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## **Innovation, Deregulation, and the Life Cycle of a Financial Service Industry**

by Fumiko Hayashi, Bin Grace Li, and Zhu Wang

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**I N T E R N A T I O N A L M O N E T A R Y F U N D**

**IMF Working Paper**

Research Department

**Innovation, Deregulation, and the Life Cycle of a Financial Service Industry\***

Prepared by Fumiko Hayashi, Bin Grace Li, and Zhu Wang

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**Abstract**

This paper examines innovation, deregulation, and firm dynamics over the life cycle of the U.S. ATM and debit card industry. In doing so, we construct a dynamic equilibrium model to study how a major product innovation (introducing the new debit card function) interacted with banking deregulation drove the industry shakeout. Calibrating the model to a novel dataset on ATM network entry, exit, size, and product offerings shows that our theory fits the quantitative pattern of the industry well. The model also allows us to conduct counterfactual analyses to evaluate the respective roles that innovation and deregulation played in the industry evolution.

JEL Classification Numbers: L10; O30; G2

Keywords: Innovation; Deregulation; Industry Dynamics; Shakeout

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