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Independence – Freedom – Happiness

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**INFORMATION PAGE ON THE NEW SCIENTIFIC AND PRACTICAL
CONTRIBUTIONS OF THE DISSERTATION**

Title of the dissertation: **The impact of financial development on sustainable development in asian countries: The moderating role of global innovation.**

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The overarching objective of the dissertation is to investigate the impact of financial development (FD) on sustainable development (SDG) in Asian countries, while testing the moderating role of global innovation (GII) in this relationship during the period 2007–2023. Based on these findings, the dissertation proposes important policy implications to enhance SDG on the foundation of FD and GII in Asia. The research provides new contributions in both theoretical and practical aspects as follows:

1. Theoretical Contributions

First, the dissertation consolidates and clarifies an extended theoretical framework by integrating three major domains: FD (theories of financial markets and financial intermediation, financial inclusion, and sustainable finance), GII (based on theories of

financial innovation, ecological innovation, and technological innovation), and SDG (grounded in endogenous growth theory, the three-pillar model, and the capital-access approach to SDG). This integration establishes a comprehensive framework for understanding how FD affects SDG with GII as a moderator.

Financial intermediation theory emphasizes risk regulation and efficient credit allocation under asymmetric information conditions (Leland & Pyle, 1977; Levine, 1999), while financial market theory highlights capital mobilization and pricing efficiency through market competition and information transparency (King & Levine, 1993). Meanwhile, financial inclusion theory provides a foundation for extending financial system benefits to vulnerable groups via digital tools, fintech, and microfinance policies, thereby ensuring equitable access to development capital (Demirguc-Kunt et al., 2017). Integrating these theories into policy strategies fosters a sustainable financial structure that is inclusive, risk-resilient, and resource-efficient in promoting green growth. This serves as the basis for an environmentally friendly and shock-resilient economic transformation in the future.

Second, the dissertation not only examines the direct effects of FD and GII on SDG but also expands the analytical framework by testing the moderating role of GII in the relationship between FD and SDG. This sheds light on the complex interaction among the three factors, a dimension insufficiently explored in prior studies. To this end, the dissertation simultaneously employs three indices: the IMF's FD index a comprehensive measure covering financial depth, access, and efficiency (Svirydzenka, 2016); the WIPO global innovation index assessing national innovation capacity through input and output indicators (Dutta et al., 2023); and the SDG index by Sachs et al. (2024), reflecting a nation's progress toward the UN Sustainable Development Goals. This approach clarifies whether GII amplifies or weakens the impact of FD on SDG, thereby providing an important theoretical foundation for sustainable FD policies.

Finally, the dissertation applies the empirical model to the context of Asian countries by incorporating macroeconomic control variables such as trade openness,

urbanization rate, foreign direct investment, and inflation. This ensures analytical accuracy in examining the impact of FD on SDG with GII as a moderator. The findings contribute deeper insights into the effects of FD on SDG under the regulatory influence of GII.

2. Practical contributions

First, the dissertation provides important empirical evidence on the impact of FD and GII on SDG across 44 Asian countries. The findings clarify policy implications by emphasizing the necessity of building a sustainable financial system that not only focuses on expanding financial depth and access but also improves the efficiency of financial intermediaries. The results confirm that while FD has a positive effect on SDG, and GII also exerts a positive influence on SDG when considered independently, the combined effect of FD on SDG is weakened under the moderating influence of GII. This contributes to guiding financial policies toward optimizing the long-term impact of FD on SDG.

Second, the dissertation expands the analytical framework on the moderating role of GII in the FD-SDG nexus. When innovation is appropriately oriented, FD can channel capital flows into renewable energy, green technologies, and digital infrastructure, thereby reducing emissions and improving resource efficiency. At the same time, innovative technologies particularly digital technology, blockchain, and fintech enhance transparency and direct financial resources toward sustainable projects. Moreover, GII supports the energy transition by improving the efficiency of renewable energy use and reducing the ecological footprint. This highlights the necessity for countries to design GII policies that simultaneously strengthen financial risk control mechanisms while creating supportive frameworks to ensure that innovation effectively promotes SDG.

Third, the dissertation provides practical recommendations for designing FD and GI policies with greater flexibility to achieve SDG. Instead of applying a rigid policy framework, countries should consider the interaction between FD and GII to formulate policies tailored to their specific economic contexts. For example, the development of

sustainable financial instruments such as green bonds, microfinance, and concessional credit for green technologies can enhance the impact of FD on SDG, even in the presence of intensified innovation. At the same time, financial supervisory mechanisms should be established to mitigate risks arising from excessive financial innovation and to prevent the emergence of “green financial bubbles” that could undermine the effectiveness of FD in achieving SDG.

Finally, the dissertation delivers practical value not only for macro-level policymaking but also for financial institutions and enterprises seeking investment opportunities aligned with SDG objectives. The findings underscore that GII strategies must be flexibly adjusted to the context of FD in order to achieve optimal outcomes. This enables financial institutions to identify sectors with the highest potential for sustainable impact, while enterprises gain better access to financial capital to connect projects with SD orientation. These insights serve as a valuable reference for capital management entities across the region in designing strategies for sustainable finance, financial innovation, and technological innovation that balance economic growth with environmental protection.

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