Chapter XVI

Integrity and Security in the E-Century

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Abstract

E-commerce offers an enormous range of solutions to payment and settlements problems. However it also poses a myriad of regulatory issues. Understanding the technical, taxation and institutional issues posed by e-commerce that impact the ability to provide such services aids in comprehending the vast integrity and security issues surrounding this innovation. In this chapter the effect of this technological innovation is examined in the light of theories of regulation that postulate a struggle process between attempts to control innovation and further innovation and regulation. To understand how regulation of e-commerce may be counterproductive, a case study of the evolution of regulation of derivatives is used to test a hypothesis concerning social and avoidance costs. A comparative case study of regulation of e-commerce is then examined to suggest a policy approach of a private sector solution within a public policy matrix similar to private deposit insurance.
Introduction

E-commerce offers an enormous range of solutions to payment and settlements problems. However it also poses a myriad of regulatory issues. Understanding the technical, taxation and institutional issues posed by e-commerce that impact on the ability to provide such services aids in comprehending the vast integrity and security issues surrounding this innovation.

Technical features involve not just whether to use specialised and portable computer hardware but also issues of consumer protection (contractual and legal relationships between consumers, retailers, issuers and operators), and issues of demand by consumers and supply (in terms of issuers and merchants accepting e-money as substitutes for cash). Value can be stored in different ways, recording methods must be specified and currency choices resolved.

Taxation issues involve not only jurisdictional, administrative, identity and encryption problems, but understanding how electronic commerce could be a means for tax base erosion, tax avoidance and tax evasion, while also providing a better means of tax collection.

Institutional issues involve understanding the application of banking regulations, in terms of protective and prudential measures, concentrating on cross-border or international concerns and the necessary supervisory financial architecture. There are many unresolved policy issues, such as who can issue e-money differs across countries, whether seigniorage effects of e-money and effects on monetary policy could lead to central banks only issuing e-money themselves or expend reserve requirements or take other action to encourage covering of risk. As well prudential supervisory issues of the risk of financial loss through fraud (manipulation or interception of electronic messages over computer networks) or accidental loss or issuer becomes insolvent, and operational risk preventing settlement, for example, expired cards, malfunctions, interoperability between products have not been solved through self regulatory measures, adequate information to consumers for risk assessment or deposit insurance.

Three types of criminal offences are made possible by the increasing use of e-processes or products: money laundering and illegal gambling, tax evasion and counterfeiting, fraud or disruption, as stored value cards provide a less bulky and conspicuous means of transporting or transferring risks, although some measures such as tamper-resistant smart cards, cryptographic protocols on transactions record-keeping systems, expiration dates and value limits may alleviate problems of criminal vulnerability.

Using a systems approach helps define the problem in terms of operational, liquidity, credit, market and cross-border risks. For instance consumers using prepaid cards issued in one country while travelling in another, involves problems of different legal rights in place of issue and payment and regulatory arbitrage. Policy responses by supra-regulators — the CPSS, the Basel convenors and the G-10 — are minimal to date. At the moment central banks are relying on existing laws but there is a concerted effort to develop supervisory cooperation to cope with the cross-border issues precipitated by electronic commerce such as settlement risk and security issues. For instance the Eurosystem, as part of its oversight role with regard to e-money schemes, is working...
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