. These manufacturing businesses short of creativity and innovation encountered difficulty in developing sustainable prosperity until factor endowments were coordinated by policy intervention.

The coordination is in dynamics and a result of the government's decades-long pursuit of sustainable prosperity—prioritising education promotion, launching incentives to attract transnational capital, and guiding entrepreneurship into specialised, advanced fields including telecommunications, electronics, and other sectors of future interest—with these investments in hard and soft infrastructures, the certain strategy of clustering has enabled Jiangsu to have a well-framed industrial system, along with urbanisation transferring industries to cities, as the foundation for the emergence of AMCs. According to Jiangsu Financial and Economic Affairs Committee (2022), the provincial government has simultaneously generalised and specified its policy toolkit: universally, deeply integrating cluster cultivation with S&T innovations, industrial talents, financial services, intellectual property rights, and so forth; particularly, preparing subdivided cluster cultivation schemes, and facilitating its agencies to institute working teams for AMCs. Jiangsu has achieved leading status in 7 industrial chains including extra-high voltage equipment, crystalline silicon photovoltaic, wind power device, and new energy vehicle.

The set of Jiangsu AMC policies includes instructions, supervisions and incentives, taken by the Jiangsu government and its functional units to better utilise factor endowments

and comparative edges, and thereby build up a competitive edge with AMCs. In collecting the texts, to ensure accuracy and authority, considering availability, publicity and feasibility, the research takes the public documents of the People's Government of Jiangsu Province and uses AMC-related notices, plans and opinions. By retrieving documents from 2018 to 2022 with the keyword 'advanced manufacturing cluster' the research distills the clues through text pre-processing and content analysis.[5]

After filtering, a total of 52 policy texts are given. Most of them come directly from the People's Government and General Office (GO), while some belong to the Department of Industry and Information Technology (DIIT), Department of Finance (DF), Department of Human Resources and Social Security (DHRSS), and Development and Reform Commission (DRC). The research regards the implementation strength, execution intensity, and control manner of the policies, which are categorised by guiding opinions, planning directives, and incentive regulations.

Representatively, the provincial government's *Guiding Opinions on Accelerating the Development of Advanced Manufacturing Clusters* was released on 25 June 2018 as the foundational guideline, followed by other types of texts that constitute the policy system. Amongst them, various forms of notices involving planning directives are the most common source, with guiding opinions and incentive regulations emerging next. Those most authoritative detailed schemes are few. For the implementation units, the opinions and regulations are the main basis, reflecting the characteristics of the Jiangsu government as a service-oriented leader and 'facilitating state' making high use of markets. Furthermore, the texts widely cover such terms as industrial chains, regional integration, digital economy, industrial land, finance, trade, producer services, modern logistics, intellectual property, and infrastructure, indicating that the establishment of AMCs is complex.

3.2 Research Procedures and Design

To explore the underlying principles and mechanisms through knowledge discovery, and horizontally assess the policies' prospective effects according to the texts, the research is based on a qualitative-and-quantitative mixed 'analysis–evaluation' framework (Fig. 1).

[Insert Figure 1 here]

The framework first quantifies the policy texts and analyses them specifically through coding and textual mining technology from three dimensions of themes, instruments, and controls, and then builds the model and carries out the evaluation, avoiding the problems associated with the excessive length of massive texts and overmuch subjectivity in analysis, to characterise the policies more systematically and scientifically.

3.3 Analytical Methods and Techniques

Grounded Theory is a classic qualitative method, a flexible methodology summarised by Glaser and Strauss (1967). The theory advocates not adopting a preconceived hypothesis or deductive reasoning, but directly generalising and conceptualising from empirical data to conclude a set of theories that are abstract and condensed from evidence, representing a remarkable outcome of pragmatism.

When little is known about the phenomenon, to produce an explanatory conclusion, the research contains an entry point but no hypothesis, i.e., analyses the policies from the perspective of facilitating state, but never directly inserts the ideas of NSE into the analytical process. It starts with quantitative analysis to derive word frequencies and clusters, which are displayed in the form of word-cloud figures and tables, manifesting the paradigm of exploring abstract concepts from facts, while not thoroughly detaching from the research perspective and cognitive standpoint of NSE. Plus, the findings of industrial organisation theory and development economics are incorporated, and the appropriate terms are chosen to make it more theoretical and scientific.

Based on the pragmatic grounded theory, the evaluation features practice-oriented, and the PMC index is selected to examine the internal consistency of the samples. The

variable selection covers a wide range and enables the calculation of the consistency index with the multi-input-output table.

The quantitative analysis puts more emphasis on induction. As a professional-level software, NVivo could effectively dissect and profile multiple categories of data, present and report on images and videos, as well as sort factual information about past experiences. On this basis, proper theoretical patterns are refined, and valid conclusions are drawn. As for the evaluation stage, the key point is to select a suitable and effective analysis model. Based on the PMC index, the research evaluates the AMC policies through textual mining, creating an opportunity for policy improvement.

In summary, the methodology of this research has several advantages. First, the methods allow for better flexibility and openness, with conclusions arising spontaneously from the actual data, and it encompasses both a process of qualitative theory generation and the use of quantitative analysis. It enables an adaptability to the complexity and variability of subjects and objects without the constraints of preconceived opinions, contributing to a more exploratory and innovative examination. Second, the approach underlines a practical orientation, drawing from interdisciplinary findings, increasing the depth and breadth of the research and its heuristic applications. The visual presentation of word clouds and tables facilitates more explicit communication of the findings, whereby the studies are easier to understand and disseminate. Hence, it transcends classic quantitative methods by not relying disproportionately on our judgements, but rather by stressing inductive analysis of data along with a flexible, integrated perspective that opens up comprehensibility for both academic and policy audiences, and is especially suited to dealing with topics that are complex, novel, or lacking in a priori knowledge.

4. Policy Analysis and Cross-Analysis on Themes, Instruments, and Controls

4.1 Policy Analysis of Themes

4.1.1 Word-Frequency Analysis of Policy Texts

The initial step is analysing the underlying themes within the texts. Instead of manual identification, the documents are directly imported into NVivo to generate the frequencies, with noise reduction filtering out predetermined insignificant parts. Utilising NVivo's association mechanisms, the information derived from pre-reading is processed. The frequencies are organised based on the corresponding weighted percentages.[6]

[Insert Table 1 here]

The Exact-Matches-Only option (Section A of Table 1) presents the most frequent keywords: development, enterprise, service, and construction. These four terms exhibit high-frequency usage, each appearing over 2,000 times and demonstrating significant proportions. The term 'development' has a proportion of 1.43% and occurs 3,404 times. Similarly, the other three appear with frequencies of 2,575, 2,530, and 2,314, accompanied by proportions ranging from 1.08% to 0.97%. Other high-frequency keywords that align with the requirements of high-quality development include support, finance, technology, advance, logistics, upgrade, and system. The words effectively describe the development directions of Jiangsu AMCs, as well as the roles and positioning of the policy subjects and objects under the NSE framework and standards for the Sustainable Development Goals.

Section B of Table 1 lists the top-ranked keywords in synonyms and generalisations, which are roughly consistent with the terms under the Exact-Matches-Only option. There are significant counts for development, service, and enterprise, with 3,700, 2,846, and 2,575 occurrences with proportions of 1.54%, 1.13%, and 1.08%. There have not been significant changes in the terms as a result of adjustments in the text grouping, reflecting the consistency of the policies and the thoroughness of the texts. Nonetheless, there are notable differences in the frequencies of certain concepts. Of particular magnitude among the high-frequency (above 1%) themes is the 'change', which appears frequently with a count of 9,911. In our current era, change is a pivotal keyword in the implementation of policies. The shifts in international economic policies, the debate between laissez-faire and government intervention, as well as the disruptive impacts of conflicts and unforeseen health crises, have led to an unpredictable global landscape. Businesses face unprecedented pressures and challenges. The

policies underscore the adaptability of measures to effectively respond to the changes, demonstrating proactive guidance from the facilitating state. It is vital to pursue adaptive policies to ensure prompt responses to dynamic circumstances. In essence, the texts reveal clear foresight in both theoretical orientations and practical approaches to navigating these complexities.

As shown in Section C, the synonyms category (Words >= 3) features focused, including the manufacturing industry, service industry, industrial chain, the Internet, informatisation, digitalisation, integration, and more. These terms signify the subjects, objects, paths, and methods involved in the growth of AMCs. Importantly, they align closely with the standards set for high-quality development, outlining the arrangements for agencies at the Jiangsu Provincial level. The results emphasise the prosperity of both manufacturing and services with integration, demonstration areas, and development zones that leverage the potential of the Internet, high-tech, and AI, to enhance sustainable prosperity and national competitiveness through digitalisation, informatisation, and specialisation.

[Insert Table 2 here]

The research organises the above word-frequency information, detects significant noun phrases with closely related meanings, and groups proposed terms and linked phrases to identify and analyse the dominant themes as follows:

(1) Development: The policy texts prioritise development and go far beyond merely addressing unilateral and static issues in the Jiangsu AMC context.[7] These policies attempt to conform to domestic and international development trends while also seeking economic and technological progress for a virtuous cycle, ensuring sustainable and dynamic growth.

Within the theme of development, the most prominent discourse revolves around the ideals of and approaches to China's high-quality development strategy. Jiangsu's establishing AMCs with regional characteristics and global competitiveness, is to occupy a leading position in China's high-quality development. This high quality necessitates holistic mastery over patterns and structures of AMCs and supporting sectors, which represent a vital measure to enhance technological innovation, facilitate industrial upgrading, and accelerate economic

development. Moreover, high-quality development orchestrates the coordination and layout of socio-economic-environmental development across various periods, stages, and regions.

(2) Enterprise: As the central elements in clusters and the implementers and carriers of cluster policies, enterprises actively contribute to the success of AMCs by providing innovative solutions, propelling transformative breakthroughs, and shaping strategies that facilitate the attainment of AMC establishment and development.

The findings of this thematic content of policy texts related to enterprises are analysed from three aspects. First, from the perspective of enterprise size, the AMC policies place paramount weight on unlocking the potential of SMEs and promoting the capabilities of lead firms operating at the AMC network. Second, from the standpoint of industrial sectors, the support strategically aims to stimulate innovation within SMEs, particularly in S&T, thereby catalysing the massive transformation within the whole sector through technology business incubators. Third, regarding enterprise ownership, the Chinese facilitating state, drawing from its wealth of growth experience, employs a nuanced three-pronged approach that entails tailored differential incentives directed towards, especially, private SMEs.

(3) Service: Service plays a crucial role regarding not only the institutions of a service-oriented government to serve the national economy and people's livelihoods, but also the modern industrial system. The former is the guarantee for enterprise innovation and system foundation, the latter is a crucial component within markets. The two aspects enhance each other as driving forces for AMCs. The boom of the service industry, particularly producer services, promotes manufacturing growth, while this stimulates the services in turn.

There exists a comprehensive interactive relationship between AMC-related sectors. The public service-oriented government further propels the establishment of market-assisting service platforms, systems, and institutions. This initiative not only meets the requirements of cluster development for government services, but also enhances the access, quality and expeditiousness of public service delivery.

The policies value support for and nurture of the service industry as an emerging growth engine that strengthens collaboration with the manufacturing sector to realise interconnectedness, sharing, and optimisation within industrial chains. They explore the inherent value of various industries, break down barriers between manufacturing and modern producer services, and maximise resource utilisation while embracing the particularities and specificities of diverse sectors to boost effectiveness and pertinency. The productive services seamlessly integrate into the markets, encompassing services such as finance and information. It in turn fosters interaction with AMCs for the development of manufacturing within the thriving industrial ecosystem.

(4) Construction: The policies accentuate construction for high-quality development by building a series of systems and guidelines. The Jiangsu AMC policies are unequivocally targeted and underscore a commitment to long-term gains. The facilitating state puts a high priority on the construction or management of soft and hard infrastructures such as platform, transportation, telecommunication, and big data. Such improvement in infrastructure that facilitates activities by organisations and individuals, enhances corporate performance and innovation in AMCs, and further elevates the infrastructure accessible to the local public.

The prioritisation is evident in the facilitation of publicly funded infrastructure projects, contextualised specifically for advanced manufacturing projects, including but not limited to digital infrastructure, intelligent infrastructure, and green infrastructure. The overarching objective is to harmonise all available resources and enable diverse activities in the building of Jiangsu manufacturing powerhouse.

Last, the policies pivot around the imperative of fostering emerging industries. Central to this are the settings of industrial parks and demonstration zones, serving as incubators for innovation and drivers of transformation. The zones are meticulously designed to encapsulate high standards. Also, the policies nurture industrial clusters to leverage each one’s inherent comparative advantages. Fostering manufacturing clusters as innovation centres, the AMC policies seek the evolution of robust industrial symbiosis.

In summary, the government strengthens continuous support and investment in AMCs, providing proper services involving financial support, technological innovation, and logistics optimisation among multidimensional aspects. Also, it actively promotes the maturity and interconnection of vertical industries, to form a mature industrial system and foster the sound development of industries. The policies reflect the government's commitment to, more than short-term improvements in economic indicators, the scientific construction of a long-term framework for industrial ecosystems, institutions, and other blueprints. Detailed, specific, and multifaceted lasting initiatives alleviate uncertainties in economic policies. They replace risks with stability and provide decision confidence to economic participants and development actors, contributing to a more stable and predictable economic environment for sustainable development.

4.1.2 Cluster Analysis of Policy Texts

Cluster analysis entails the process of grouping physical or abstract objects and analysing the composition of classes formed by similar entities. It reduces the workload and number of specific objects by classifying them based on their characteristics and forming clusters with similar properties and correlations, to uncover hidden associations and extract insights from large datasets. Empowering the data to guide the classification, cluster analysis supports the discovery of new knowledge and emerging themes without imposing preconceived biases.

As depicted in Fig. 2 and Fig. 3, there is a notable contrast in how the coded texts are clustered based on the two patterns. As for code similarity, the coded policy texts of Jiangsu AMCs exhibit certain affiliations to the institutions (agencies, i.e. the sources). Nevertheless, there are also cases where aggregation between different institutions exceeds the level within each, reflecting the clear responsibilities of each unit and reasonable coordination in issuance. Among them, those from the People's Government and GO are basically in the same class, those of the DHRSS have a strong association with the People's Government, while those of the DIIT, DRC, and DF, are relatively scattered. The 'financial support' prominently occurs

with the planning directives. Subsequently, it is associated with talent cultivation, guiding opinion, funding investment, market governance, tax incentive, and public service.

[Insert Figure 2 and Figure 3 here]

For another, when examining word similarity (i.e., the texts themselves), the results are grouped separately. There are mainly two clusters: one represented by incentive regulations and strategic measures, with the other by the '14th Five-Year Plan' and manufacturing development. The differences substantiate the necessity of the unclassified above and subsequent conditional, theory-backed word-frequency analyses of original and coded texts, respectively.

4.2 Policy Analysis of Instruments

The traditional industrial organisation theory offers a preliminary exploration of general policy impacts, but the political economy of the world is constantly changing in a state of flux, and academia pays increasing attention to the policy dynamics. As the instruments become more intricate and nuanced, inevitably, policy studies expand. Within this realm, the methodology is crucial in refining our understanding.

Rothwell and Zegveld (1985) classified policies and proposed three-lens policy instruments: supply, demand, and environment.[8] The division of dimensions reveals the structure and scope of different policies. Supply and demand present a push-pull role, while environment plays an indirect influence. The supply instruments cover funding, talent, and technical assistance, including the establishment of S&T infrastructure; the demand side includes procurements and contracts from the government at the central or local levels and cooperation with international actors, especially for innovative products, processes, and services; and the environment areas favour tax, finance, plans and regulations, i.e., measures to establish the legal and fiscal framework within which the AMC economy operates. This perspective of policy instruments reflects the multidimensional aspects of AMC policies, thus better demonstrating the strengths and weaknesses of available measures and facilitating their formulation, adoption, and adjustment. Without clear boundaries, the three dimensions are

often applied in combination within the policy system and embodied in the texts, which requires a consideration of the context and background. While in multiple dimensions, similar emphases and keywords might be identified, it remains worthwhile to delve into nuanced distinctions, such as the degree of emphasis and the prioritisation of specific discourses. Drawing on the push-pull theory applied by scholars such as Cheng et al. (2006) within the Chinese context, Fig. 4 illustrates the analysis of the instruments.

[Insert Figure 4 here]

Due to the samples' basic features, subject analysis and word-frequency analysis are preferred. After text pre-processing, stop-word removal, and manual correction after coding, the analyses centre on the subjects of policy issuance as well as the word frequencies under different perspectives, with a focus on the coded texts rather than the original ones.

4.2.1 Subject Analysis of Policy-Instrument Dimensions

The association between policy instruments and their issuing subjects is examined through 'instrument dimensions × issuing units' analysis. Table 3 displays the distribution of instruments across different units. While policies are issued by various sources, the People's Government and its affiliated GO take the lead in issuance. The People's Government covers nearly 20% of the dimensions in sub-level indicators, while the GO accounts for over 70%. Other units have auxiliary roles—the DIIT represents over 28% in the target planning aspect and clearly defines the indicators of AMC development, the DRC adopts strategic-measure approaches (17.96%), and policies from the DHRSS focus on setting talent-cultivation goals in advanced manufacturing (1.37%).

[Insert Table 3 here]

Moving on to Table 4, it spotlights the distribution of policies from each unit. The DHRSS revolves around talent cultivation within the supply dimension, while playing a relatively smaller role in regulatory control and financial support compared to other agencies. The DF contributes to funding investment and financial support, collaborating with others in terms of legislation, regulation, taxation, and market-related policies. The DIIT holds a

significant share of nearly 20% in both science & technology and target planning dimensions, with financial support and public service also exceeding 10%. The People's Government and GO prioritise talent cultivation and funding investment within the supply dimension, and emphasise financial support within the environment one.

[Insert Table 4 here]

4.2.2 Word-Frequency Analysis of Policy-Instrument Dimensions

Jiangsu has a tightly integrated governance system for AMC development. It is responsive in supply, demand-driven, and environmentally-friendly. Supply and demand policies directly influence clusters through push-pull mechanisms, while environment ones coordinate clusters by offering a favorable atmosphere indirectly.

[Insert Table 5 here]

To begin with, the frequency analysis focusing on the supply dimension reveals that the policies promote cluster development by enhancing public service quality, encouraging technology investment, and cultivating innovative talent. The prominent terms—enterprise and manufacturing industry, followed by service, innovation, development, industrial chain, and the Internet—signify the targets of improving public service tailored to the needs of enterprises, applying technology in SMEs, nurturing skilled professionals, and directing capital flows. The policies pursue the formation of clusters to leverage their agglomeration effects, enabling the manufacturing industry and its vertical partners to achieve digital transformation through regional integration and enterprise informatisation. To effectively support the transformation and foster technological competitiveness, it is essential to ensure clear channels for funding investment so that incentivise AMCs to harness cutting-edge technologies and facilitate synergistic partnerships between the public and private sectors. This incentive, in turn, drives industrial upgrading and high-quality development. Therefore, when formulating policies, it is crucial to consider a diverse array of guidelines and initiatives to reinforce the sustainable prosperity of AMCs.

Then, the demand dimension strengthens international trade and cooperation, guiding industrial practices to embed the GVCs. The local incubators utilise platforms and institutions to activate the markets' response to policies and stimulate its vitality. These policies highlight the pull from the demand side, with the influence exerted through government procurement, market expansion, cooperation, and the specialised division of labour across different regions. Through the communication of ideas, the term 'international' shapes the core competitiveness of AMCs' innovative development by optimising the market mechanism and following the global trends to enhance their competitive capabilities.

Next, the environment dimension indirectly attracts industrial enterprises with demonstration areas set to optimise the business environment. These policy instruments cover strategic measure, regulatory control, financial support, target planning, and tax incentive. Compared to the previous identifications, the financial and service sectors have higher frequencies, while other keywords remain frequent, indicating consistency and clear directions. Additionally, they underscore the significance of finance, property rights, and services. Financial policies primarily support the innovative development of manufacturing clusters by accurately providing fast and high-quality financing services when needed, to address funding issues and support the transformation. Property laws and policies protect intellectual property and trade secrets, offering reliable incentives and assistance. Moreover, services emphasise deep integration with manufacturing, promoting interaction and win-win cooperation to enhance the productivity and competitiveness of the entire chain. Policies adopt diversified measures to better the business environment, attracting more investors and driving AMCs towards high-end, low-carbon, and intelligent directions. Attention should also be given to institutional innovation with improvement in the regulatory framework, guiding SMEs to increase engagement and develop sustainable prosperity.

4.3 Policy Analysis of Controls

Merely enacting policies falls short of expectations of effectively capitalising on emerging trends and leveraging comparative strengths. To ensure good governance and establish

credibility, policy control becomes indispensable. Policy intensity is a critical metric used to gauge the execution ability of policies. It is generally studied from an empirical perspective, assessing how policies contribute to achieving social and economic objectives or identifying the determinants of policy success. To thoroughly explore the targets of initiatives, it is vital to establish a comprehensive scale that encompasses relevant issues (Rai, 2020). Building upon the earlier analysis, policy control intensities could be characterised by incentive regulation, planning directive, and guiding opinion.

Economists often utilise econometric models or employ machine learning techniques to review policy intensities through correlation and regression coefficients. However, a general approach for this measurement is yet to be established. Furthermore, many research findings lack clarity, and the analytical process can be overly complicated. Drawing from past experiences and the objectives of quantitative research, the crucial point lies in conducting subject analysis and identification, followed by an examination of frequencies, concisely and straightforwardly (Hu et al., 2020; Rai, 2020).

4.3.1 Subject Analysis of Policy-Control Intensities

The major focus is on analysing the subjects and discussing the results of 'control intensity × issuing unit'. To conduct a further interpretation of the actual content, the analysis is based on the coded texts. For example, guiding opinions also include specific implementation plans and detailed regulations about supervision and stimulus.

One aspect involves reporting the distribution of control intensities (Table 6). GO earns significantly higher proportions, accounting for 62.11%, 83.54%, and 83.08% respectively, and its affiliating People's Government makes up 10.02%, 15.13%, and 15.79%. Similar to the situation of instrument dimensions, the People's Government and GO are the core of policy control too. The DIIT is closely behind, at 16.26% in incentive regulation—yet in planning directive it just scores slightly higher than the DF, visibly lower than other sources. The DRC weighs marginally more than the DHRSS, with proportions in incentive regulation and guiding opinion 5.06% and 0.73%. While the DHRSS and DF have fewer

documents issued resulting in lower proportions of subjects—only in incentive regulation can they gain 4.37% and 2.17%.

[Insert Table 6 here]

Another is on the distribution of texts with varying intensities among different issuing subjects (Table 7). Taking a closer look at each unit, first, the People's Government and GO prioritise intensities of planning directive and guiding opinion, accounting for over 51% and 46% respectively, while about 1% in that of incentive regulation. They concentrate their efforts on policy formulation and general orientation. Second, the DRC and DF primarily employ guiding opinions, with proportions close to 60%, while other intensities account for less than 30%. Third, the DIIT is more inclined towards incentive regulations. Last, the DHRSS has very few policies with guiding-opinion intensity and displays the highest preference for planning directives among all (81.49%).

[Insert Table 7 here]

4.3.2 Word-Frequency Analysis of Policy-Control Intensities

First, the government and its affiliated agencies, particularly the GO, are the main drivers of incentive-regulation dissemination, which is evident from the metaphorical idioms in political discourse such as 'real practice and solid work' (zhenzhuashigan) and 'high quality and high price' (youzhiyoujia). These idioms suggest that public authorities, such as the provincial government and development zones, actively leverage the knowledge spillover effects of S&T and flexibly adopt attuned methods to facilitate synergy between giants and SMEs, thereby improving production and circulation for businesses and stimulating clusters' prosperity. For policies, it is crucial to enforce a real-practice-solid-work style avoiding triumphalism and bureaucratism. With effective implementation both meeting the needs of enterprises and protecting consumer rights, enterprises have more opportunities to thrive through market competition, thus promoting the growth of AMCs.

[Insert Table 8 here]

The second is the planning-directive intensity that stresses high-tech with keywords such as AI, manufacturing industry, industrial chain, and digitisation. Valuing technology, this intensity provides more specific steps and a broader vision. The related policies propose concrete measures in specific fields involving the Internet, integrated circuits, commodity circulation, and natural resources, reflecting the textual information of the planning-directive policies that grasp the detailed support for the transformation of R&D, and promote close industry-academia collaboration.

The guiding opinion intensity focuses on macroeconomic and directional guiding aspects of policy control. It highlights institutional terms embodied by socialism especially. Furthermore, it addresses important topics related to the assessment of the situation, including openness, and several focal points of changing circumstances and breakthroughs. The AMC policies underline the paths of Chinese socio-economic development, which relies on the guiding institutions to strike a balance in the global game of openness and protectionism. The strategies strengthen the clusters' industrial synergy, symbiosis, and chain connection, by attracting FDI, introducing high-end talents, and facilitating deep integration between local clusters and the whole international markets.

4.4 Cross-Analysis of Policy-Instrument Dimensions and Policy-Control Intensities

Using a two-dimensional analysis framework of 'instrument dimension × control intensity', a cross-analysis of the Jiangsu AMC policy texts is conducted. Table 9 represents the distribution of control intensities across different instrument dimensions, with each row totaling 100%. Table 10 presents that of dimensions across intensities, with each column 100%. Specifically, vertical and horizontal cross-analyses are performed to examine the proportion of the content within a given intensity or dimension.

[Insert Table 9 here]

As shown in Table 9, the indicators of incentive regulation are less frequent, with only slight prominence in the strategic measures. Those of planning directive and guiding opinion have relatively tiny distribution differences and are fairly evenly distributed, mostly within

the range of 40% to 55%. Although the three all have a basic consensus in terms of talent cultivation, funding investment, and financial support, all of which have more weight (see Table 10), in the horizontal comparison (back to Table 9) with planning directive and guiding opinion, the proportions of funding investment and financial support in incentive regulation are only 0.74% and 0.79%, significantly lower than those in the other two intensities. Meanwhile, most planning-directive indicators have the most significant proportions close to 50%, with the strategic measure being the relatively smallest at 37.87%. Following that, guiding opinions in the supply dimension are slightly less than planning directives.

Vertical cross-analyses, presented in Table 10, provide support that incentive regulations are more prominent in the supply and environment dimensions. Among them, financial support (environment) and funding investment (supply) are the most notable (26.23% and 22.42%), followed by the proportions of talent cultivation and strategic measure (13.34% and 11.01%). The least frequent instruments are present in all three dimensions: science & technology, target planning, and government procurement with even smaller proportions. Next, planning directives especially favour the supply dimension, totalling up to approximately 50%, with public service, science & technology, talent cultivation, and funding investment at 6.87%, 3.37%, 19.57%, and 19.33% respectively. Except for financial support in the environment dimension (21.41%), all other indicators are below 10%. Then, the content within the three dimensions of the guiding opinions exhibits similarities with planning directives. There is a higher level of policy concentration evident in the supply dimension with frequencies of 6.73%, 3.30%, 19.45%, and 20.03%.

[Insert Table 10 here]

In sum, the research reveals that the government has a preference for policies that emphasise the intensity of planning directive and the dimension of supply, while those based on the intensity of incentive regulation and the dimension of demand are used less frequently. Here reflects a scientific understanding and effective balance between facilitating state and efficient market, which are supported by the principles of NSE. In terms of the economy, there is an encouragement for a service-oriented government that avoids excessive or reactive

intervention in the markets. Instead, the core is on proactive guidance and setting directions through planning directives, forming a policy framework that embodies the characteristics of facilitating state. Besides, the four indicators of supply dimension, and the financial support provided through environment-dimension instruments, are all crucial in building and governing AMCs. These arrangements showcase the facilitating state's role.

5. Policy Evaluation with PMC Index

5.1 Evaluation Methodology

The PMC index model is an analytical framework for exploring the internal consistency of policies proposed by Ruiz Estrada (2011, 2018). Since its innovative conceptualisation and formulation, the model has been adapted, developed and tested by other scholars for over one decade, and is recognised in academia as a more meticulous evaluation framework.

Under the Omnia Mobilis assumption, the model's selection of variables involves a sufficiently wide range of considerations, stressing 'multiple perspectives and comprehensive coverage' for not isolating any of the potentially relevant variables.

Consequently, the framework categorises variables and parameters, identifies subjects, clusters, and word frequencies within policy texts. It then establishes a multi-input-output table to calculate the PMC index, which evaluates policy consistency. The PMC surface is generated to present a multidimensional perspective, highlighting the weaknesses and strengths of the policies. Fundamental theories and corresponding methods are employed to scrutinise the causes and socio-economic expectations of the policies in a specific time and space. This research builds upon Ruiz Estrada's work by incorporating contributions from Kuang et al. (2020), Li et al. (2022), and other scholars to construct an adjusted model that fits the sample characteristics in the application process.

$$X \sim N[0, 1] \tag{1}$$

$$X_{ij} = \{XR: [0, 1]\} \tag{2}$$

[Insert Table 11 here]

The research introduces 9 main indicators and 33 sub-ones for policy timeliness, type & nature, perspective, issuing agency, area, measure & guarantee, object, instrument, and features & strengths (Table 11). The identified sub-level indicators have equal weights, and the variables are assigned values based on Expr. (1) and (2). If the policy text involves the content of relevant variables, the value is assigned as 1, and otherwise it is 0.

[Insert Table 12 here]

Due to the characteristics and operating mechanisms of the PMC model, it prefers not to process huge volumes of texts with lower relevance in one stroke. According to the works of scholars including Li et al. (2022), this research filters out the 8 most representative policies by refining criteria such as issue unit and type of document (Table 12).

[Insert Table 13 here]

To ensure objectivity, the texts and the identifications of the variables at all levels incorporate the textual mining content analysis, and the identified variables correspond to the previously analysed themes, instrumental dimensions, and control intensities, so that the processing of the texts and the value assignments of the variables are more appropriate and unbiased. Then, the multi-input-output table is applied to measure each variable. Using this table, variables are quantified in a multidimensional perspective, and values are assigned to the 33 sub-level variables (indicators) under the 9 first-level ones.

5.2 Evaluation Results

Based on the set indicators and evaluation criteria, the index of individual main variables is calculated as per Expr. (3), and thereafter the sum of variables is measured via Expr. (4).

$$X_{\mathrm{t}}\left(\sum_{j=1}^{\mathrm{n}}\frac{X_{tj}}{T(X_{tj})}\right) \tag{3}$$

Here, j is the individual sub-variables and t is all the variables in the analysis.

$$\mathrm{PMC} = \begin{bmatrix} X_1\left(\sum_{j=1}^{3}\frac{X_{1j}}{3}\right) + & X_2\left(\sum_{j=1}^{3}\frac{X_{2j}}{3}\right) + & X_3\left(\sum_{j=1}^{3}\frac{X_{3j}}{3}\right) + \\ X_4\left(\sum_{j=1}^{2}\frac{X_{4j}}{2}\right) + & X_5\left(\sum_{j=1}^{5}\frac{X_{5j}}{5}\right) + & X_6\left(\sum_{j=1}^{6}\frac{X_{6j}}{6}\right) + \\ X_7\left(\sum_{j=1}^{4}\frac{X_{7j}}{4}\right) + & X_8\left(\sum_{j=1}^{3}\frac{X_{8j}}{3}\right) + & X_9\left(\sum_{j=1}^{4}\frac{X_{9j}}{4}\right) \end{bmatrix} \quad (4)$$

Shown in Table 14, for the policy internal consistency index of the samples, 8 texts from P_1 to P_8, respectively, are calculated with 7.50, 6.05, 6.68, 6.77, 5.75, 5.80, 4.47, 6.97, and the mean of index is 6.25. Then, 8 indicators from X_1 to X_9 are calculated with mean values of 0.33, 0.79, 0.75, 0.56, 0.80, 0.67, 0.78, 0.88, 0.69.

[Insert Table 14 here]

5.3 Interpretation and Conclusion

Ruiz Estrada (2010, 2011) divides the results of the PMC evaluation into four categories: perfect consistency (PMC ≥ 9), good consistency (≥ 7), acceptable consistency (≥ 5), and low consistency (< 5). However, those conclusions are not always absolutely generalisable. During the sample collection and model application phases, not all texts are suitable for the same analysis design due to variations in the specificity and quantity of the collected text.

Therefore, considering the differences in the actual research samples and modelling stages, with reference to the studies of Kuang et al. (2020), Qin et al. (2023), Bu and Zhang (2023), the research categorises the numerical scores into three levels: higher consistency (PMC ≥ AVG(PMC)), acceptable consistency (≥ 5), and lower consistency (< 5). Accordingly, the results are ranked by PMC index as Table 15.

[Insert Table 15 here]

P_1 has the highest index at 7.50, and the texts with a mean value of 6.68 or more include P_8, P_4 and P_3, while lower scores are obtained for P_6, P_5, and P_7. Among those with all scores less than 6.00, P_6 and P_5 remain at an acceptable level but P_7 has a poorer performance.

$$\text{PMC Surface} = \begin{pmatrix} X_1 & X_2 & X_3 \\ X_4 & X_5 & X_6 \\ X_7 & X_8 & X_9 \end{pmatrix} \quad (5)$$

See Expr. (5) for drawing the PMC-Surface based on the PMC-Matrix. Since the convex part indicates higher scores on the corresponding variables whereas the concave represents lower ones, the degree of depression illustrates the strength and weakness points for internal consistency. See Fig. 5, the milder the degree of depression, the better the internal consistency and potential performance.

[Insert Figure 5 here]

Moreover, P_1 demonstrates only a slight deficiency in the coverage of policy instruments, while excelling significantly in other indicators. P_8, P_4, P_3, and P_1 share a similar characteristic of just being mildly deficient in a few areas, and the overall levels are above the mean. On the other hand, texts that fall below the mean, exemplified by P_7, have all indicators (except X_9) less than or equal to the mean. This explains that, although P_7 shows certain advantages in the evaluation of four sub-indicators, namely, sufficient grounds & evidence, clear goals, scientific schemes, and detailed planning, it faces significant shortcomings in other indicators, particularly in policy measure & guarantee (X_6) and object (X_7). There are certain deficiencies in the texts regarding the regulative control and general coverage of all aspects of policies by each agency's functions.

6. Discussion & Conclusions

6.1 Research Conclusions

Considering strategic roles and functions of industrial policy for Global South's regional development, the research revolves around AMCs and the facilitating state as the foothold. With documents on AMCs from the Jiangsu government and units collected, our mixed framework on texts is developed, introducing three aspects fit for their textual characteristics: theme, instrumental dimension, and control intensity; subject matters and word frequencies are analysed to explore the orientations and pathways according to three aspects. Then, the

samples are evaluated with the PMC index, thus revealing the role played by the government to share a perspective of NSE and a practical approach for policy studies. Jiangsu's industrial policy, deemed as a reflection of the facilitating state, guides the optimisation of AMCs and enhances their core competitiveness through the implementation of measures:

(1) For achieving the goals of high-quality socio-economic development, facilitative policies better the resource allocation by adjusting the structure to promote technological progress and improve the efficiency of resource utilisation for sustainable prosperity.

(2) Industrial policies possess fundamental, mobilising, and supporting functions. Such framework shows the directions of Jiangsu AMCs and the roles of policy subjects and objects, manifests the value orientations towards sustainable prosperity legitimising the norms of decision-making for long-term interests and,elucidates the actors and means of developing competitive AMCs.

(3) The overall internal consistency is high and the individual performance levels are mostly better than acceptable, reflecting the positive effects of facilitative incentives. The facilitating state regards the instruments and controls, since the keywords of the texts match the criteria of high-quality development, whereby the multi-dimensional and multi-intensity behaviours in the implementation process indicate a coordinated and flexible approach.

(4) The policies, from formulation to implementation, keep the actual situation and needs of industrial development in mind, follow the law of markets, and employ effective actions to ensure the realisation of goals, with targeted solutions heeding the characteristics of different industries and the conditions of a region.

6.2 Policy Implications and Recommendations

Under the framework of NSE, the government should adhere to contextualised policies based on factor endowments and comparative advantages, and utilise conditional incentives more in line with the realities and economics, to motivate entrepreneurship to engage in the development and governance of AMCs.

First, strengthen the orientations of long-term interests. The development directions of AMCs and the roles assigned to policy actors should be per the priority given to such a long view that highlights development, construction, innovation, finance, and system. Rather than arbitrary intervention, it is recommended that policymakers embrace mutually beneficial orientations, and focus on the sustainable development of enterprises, industries, and regions, guiding to a long-run industrial ecosystem. Instead of blindly pursuing GDP, the government should stress distributive justice and livelihood improvement. Grappling with climate change, pandemics, and localised conflicts, certain states augment GDP figures to obfuscate the fragility of their economies by nationalism and protectionism that trigger an escalation in techno-geopolitical uncertainty. However, myopic measures are incongruent with the ethos of human welfare and the livelihood-centric, long-term perspective. Domestically, the post-war South Korea exemplifies a state that placed significance on long-term interests, ultimately achieving prosperity (Chang, 2007). While disparities exist in the stances of Chang and Lin regarding comparative advantages, such paradigmatic nuances never negate the consensus on long-term interests for sustainability. Amidst the discourse between the trendy neoliberalism and developmental states, the acknowledgement of long-term prosperity prevails. On the international scale, contemplating more economies including the US, the UK, and the EU, sustainable prosperity invariably entails a delicate balance of cooperation and competition. Accentuating GVCs, consolidating international trade system, and engaging in cooperative win-win competition should be proactively activated for sustainable prosperity of humanity.

Second, continuously optimise the policy instruments and controls. The facilitating state can balance the dimensions and intensities, and direct institutions to exert their strengths and responsibilities to be prominent contributors to sustainable prosperity. It represents an alternative paradigm to neoliberal governance demonstrating a pragmatic approach, from which those aspiring to strike a delicate state-market balance could glean. Although emerging economies such as Singapore, Malaysia, Turkey, and Brazil showcase differentiated levels of facilitative intervention, the commonality lies in the achievement of industrialisation by adept policy instruments and controls. Conversely, the ‘lost’ Latin American economies caution

that a flawed policy toolbox precipitates economic failure, with repercussions extending into politics (Kay, 2002). Policymakers should improve the effectiveness and efficiency of policy practices, coordinating a confirmed and stable set for residents and enterprises.

Third, underline the internal consistency of policies. Policymakers are suggested to further enhance the consistency and improve the implementation outcome in their follow-up work, to guarantee that the policies are truly put into practice and meet expectations.

Last, set close liaison with research institutions to reinforce the quantitative policy analysis. It is proposed that academics conduct more in-depth examinations and constantly enrich the theoretical knowledge, to provide policymakers with more scientific and accurate references for decision-making; the government, supported by the investigations, absorbs the ideas and increases its capacity for governance. Newly industrialised countries ought to value the coordination between the academic and policy realms, drawing insights from studies on the experiences of first movers. This imperative is essential to preclude path dependency or stagnation that might follow in the wake of an ephemeral economic boost.

Moreover, even if a state government rigorously adheres to these recommendations aforementioned, it would inevitably confront unpredictable exogenous shocks. Issues like violent or nonviolent conflicts and localised or global pandemics incessantly influence the focal points of governance. For instance, the resilience of supply chains has garnered much attention after the shocks. Academics and political elites propose solutions involving shorter, more domestic, and diversified supply chains, albeit such actions ignite potential protectionist and economic-techno-nationalist (Miroudot, 2020; Luo & Van Assche, 2023). The reshoring and protectionist measures bear underlying worse ramifications for developing countries and the global economy, especially among those who still espouse liberalisation reforms. The dual-edged nature is evident in our advocacy for facilitative intervention. GVCs, a zero-sum or win-win game? The facilitating state, while championing appropriate industrial policy intervention, runs the risk of becoming an accomplice to hegemony and exploitation when politics prioritises geopolitical considerations. Besides, despite pragmatic political elites earnestly promoting economic development and investing in technology that serves the entire

societal spectrum (such as infrastructure, witnessed in Indonesia, see Kim, 2020), geopolitical contradictions lay traps beneath the industrial policy by facilitating state.

6.3 Limitations and Prospects

Although our presentation delivers novel insights into AMC policy evaluation utilising the triple framework of themes, instruments and controls, several limitations could be dismantled by future probes.

This research acknowledges that policy designed to support AMCs has recently emerged as a promising field but with a limited amount of documents over the last five years in Jiangsu. Inevitably, our relatively small sample size might be unlikely to evaluate the long-term, dynamic effects of AMC policies (Liu et al., 2023). Keeping up with the rapid progress in AMC practices and latest policies constantly being introduced, it is vital to diversify research horizontally and longitudinally. Further studies are required to establish an improved integrated framework to evaluate AMC policies on more extensive and nuanced samples by incorporating varied data from other spheres of China and other states to achieve a more generalised conclusion. Simultaneously, prospective longitudinal investigations are called for tracking AMC development over an extended period to frame a deeper reflection on how AMCs evolve and adapt dynamically to cluster policies. Additionally, subsequent endeavours could leverage the usage of intricate AI-based methods (Sewerin et al., 2023) to engender better policy dictionaries and enhance the quality of outcomes.

Since the findings consider the primary functions of AMC policies to legitimise, mobilise and promote AMC practices (Mosse, 2005), our methodology is a mixed policy analysis qualitatively focused on the content of policy texts using quantitative textual mining processes combined with the PMC index model. Due to the relatively narrow span of AMC policy implementation and restricted data availability, this work does not attempt an orthodox quantitative analysis to empirically evaluate the integrated socio-economic causality within AMC policies. To validly grasp the overall effectiveness of policy implementation, there are

opportunities for future scrutiny exploring a sharp mixture of both qualitative and quantitative methods. For that purpose, it would be necessary to develop the methodology of holism to examine sustainable prosperity caused by AMC policies and embrace interdisciplinary approaches, such as complex and systematic analysis, topological analysis, and comparative analysis, under a socio-economic-environmental framework to address causal complexity.

The issues around policy coordination are increasingly recognised as crucial for sustainable prosperity (Zeng, 2012). Our research spotlights to interrogate internal policy coordination, i.e., the consistency of a single policy embedded into the domain of AMCs. Henceforth, closer concentration should be committed to consistency and coherence of the Chinese industrial policy system, particularly to external coordination between AMC policies and other policies among relevant areas. There are three main directions for future work of external AMC policy coordination: 1) examining the objectives' compatibility of various policies, 2) exploring structural combinations of diverse policy instruments, and 3) designing procedural mechanisms of policy harmonisation. These endeavours could augment a more accurate and complete assessment of implementation outcomes of AMC policies.

Classification Codes

JEL F63 Economic Development, L52 Industrial Policy, L6 Manufacturing, O2 Development Planning and Policy, O3 Innovation

Declaration of Interest Statement

The authors declare no conflicts of interest.

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Tables

Table 1. *Word-Frequency Analysis of Policies on Jiangsu AMCs (Unit: Word Count, %)*

Section	Initial Chinese Word	Translated English Word	Word Count	Weighted Percentage
	Exact Matches Only (Words >= 2)			
Section A	发展, fazhan	development	3404	1.43
	企业, qiye	enterprise	2575	1.08
	服务, fuwu	service	2530	1.06
	建设, jianshe	construction	2314	0.97
	创新, chuangxin	innovation	1906	0.80
	产业, chanye	industry	1861	0.78
	支持, zhichi	support	1566	0.66
	金融, jinrong	finance	1365	0.57
	技术, jishu	technology	1332	0.56
	推进, tuijin	advance	1300	0.55
	推动, tuidong	promote	1134	0.48
	物流, wuliu	logistics	1073	0.45
	提升, tisheng	upgrade	1058	0.44
	体系, tixi	system	1001	0.42
	Synonyms (Words >= 2)			
Section B	发展, fazhan	development	3700	1.54
	服务, fuwu	service	2846	1.13
	企业, qiye	enterprise	2575	1.08
	建设, jianshe	construction	2433	1.02
	工作, gongzuo	work	3734	0.90
	管理, guanli	management	2976	0.82
	Generalisations (Words >= 2)			
	服务, fuwu	service	2846	1.08
	企业, qiye	enterprise	2575	1.08
	变化, bianhua	change	9911	1.03
	Synonyms (Words >= 3)			
Section C	制造业, zhizaoye	manufacturing industry	637	0.27
	江苏省, jiangsusheng	Jiangsu province	552	0.23
	服务业, fuwuye	service industry	510	0.21
	产业链, chanyelian	industrial chain	402	0.17
	互联网, hulianwang	internet	378	0.16
	进一步, jinyibu	further	288	0.12
	信息化, xinxihua	informatisation	284	0.12
	数字化, shuzihua	digitisation	267	0.11
	一体化, yitihua	integration	255	0.11
	省政府, shengzhengfu	provincial government	239	0.10

办公厅, bangongting	general office	196	0.08
高新技术, gaoxinjishu	high tech	186	0.08
竞争力, jingzhengli	competitiveness	162	0.07
南京市, nanjingshi	Nanjing city	159	0.07
长三角, changsanjiao	Yangtze River delta	145	0.06
现代化, xiandaihua	modernisation	141	0.06
示范区, shifanqu	demonstration area	138	0.06
人工智能, rengongzhineng	artificial intelligence	132	0.06
开发区, kaifaqu	development zone	127	0.05
财政厅, caizhengting	department of finance	125	0.05
专业化, zhuanyehua	specialisation	122	0.05

Table 2. *Recognition of Policy Themes on Jiangsu AMCs (Unit: Word Count, %)*

Initial Chinese Word	Translated English Word	Word Count	Weighted Percentage
	Development		
质量发展	high-quality development	409	12.02
发展理念	development approach/idea/philosophy	328	9.64
发展格局	development pattern/structure (coordinated development of regions/economic belts)	309	9.08
经济社会发展	socio-economic development	216	6.35
	Enterprise		
小微/中小企业	SME	364	14.14
龙头骨干企业	leading backbone enterprise/lead firm	181	7.03
创新/科技企业	innovative/S&T enterprise	153	5.94
民营企业	private enterprise	128	4.97
	Service		
服务平台/体系/机构	service platform/system/institution	406	16.05
公共服务	public service	355	14.03
金融服务	financial services	260	10.28
信息/技术服务	information/technology services	250	9.88
	Industry		
新兴产业	emerging industry	318	17.09
产业园区/示范基地	industrial park/demonstration base/zone	309	16.60
产业体系	industrial system	244	13.11
产业特色	industrial characteristics/comparative edge	110	5.91
	Innovation		
产业科技创新	industrial technology innovation	195	10.23
创新驱动发展	innovation-driven development	168	8.81
产业创新中心	industrial innovation centre	163	8.55
技术创新中心	technology innovation centre	112	5.88
	Construction		
项目建设	(industrial) project construction	276	11.93
基础设施建设	infrastructure construction (land, water, transportation)	205	8.86
平台载体建设	platform carrier/supporter construction	63	2.72
制造强省建设	manufacturing powerhouse province construction	44	1.90
	Management		
大数据	big data	380	12.77
数据开放	data opening/availability/access	281	9.44
生命周期管理	life cycle management	174	5.85
工业互联网平台	Industrial Internet platform	104	3.49
	Manufacturing		

先进制造业	advanced manufacturing	423	66.41
制造业集群	manufacturing cluster	381	59.81
高标准	high standard (national, industrial, local)	292	45.84
制造业创新中心	manufacturing innovation centre	146	22.92

Notes: Percentage here accounts the (sub-level) thematic words/phrases recognised for given policy themes. For instance, the proportion of ‘high-quality development’ to ‘development’, that of ‘SME’ to ‘enterprise’. And, there are overlapping phrases among the keywords of various themes, as well as within individual themes.

Table 3. *Distribution of Source Institutions across Instrument Dimensions (Unit: %)*

Instrument Dimension × Issuing Unit		People's Government	GO	DRC	DIIT	DHRSS	DF
Supply Dimension	Public Service	8.11	88.62	1.96	1.05	0	0.27
	Science & Technology	23.22	69.91	3.43	3.19	0	0.26
	Talent Cultivation	18.05	80.12	0.16	0.26	1.37	0.03
	Funding Investment	17.88	80.85	0.26	0.22	0	0.79
Environment Dimension	Strategic Measure	40.14	35.01	17.96	6.90	0	0
	Regulatory Control	17.74	80.99	0.72	0.08	0.08	0.39
	Financial Support	18.25	80.58	0.50	0.38	0.02	0.27
	Target Planning	38.35	17.47	13.44	28.02	2.72	0
	Tax Incentive	21.38	78.22	0.08	0.14	0	0.19
Demand Dimension	International Cooperation	17.43	81.23	0.52	0.58	0	0.24
	Market Governance	21.17	78.43	0.37	0.03	0	0
	Government Procurement	9.10	79.89	4.17	6.84	0	0

Table 4. *Distribution of Instrument Dimensions across Source Institutions (Unit: %)*

Instrument Dimension × Issuing Unit		People's Government	GO	DRC	DIIT	DHRSS	DF
Supply Dimension	Public Service	3.15	7.83	19.28	12.11	0	6.41
	Science & Technology	4.43	3.03	16.58	18.05	0	3.06
	Talent Cultivation	19.19	19.34	4.43	8.32	93.76	1.75
	Funding Investment	18.84	19.34	6.95	6.90	0	51.92
Environment Dimension	Strategic Measure	1.02	0.20	11.58	5.21	0	0
	Regulatory Control	3.80	3.94	3.92	0.49	1.08	5.21
	Financial Support	21.63	21.68	15.07	13.27	1.16	20.20
	Target Planning	0.88	0.09	7.79	19.05	4.00	0
	Tax Incentive	9.84	8.17	0.90	1.90	0	5.34
Demand Dimension	International Cooperation	7.05	7.46	5.31	6.92	0	6.10
	Market Governance	9.84	8.27	4.37	0.44	0	0
	Government Procurement	0.33	0.65	3.82	7.34	0	0

Table 5. *Word-Frequency Analysis of Coded Policies from Instruments (Unit: Word Count, %)*

Dimension		Initial Chinese Word	Translated English Word	Count	Percentage
Supply	Words >= 2	企业, qiye	enterprise	4489	1.40
		发展, fazhan	development	4368	1.36
		服务, fuwu	service	4120	1.28
		创新, chuangxin	innovation	3816	1.19
		建设, jianshe	construction	3748	1.17
		产业, chanye	industry	3027	0.94
		支持, zhichi	support	2785	0.87
		技术, jishu	technology	2538	0.79
		金融, jinrong	finance	1962	0.61
		推进, tuijin	advance	1923	0.60
	Words >= 3	制造业, zhizaoye	manufacturing industry	823	0.26
		互联网, hulianwang	internet	730	0.23
		产业链, chanyelian	industrial chain	635	0.20
		数字化, shuzihua	digitisation	510	0.16
		服务业, fuwuye	service industry	509	0.16
		一体化, yitihua	integration	397	0.12
		信息化, xinxihua	informatisation	397	0.12
		进一步, jinyibu	further	301	0.09
		高新技术, gaoxinjishu	high tech	290	0.09
		人工智能, rengongzhineng	artificial intelligence	256	0.08
Demand	Words >= 2	企业, qiye	enterprise	4486	2.08
		发展, fazhan	development	2922	1.35
		服务, fuwu	service	2770	1.28
		创新, chuangxin	innovation	2262	1.05
		建设, jianshe	construction	2018	0.94
		支持, zhichi	support	1816	0.84
		产业, chanye	industry	1808	0.84
		金融, jinrong	finance	1428	0.66
		技术, jishu	technology	1418	0.66
		国际, guoji	international	1282	0.59
	Words >= 3	产业链, chanyelian	industrial chain	520	0.24
		制造业, zhizaoye	manufacturing industry	444	0.21
		服务业, fuwuye	service industry	410	0.19
		进一步, jinyibu	further	346	0.16
		互联网, hulianwang	internet	324	0.15
		高新技术, gaoxinjishu	high tech	320	0.15
		竞争力, jingzhengli	competitiveness	254	0.12
		数字化, shuzihua	digitisation	252	0.12

		一体化, yitihua	integration	244	0.11
		信息化, xinxihua	informatisation	236	0.11
	Words >= 2	企业, qiye	enterprise	3466	1.53
		发展, fazhan	development	3126	1.38
		服务, fuwu	service	2925	1.29
		创新, chuangxin	innovation	2402	1.06
		建设, jianshe	construction	2359	1.04
		金融, jinrong	finance	2138	0.94
		支持, zhichi	support	2109	0.93
		产业, chanye	industry	2017	0.89
		技术, jishu	technology	1614	0.71
Environment		产权, chanquan	property/equity	1417	0.62
	Words >= 3	服务业, fuwuye	service industry	526	0.23
		产业链, chanyelian	industrial chain	480	0.21
		制造业, zhizaoye	manufacturing industry	474	0.21
		互联网, hulianwang	internet	425	0.19
		数字化, shuzihua	digitisation	292	0.13
		信息化, xinxihua	informatisation	262	0.12
		进一步, jinyibu	further	240	0.11
		高新技术, gaoxinjishu	high tech	232	0.10
		一体化, yitihua	integration	212	0.09
		示范区, shifanqu	demonstration area	156	0.07

Table 6. *Distribution of Source Institutions across Control Intensities (Unit: %)*

Control Intensity × Issuing Unit	People's Government	GO	DRC	DIIT	DHRSS	DF
Incentive Regulation	10.02	62.11	5.06	16.26	4.37	2.17
Planning Directive	15.13	83.54	0.31	0.25	0.71	0.06
Guiding Opinion	15.79	83.08	0.73	0.20	0.05	0.16

Table 7. *Distribution of Control Intensities across Source Institutions (Unit: %)*

Control Intensity × Issuing Unit	People's Government	GO	DRC	DIIT	DHRSS	DF
Incentive Regulation	0.91	1.05	12.43	50.55	13.42	22.80
Planning Directive	51.47	52.59	28.48	29.35	81.49	22.39
Guiding Opinion	47.61	46.36	59.09	20.11	5.08	54.81

Table 8. *Word-Frequency Analysis of Coded Policies from Controls (Unit: Word Count, %)*

Intensity		Initial Chinese Word	Translated English Word	Count	Percentage
Incentive Regulation	Words >= 3	省政府, shengzhengfu	provincial government	38	0.76
		办公厅, bangongting	general office	30	0.60
		进一步, jinyibu	further	15	0.30
		制造业, zhizaoye	manufacturing industry	13	0.26
		国务院, guowuyuan	state council	10	0.20
		开发区, kaifaqu	development zone	10	0.20
	Words >= 4	真抓实干, zhenzhuashigan	real practice and solid work	22	0.44
		优质优价, youzhiyoujia	high quality and high price	2	0.04
		再接再厉, zaijiezaili	try harder and step up unremittingly	2	0.04
		锐意进取, ruiyijinqu	forge ahead with determination	2	0.04
Planning Directive	Words >= 3	制造业, zhizaoye	manufacturing industry	435	0.23
		服务业, fuwuye	service industry	416	0.22
		产业链, chanyelian	industrial chain	364	0.19
		互联网, hulianwang	internet	324	0.17
		数字化, shuzihua	digitisation	250	0.13
	Words >= 4	高新技术, gaoxinjishu	high tech	172	0.09
		人工智能, rengongzhineng	artificial intelligence	121	0.06
		社会主义, shehuizhuyi	socialism	64	0.03
		中小企业, zhongxiaoqiye	SME	61	0.03
		集成电路, jichengdianlu	integrated circuit	55	0.03
		自然资源, ziranziyuan	natural resource	38	0.02
		流通领域, liutonglingyu	commodity circulation	33	0.02
		真抓实干, zhenzhuashigan	real practice and solid work	29	0.02
		因地制宜, yindizhiyi	adjust measures to local conditions	26	0.01
Guiding Opinion	Words >= 3	服务业, fuwuye	service industry	417	0.24
		制造业, zhizaoye	manufacturing industry	401	0.24
		产业链, chanyelian	industrial chain	333	0.20
		互联网, hulianwang	internet	299	0.18
		数字化, shuzihua	digitisation	232	0.14
	Words >= 4	高新技术, gaoxinjishu	high tech	161	0.09
		人工智能, rengongzhineng	artificial intelligence	106	0.06
		社会主义, shehuizhuyi	socialism	71	0.04
		中小企业, zhongxiaoqiye	SME	58	0.03
		集成电路, jichengdianlu	integrated circuit	53	0.03
		自然资源, ziranziyuan	natural resource	36	0.02
		对外开放, duiwaikaifang	openness	27	0.02
		流通领域, liutonglingyu	commodity circulation	27	0.02

Table 9. *Distribution of Control Intensities across Instrument Dimensions (Unit: %)*

Instrument Dimension × Control Intensity		Incentive Regulation	Planning Directive	Guiding Opinion
Supply Dimension	Public Service	0.16	53.14	46.70
	Science & Technology	0	53.21	46.79
	Talent Cultivation	0.44	52.65	46.91
	Funding Investment	0.74	51.46	47.80
Environment Dimension	Strategic Measure	17.44	37.87	44.69
	Regulatory Control	0.38	55.44	44.17
	Financial Support	0.79	52.60	46.61
	Target Planning	0	48.83	51.17
	Tax Incentive	0.53	52.83	46.64
Demand Dimension	International Cooperation	0.64	51.49	47.87
	Market Governance	0.65	52.24	47.10
	Government Procurement	0	53.68	46.32

Table 10. *Distribution of Instrument Dimensions across Control Intensities (Unit: %)*

Instrument Dimension × Control Intensity		Incentive Regulation	Planning Directive	Guiding Opinion
Supply Dimension	Public Service	1.69	6.87	6.73
	Science & Technology	0	3.37	3.30
	Talent Cultivation	13.34	19.57	19.45
	Funding Investment	22.42	19.33	20.03
Environment Dimension	Strategic Measure	11.01	0.29	0.39
	Regulatory Control	2.10	3.74	3.32
	Financial Support	26.23	21.41	21.15
	Target Planning	0	0.26	0.30
	Tax Incentive	6.93	8.55	8.41
Demand Dimension	International Cooperation	7.49	7.38	7.65
	Market Governance	8.78	8.65	8.69
	Government Procurement	0	0.59	0.57

Table 11. *Adjusted Variables and Evaluation Criteria.*

Main Indicators & Variables	Sub Indicators and Variables					
Policy Timeliness	X_1:1	Long Term (more than 5 years)	X_1:2	Medium Term (3–5 years)	X_1:3	Short Term (0–3 years)
Policy Type & Nature	X_2:1	Guiding Opinion	X_2:2	Planning Directive	X_2:3	Incentive Regulation
Policy Perspective	X_3:1	Macro	X_3:2	Meso	X_3:3	Micro
Policy Issuing Agency	X_4:1	GO	X_4:2	DIIT		
Policy Area	X_5:1	Economy	X_5:2	Society	X_5:3	Science and Technology
	X_5:4	Politics	X_5:5	Environment		
Policy Measure & Guarantee	X_6:1	Tax Reduction and Exemption	X_6:2	Financial Support	X_6:3	Subsidy and Reward
	X_6:4	Administrative Support	X_6:5	Talent Cultivation	X_6:6	Market Environment (including legislative guarantee)
Policy Objective	X_7:1	Government	X_7:2	Enterprise/Firm (including regional industry)	X_7:3	Research institute (including college and university)
	X_7:4	Other				
Policy Instrument	X_8:1	Supply	X_8:2	Demand	X_8:3	Environment
Policy Features & Strengths	X_9:1	Sufficient Grounds and Evidence	X_9:2	Clear Goals	X_9:3	Scientific Schemes
	X_9:4	Detailed Planning				

Table 12. *Jiangsu AMC Policy Overview*

Number		Policy Text Title and Selection Reason	Issue Unit	Issue Time
1	P_1	Implementation Opinions on Promoting the High-Quality Development of Manufacturing Industry through the Empowerment of Service-Oriented Manufacturing The most priority of manufacturing-oriented producer services for AMC-supporting sectoral structure and development pattern	DIIT	24th Dec 2020
2	P_2	Jiangsu Provincial Trial Administrative Rules for National Advanced Manufacturing Industry Cluster Projects The most praxis of AMC management	DIIT	18th Oct 2021
3	P_3	Guiding Opinions on Accelerating the Development of Advanced Manufacturing Clusters The most origin of Jiangsu AMC policy internation and legitimisation	GO	25th Jun 2018
4	P_4	Implementation Opinions on Deepening the Integration of Industry and Education The most ecosystem-centric guideline of industry-education integration	GO	25th Jun 2018
5	P_5	Several Opinions on Promoting the Utilisation of Foreign Capital for Ensuring Steady and High-Quality Growth in Attraction, Security, and Stability of Investment and Business The most NSE globalisation-facing strategy of FDI promotion	GO	19th May 2020
6	P_6	Opinions on Deepening the Development of the Digital Economy The most pursuit of digital transformation as the core context	GO	8th Oct 2020
7	P_7	Notice on Strengthening the Standardised Management of Chemical Industrial Parks and Chemicals-Concentrated Areas in Jiangsu The most layout and setting of industrial incubation	GO	30th Oct 2020
8	P_8	Jiangsu Provincial Three-Year Action Plan for Strengthening Industrial Chains (2021–2023) The most plan and positioning in industrial GVCs	GO	19th Dec 2020

Notes: The documents are categorised by significance on units, instruments and controls. Representative samples are chosen (Kuang et al., 2020). Texts within the same type exhibit analogous features due to inherent norms governing the formulation. Overly specific indicators in certain policies conflict with evaluative metrics introducing index disparities. Temporal comparisons are presently not accentuated, as the AMC strategic objectives converge within the same stage set. After 2018, the Sino-US trade war and pandemic changed the industrial adjustments in supply chains and GVCs. The affected policies pursue sustainable competitiveness as the same risk-resistant priority. Within our timeframe, the 52 samples belong to the start-up stage. Although inspired from Liu et al. (2023) who employ a dynamic approach spanning over 20 years, that research delineates periods with more years in the first division. Our inference posits that exogenous shocks have intensified the demand of Jiangsu for AMCs with policy internation accelerated. However, these policies are seen in nascence. Treating this nascent stage as one ‘period’ facilitates the contribution of preliminary findings and advocates for further scrutiny with the inclusion of samples from additional periods of the future.

Table 13. *Multi-Input-Output Table*

	X_1			X_2			X_3			X_4	
	X_1:1	X_1:2	X_1:3	X_2:1	X_2:2	X_2:3	X_3:1	X_3:2	X_3:3	X_4:1	X_4:2
P_1	0	1	0	1	1	1	1	1	1	0	1
P_2	0	0	1	0	1	1	0	1	1	0	1
P_3	0	1	0	1	1	1	1	1	1	1	0
P_4	0	1	0	1	1	1	1	1	1	1	0
P_5	0	0	1	0	1	0	0	1	1	1	0
P_6	1	0	0	1	1	0	1	1	0	1	0
P_7	0	0	1	0	1	1	0	1	0	1	0
P_8	0	0	1	1	1	1	0	1	1	1	1
	X_5					X_6					
	X_5:1	X_5:2	X_5:3	X_5:4	X_5:5	X_6:1	X_6:2	X_6:3	X_6:4	X_6:5	X_6:6
P_1	1	1	1	1	1	1	1	1	1	1	1
P_2	1	1	1	1	0	0	1	1	1	0	1
P_3	1	0	1	0	1	0	0	1	1	1	1
P_4	1	1	1	0	0	1	1	1	1	1	1
P_5	1	1	1	1	1	1	1	1	0	1	1
P_6	1	1	1	1	0	1	1	1	1	1	1
P_7	1	1	1	1	0	0	0	0	1	0	0
P_8	1	1	1	1	0	0	1	1	1	1	1
	X_7				X_8			X_9			
	X_7:1	X_7:2	X_7:3	X_7:4	X_8:1	X_8:2	X_8:3	X_9:1	X_9:2	X_9:3	X_9:4
P_1	1	1	1	1	1	0	1	1	1	1	1
P_2	1	1	1	1	1	0	1	0	1	1	1
P_3	1	1	1	1	1	1	1	1	1	1	0
P_4	1	1	1	1	1	1	1	0	1	1	0
P_5	1	1	0	0	1	1	1	0	1	1	1
P_6	1	1	1	0	1	1	1	0	0	1	0
P_7	1	0	0	0	1	0	1	1	1	1	0
P_8	1	1	0	1	1	1	1	0	1	1	1

Table 14. *PMC-Index Measure*

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	PMC
P_1	0.33	1.00	1.00	0.50	1.00	1.00	1.00	0.67	1.00	7.50
P_2	0.33	0.67	0.67	0.50	0.80	0.67	1.00	0.67	0.75	6.05
P_3	0.33	1.00	1.00	0.50	0.60	0.50	1.00	1.00	0.75	6.68
P_4	0.33	1.00	1.00	0.50	0.60	0.83	1.00	1.00	0.50	6.77
P_5	0.33	0.33	0.67	0.50	1.00	0.67	0.50	1.00	0.75	5.75
P_6	0.33	0.67	0.67	0.50	0.80	0.83	0.75	1.00	0.25	5.80
P_7	0.33	0.67	0.33	0.50	0.80	0.17	0.25	0.67	0.75	4.47
P_8	0.33	1.00	0.67	1.00	0.80	0.67	0.75	1.00	0.75	6.97
Mean	0.33	0.79	0.75	0.56	0.80	0.67	0.78	0.88	0.69	6.25

Table 15. *PMC-Index Ranking*

	Policy Text Ranking		Index Score	Consistency Performance
Above Average	P_1	1	7.50	Higher
	P_8	2	6.97	Higher
	P_4	3	6.77	Higher
	P_3	4	6.68	Higher
Below Average	P_2	5	6.05	Acceptable
	P_6	6	5.80	Acceptable
	P_5	7	5.75	Acceptable
	P_7	8	4.47	Lower

Figures

Figure 1. *Research Design*

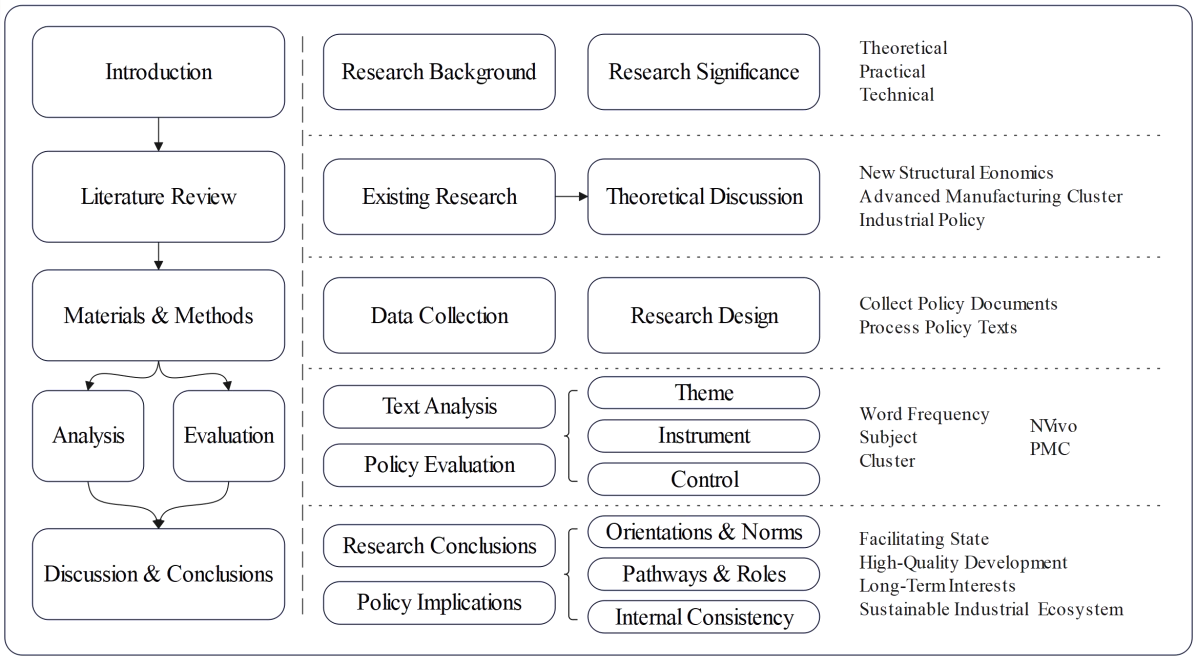


Figure 2. *Clusters by Code Similarity*

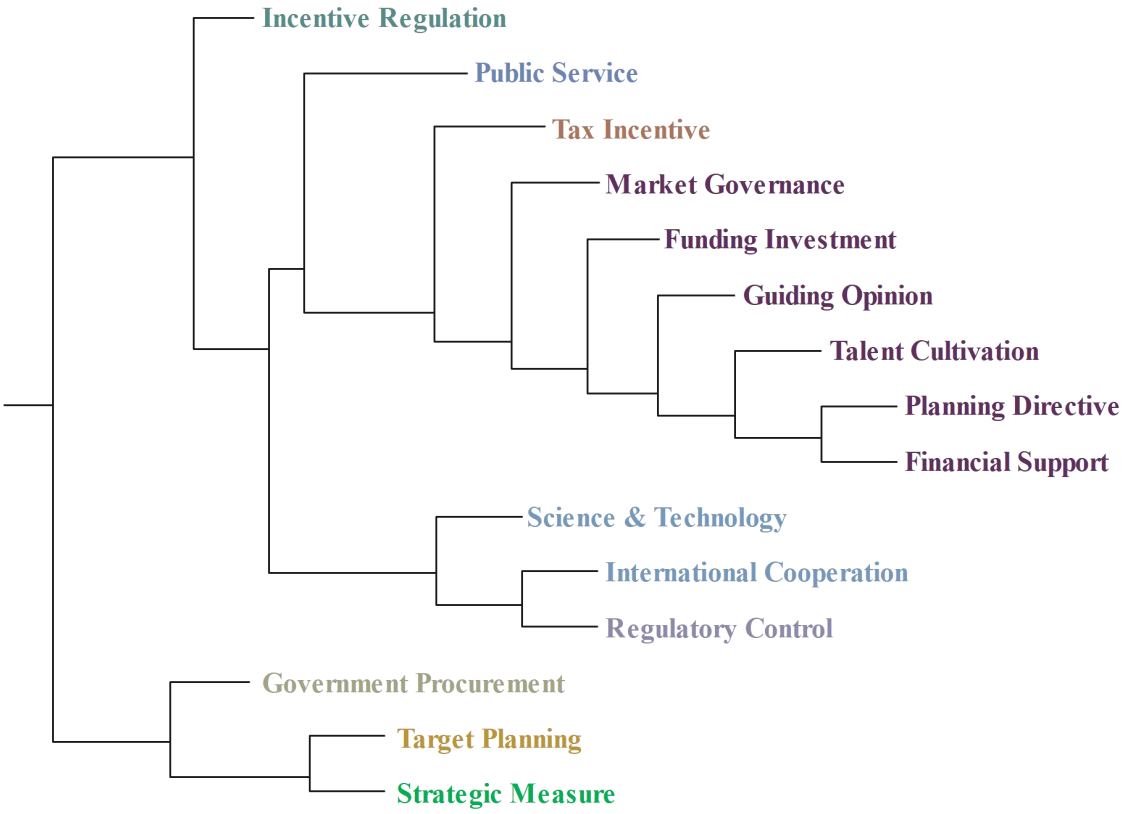


Figure 3. *Clusters by Word Similarity*

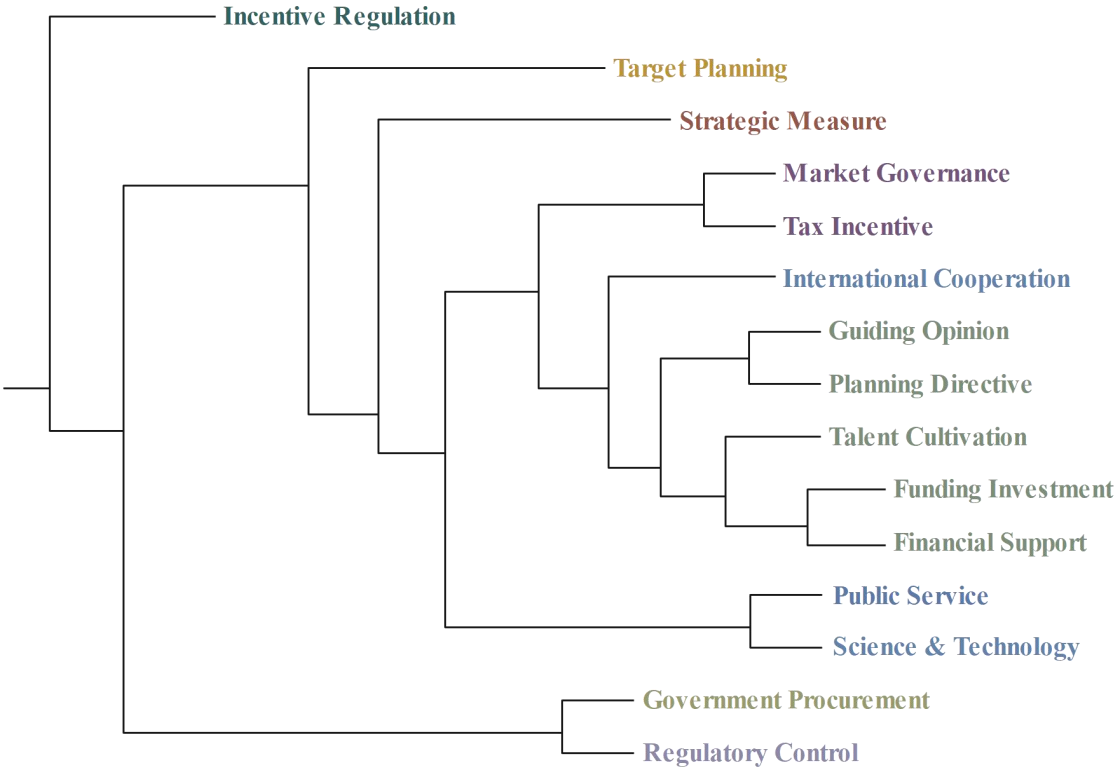


Figure 4. *Push-Pull Analysis of Policies on AMCs*

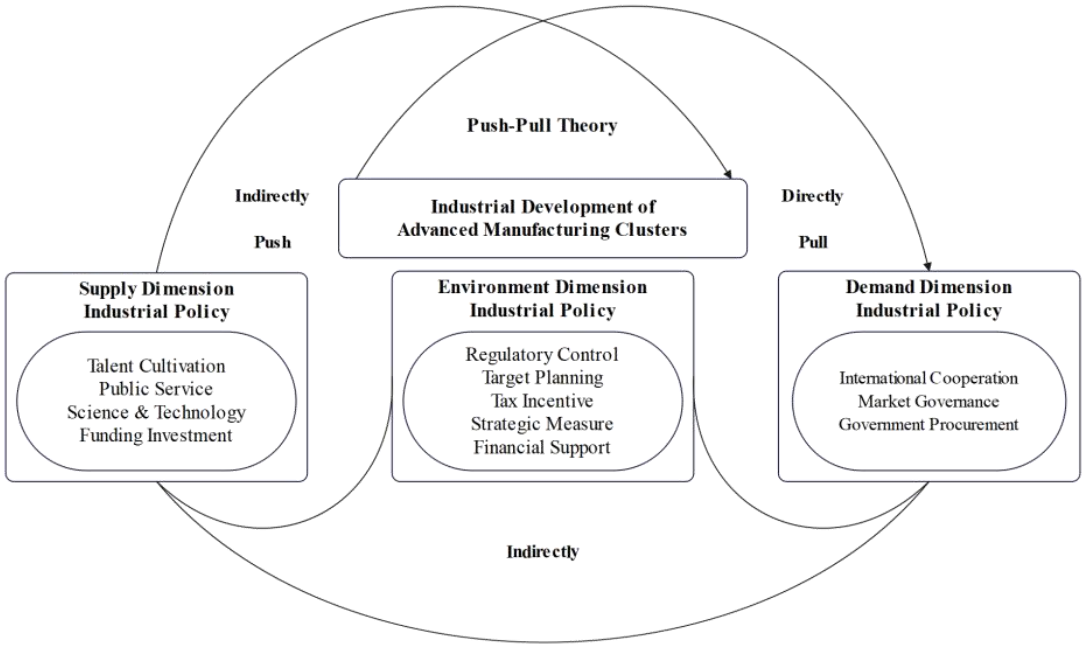
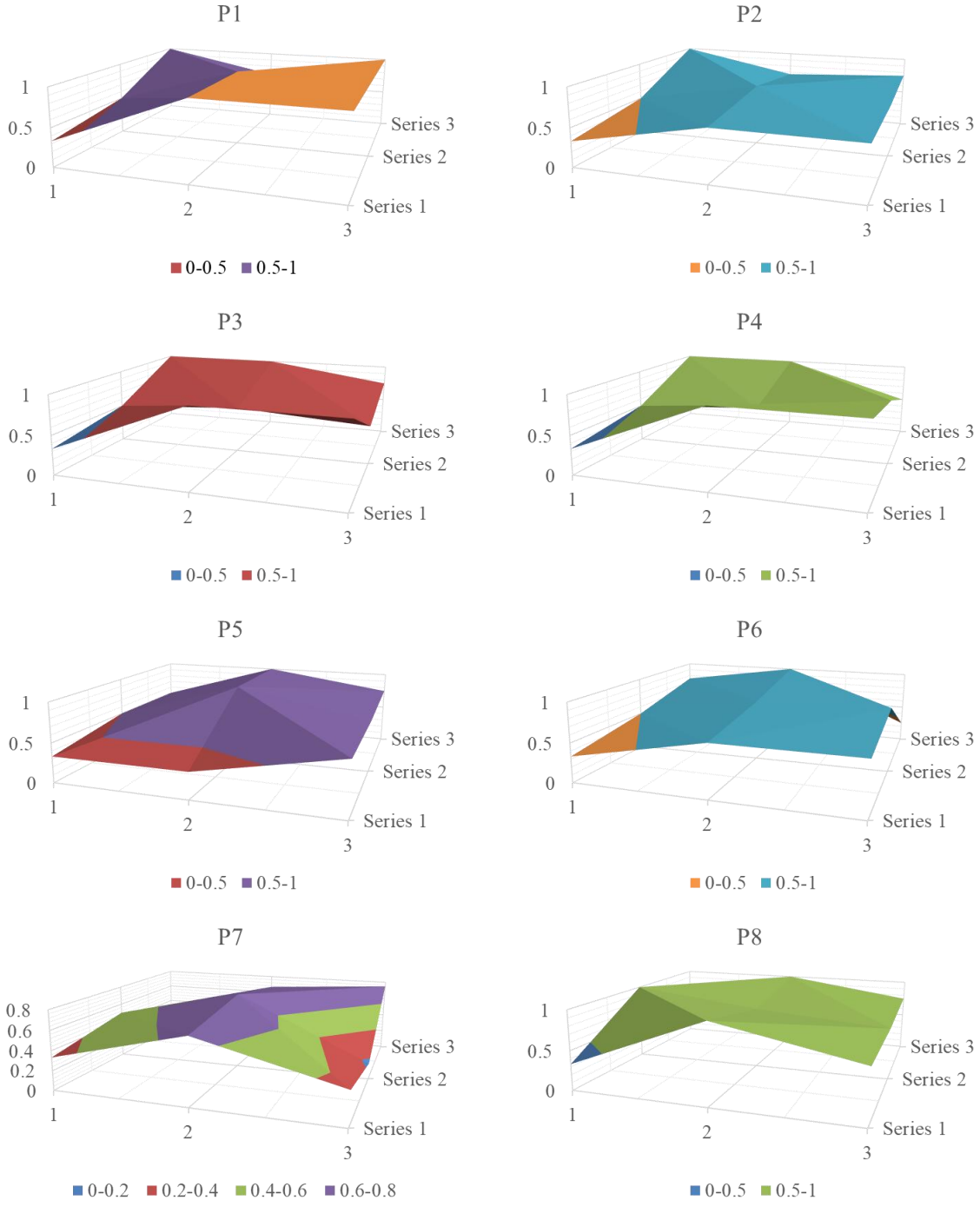


Figure 5. *PMC-Surface*



Appendices

Appendant Table 1. *Collection and Recognition of Policy Texts for Jiangsu AMCs*

No.	Title	Source	Time	Type
1	Guiding Opinions on Accelerating the Development of Advanced Manufacturing Clusters	PG	25th Jun 18	Guiding Opinion
2	Implementation Opinions on Deepening the Integration of Industry and Education	GO	25th Jun 18	Guiding Opinion
3	Notice on Organising the Application of Special Funded Projects for the Industrial and Information Technological Transformation and Upgrading in Jiangsu Province (2018)	DF	12th Jul 18	Incentive Regulation
4	Notice on Issuing the Implementation Plan for Promoting the Integration of Science and Technology with Industry and Accelerating the Transformation of Scientific and Technological Achievements	GO	24th Aug 18	Planning Directive
5	Notice on Promoting and Regulating the Development of Civil UAV Manufacturing Industry in Jiangsu Province.	DIIT	27th Nov 18	Guiding Opinion
6	Notice on Further Increasing Support and Assistance of Matched Incentive Regulations Districts of Real Practice and Solid Work with Significant Achievements in Implementing Major Policy Measures (2019)	GO	26th Mar 19	Incentive Regulation
7	Notice on Issuing the Jiangsu Provincial Work Plan for the Cultivation and Upgrading of High-tech Enterprises from SMEs to HNTEs (2019–2020)	GO	10th Jun 19	Planning Directive
8	Notice on Conducting Incentive Regulations for Districts of Real Practice and Solid Work with Significant Achievements in Implementing Major Policy Measures (2018)	GO	27th Jun 19	Incentive Regulation
9	Notice on Organising the Application of Special Funded Projects for the Industrial and Information Technological Transformation and Upgrading in Jiangsu Province (2019)	DF	18th Jul 19	Incentive Regulation
10	Notice on Issuing the Implementation Plan of Jiangsu Provincial Action Plan to Enhance Vocational Skills (2019–2021).	GO	28th Aug 19	Planning Directive
11	Notice on Issuing the Guiding Opinions on Accelerating the Cultivation of New Models and Forms of Shared Manufacturing to Promote High-Quality Development of the Manufacturing Industry	DIIT	28th Nov 19	Guiding Opinion
12	Opinions on Promoting the Development of Green Industries	PG	27th Mar 20	Guiding Opinion
13	Notice on Issuing the Implementation Plan for the Integrated Development of the SUNAN (South Jiangsu) National Innovation Demonstration Zone (2020–2022).	PG	2nd May 20	Planning Directive
14	Notice on Issuing the Policy Measures to Further Enhance the Stability of Foreign Trade	GO	18th May 20	Planning Directive

15	Several Opinions on Promoting the Utilisation of Foreign Capital for Ensuring Steady and High-Quality Growth in Attraction, Security, and Stability of Investment and Business	PG	19th May 20	Guiding Opinion
16	Notice on Conducting Incentive Regulations for Districts of Real Practice and Solid Work with Significant Achievements in Implementing Major Policy Measures (2019)	GO	29th May 20	Incentive Regulation
17	Implementation Opinions on Further Stabilising Employment by Implementing the Policy of Employment Priority	PG	22nd Jun 20	Guiding Opinion
18	Opinions on Deepening the Development of the Digital Economy	GO	8th Oct 20	Guiding Opinion
19	Notice on Strengthening the Standardised Management of Chemical Industrial Parks and Chemicals-Concentrated Areas in Jiangsu Province	PG	30th Oct 20	Guiding Opinion
20	Implementation Opinions on Adapting to, Leading, and Creating New Demand with High-Quality Supply	DRC	13th Nov 20	Guiding Opinion
21	Implementation Opinions on Promoting High-Quality Development of High-Tech Industrial Development Zones in Jiangsu Province	PG	18th Dec 20	Guiding Opinion
22	Jiangsu Provincial Three-Year Action Plan for Strengthening Industrial Chains (2021–2023)	GO	19th Dec 20	Planning Directive
23	Implementation Opinions on Further Improving the Quality of Listed Companies	PG	21st Dec 20	Guiding Opinion
24	Implementation Opinions on Promoting the High-Quality Development of Manufacturing Industry through the Empowerment of Service-Oriented Manufacturing	DIIT	24th Dec 20	Guiding Opinion
25	Notice on Conducting Incentive Regulations for Districts of Real Practice and Solid Work with Significant Achievements in Implementing Major Policy Measures (2020)	GO	12th May 21	Incentive Regulation
26	Notice on Issuing the Jiangsu Provincial 14th Five-Year Development Plan for the Modern Service Industry.	GO	19th Jul 21	Planning Directive
27	Notice on Issuing the Jiangsu Provincial 14th Five-Year Development Plan for the Modern Logistics Industry.	GO	1st Aug 21	Planning Directive
28	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the Promotion of Consumption	GO	3rd Aug 21	Planning Directive
29	Notice on Issuing the Jiangsu Provincial 14th Five-Year Development Plan for the Digital Economy	GO	10th Aug 21	Planning Directive
30	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the Construction of New Infrastructure.	GO	10th Aug 21	Planning Directive
31	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the New Urbanisation	GO	13th Aug 21	Planning Directive
32	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the High-Quality Development of Manufacturing Industry	GO	16th Aug 21	Planning Directive
33	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the High-Quality Development of Trade	GO	26th Aug 21	Planning Directive
34	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the Development of Intellectual Property	GO	27th Aug 21	Planning Directive

35	Notice on Issuing the Jiangsu Provincial 14th Five-Year Plan for the Development of Finance	GO	31st Aug 21	Planning Directive
36	Notice on Issuing the Policy Measures to Enhance the High-Quality Development of the Biomedical Industry in Jiangsu Province	PG	16th Sept 21	Planning Directive
37	Jiangsu Provincial 14th Five-Year Plan for the Revitalisation and Development of Old Industrial Areas and Resource-Based Areas	DRC	18th Sept 21	Planning Directive
38	Forwarded Notice on Developing Green Finance Guiding Opinions from the People's Bank of China Nanjing Branch	GO	22nd Sept 21	Guiding Opinion
39	Notice on Issuing the Jiangsu Provincial 14th Five-Year Action Plan for Promoting High-Quality Employment	GO	12th Oct 21	Planning Directive
40	Jiangsu Provincial Trial Administrative Rules for National Advanced Manufacturing Industry Cluster Projects	DIIT	18th Oct 21	Planning Directive
41	Jiangsu Provincial Implementation Plan for Accelerating the High-Quality Development of Manufacturing Service Industry.	DRC	15th Dec 21	Planning Directive
42	Opinions on Further Promoting the Improvement of Quality and Efficiency of Industrial Land Use.	GO	19th Dec 21	Guiding Opinion
43	Jiangsu Provincial 14th Five-Year Implementation Opinions on the Energy Conservation in All Sectors of Society	GO	20th Dec 21	Guiding Opinion
44	Notice on Issuing the Jiangsu Provincial Three-Year Action Plan for the Intelligent Transformation and Digitalisation of the Manufacturing Industry (2022–2024)	GO	30th Dec 21	Planning Directive
45	Notice on Issuing the Work Plan for the Construction of Zero-Waste Cities in Jiangsu Province.	GO	9th Jan 22	Planning Directive
46	Notice on Further Increasing Support and Assistance of Matched Incentive Regulations in the New Situation.	GO	27th Jan 22	Incentive Regulation
47	Notice on Organising the Application of Special Funded Projects for the Industrial and Information Technological Transformation and Upgrading in Jiangsu Province (2022)	DF	10th Mar 22	Incentive Regulation
48	Notice on Organising the Advancement of Special Action to Enhance the Supply Capacity of Productive Services (2022)	DIIT	10th Jun 22	Planning Directive
49	Notice on Conducting Incentive Regulations for Districts of Real Practice and Solid Work with Significant Achievements in Implementing Major Policy Measures (2021)	GO	17th Jun 22	Incentive Regulation
50	Notice on Issuing the Policy Measures to Further Enhance the Competitiveness of the Shipbuilding and Marine Engineering Equipment Industry in Jiangsu Province	GO	7th Jul 22	Planning Directive
51	Notice on Issuing the Jiangsu Provincial 14th Five-Year Action Plan for the Construction of Modern Distribution System	GO	13th Aug 22	Planning Directive
52	Notice on Deepening the Implementation of the Manufacturing Industry Skills Foundation Project for Developing the 'Skilled Jiangsu'	DHRSS	28th Oct 22	Planning Directive

Notes: Please find details in the public documents of the People's Government of Jiangsu Province (https://www.jiangsu.gov.cn).

Appendant Figure 1. *Word Clouds of Initial Chinese Policies*

a. Exact Matches Only (Words >= 2)

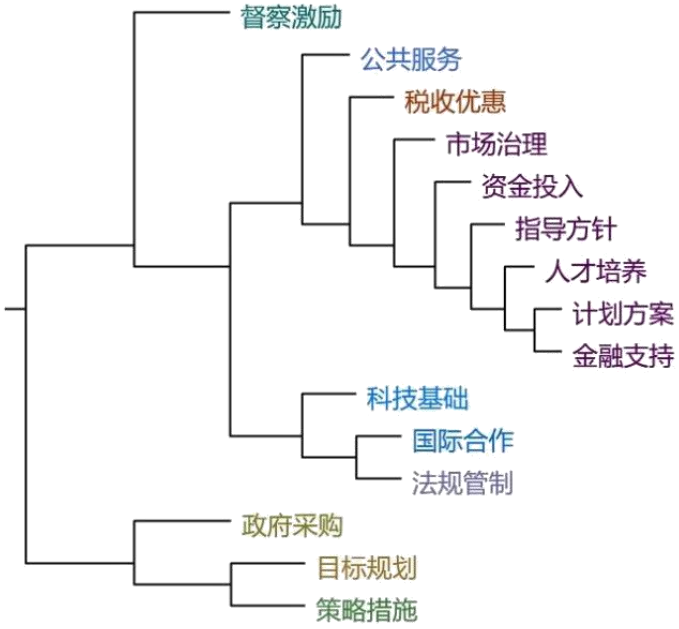
b.2 Generalisation (Words >= 2)

b.1 Synonyms (Words >= 2)

c. Synonyms (Words >= 3)

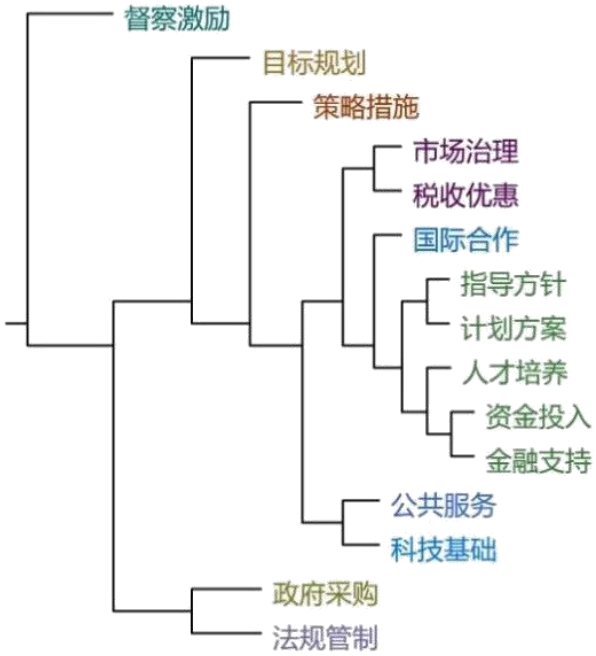
Notes: The figures are shown here in the appendix part because these word clouds are informative and indicative of more dense content and reference. As a supplement, the Appendant Fig. 1 corresponds to Table 1. The analysis software cannot automatically identify the pure Chinese texts into English. The mechanical literal direct translation will cause misunderstanding or fail to explain effectively and correctly, so they present the results based on the original Chinese texts. If there would be any of interest in other terms that may not be explained in the main text, please feel free to contact the authors.

Appendant Figure 2. *Clusters of Code Similarity*



Notes: The figures are shown as the original version of NVivo outputs of the coded Chinese policy texts. As a supplement, the Appendant Figure 2 corresponds to Fig. 2.

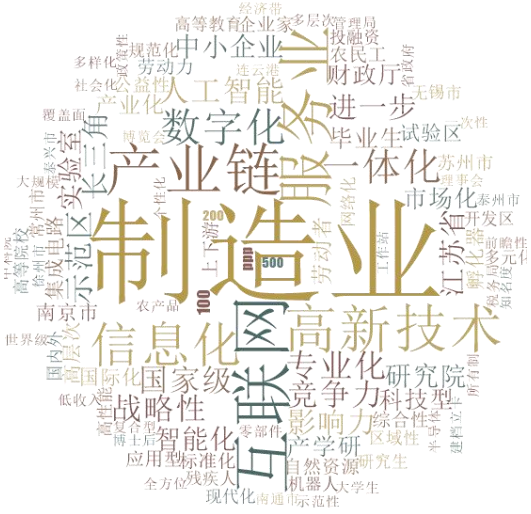
Appendant Figure 3. *Clusters of Word Similarity*



Notes: As a supplement, the Appendant Figure 3 corresponds to Fig. 3.

Appendant Figure 4. *Word Clouds from Different Dimensions*

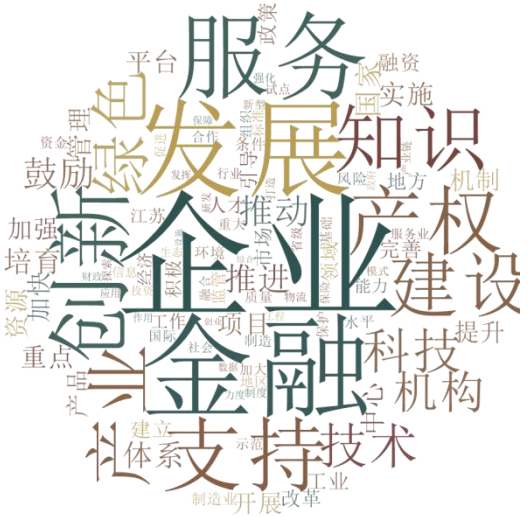
a1. Supply (Words >= 2)



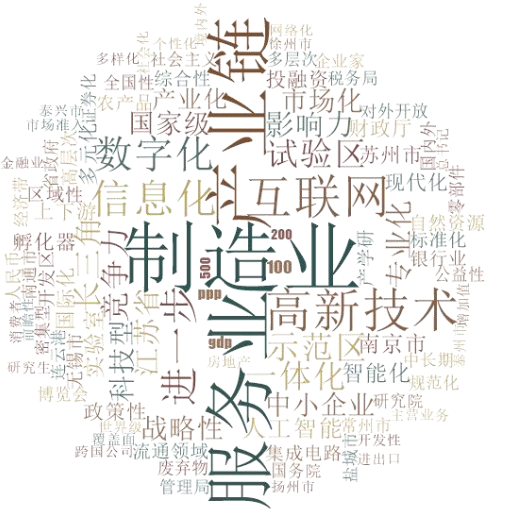
a2. Supply (Words >= 3)

b1. Demand (Words >= 2)

b2. Demand (Words >= 3)



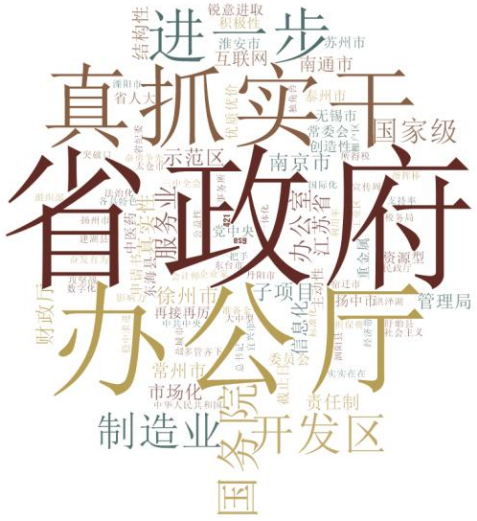
c1. Environment (Words >= 2)



c2. Environment (Words >= 3)

Notes: As a supplement, the Appendant Figure 4 corresponds to Table 5.

Appendant Figure 5. *Word Clouds from Different Intensities*



a1. Incentive Regulation (Words >= 3)

a2. Incentive Regulation (Words >= 4)

b1. Planning Directive (Words >= 3)

b2. Planning Directive (Words >= 4)

c1. Guiding Opinion (Words >= 3)

c2. Guiding Opinion (Words >= 4)

Notes: As a supplement, the Appendant Figure 5 corresponds to Table 8.

Notes

[1] Cluster was initially referred to as 'industrial district' reflecting the tendency of concentrating firms. Clusters were built around three cornerstones: a local pool of professional labour, abundant firms committed to medium-term production, and knowledge spillovers. Marshall attributed the success of agglomeration to external economies of scale. With spatial concentration and proximity of economic actors, localised economies' externalities reduce cost and gain efficiency through centripetal attraction to economic activities.

[2] Creative Destruction, according to Schumpeter's theory of economic development, is the process of innovation bringing revolutionary changes to the structure of the economy from within.

[3] Given national strategy and international competition, NSE classifies industries in developing countries into five categories: 1) distance-to-global-frontier, 2) global-frontier, 3) lost-comparative-advantage, 4) short innovation-cycle, and 5) long innovation-cycle.

[4] From the top-down interventionist paradigm by the central state to the decentralisation of power following neoliberal reforms, the roles of China's different tiers of government are changing dynamically, thus without an absolute demarcation line between them. Despite the complexity of its political system, which is relatively vaguely divided into 4 levels—province, prefecture, county, and township—which explicitly shoulder administrative functions, policy formulation is generally the duty of province-level (provincial and municipal) institutions, and more sub-levels are allowed for adoption and adaptation. While all tiers have a certain extent of policy autonomy, the discussion of 'policy' in this research aligns more with Mosse (2005) that the value of the policy is to legitimise (mobilising and maintaining support) and therefore not to direct substantive actions. Meanwhile, national policies normally serve to instruct, and this legitimisation is quite general; due to the pragmatism approach, it is easy to observe beneficial differences between the implementation of local policies and tasks of the central ones, with industrial clusters not being an exception. Hence, the investigation considers that Jiangsu provincial AMC policies balance generality and specificity, and its legitimisation reflects the orientations of the centre but is also in line with the local context and has practical relevance.

[5] See the policy section of www.jiangsu.gov.cn, which includes decrees from Jiangsu government (政府令), policy issues from Jiangsu government (苏政发), administrative replies from Jiangsu government (苏政复), policy issues from general office (苏政办发), administrative letters from general office (苏政办函), and other general documents.

[6] Five options unify and differentiate texts, i.e., exact matches only, words with same stem, synonyms (with very close meaning), specialisations (with more specialised meaning), and generalisations (with more general meaning). Backward groupings include forward words. The research improves the robustness by adjusting different criteria.

[7] The terms 'unilateral' and 'static' are often used in conjunction with 'top-down' in the context of planning. Top-down is a centralised approach where policies are exclusively determined by the administration. Unilateral implies that once decisions are made by the upper-level policymakers, the lower-levels are solely responsible for execution. Static indicates that only the outcome is valued, with policymakers primarily concerning results rather than processes.

[8] Rothwell and Zegveld (1984) initially classified policy tools systematically. Applied research has recently further identified them as supply-side, environmental, and demand-side instruments. Terms like 'demand-pull' are also used. Plus, 'dimension' works more appropriately as it prevents misunderstandings about the nature of policymaking and acknowledges the instrument's definition and inherent complexity.