

# Digital Money in the Age of Globalization



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## INTRODUCTION

Beginning in the 1970s and the rapid introduction of microelectronics technologies, capital has become digital in nature, with profound implications for capital markets, nation-states, and the global economy. As banks and other financial institutions shifted funds through the world's network of fiber optics lines, their ability to circumvent national restrictions on capital rose accordingly, leading to a dramatic increase in the velocity of capital and undermining governments' attempts to control their money supplies.

This chapter summarizes how digital money came into being in the context of the massive economic, regulatory, and technological changes of the late 20<sup>th</sup> century. The second part focuses on some major electronic funds transfer systems (EFTS) and their effects on currency exchange and stock markets. Third, it turns to the effects on national government attempts to control their money supplies, a hallmark of sovereignty. Finally, it examines how offshore banking centers have sprouted up in the wake of this phenomenon to challenge the earlier financial system predicated on the nation-state.

## THE FINANCIAL WORLD PRIOR TO DIGITIZATION

One of the regulatory pillars of the post-World War II economy was the *Bretton-Woods system*, which lasted from 1947 to 1973. Designed to minimize exchange rate fluctuations, Bretton-Woods pegged the world's currencies (outside of the Soviet bloc) to the U.S. dollar, which in turn, was fixed at \$35 per ounce of gold. The fixed exchange rate system required the free international movement of gold as well as minimal government intervention to offset its effects, such as changes in the money supply designed to change real interest rates. The regulations on exchange rates imposed by Bretton-Woods were largely designed to avoid the rounds of depreciations that accompanied, and were deepened by, the Depression of the 1930s. As a result, national currencies fluctuated within a narrow band (nicknamed "the snake"), usually less than two percent; national banks were obligated to intervene should pressures to appreciate or depreciate mounted. Funds moved relatively slowly through time and space, with a low velocity of capital.

This system helped to stabilize the prices of imports and exports and contributed significantly to the rapid rates of trade and economic growth found in the mid-20<sup>th</sup> century. Under this system of international regulation, currency appreciations or depreciations reflected government fiscal and monetary policies within a system of *relatively* nationally contained financial markets in which central bank intervention was effective. Trade balances and foreign exchange markets tended to be strongly connected: rising imports caused a currency to decline in value as domestic buyers needed more foreign currency to finance purchases.

The Bretton-Woods system collapsed suddenly when the U.S., facing a depletion of its gold supply, abandoned the gold standard in 1971; fixed exchange rates followed suit in 1973 (Leyshon & Thrift, 1997). Afterwards, currencies could float, with supply and demand rather than national monetary policy determining their relative wealth. The price of gold rose exponentially. Soon thereafter, speculation in

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currency exchange became the largest economic sector in the world in terms of volume; roughly \$4.3 trillion crossed national borders each day in 2012, exceeding the global value of trade by a factor of 25 or more.

## THE EMERGENCE OF ELECTRONIC MONEY

The digitization of money profoundly affected the world's *capital markets*, greatly reducing the costs of transmitting funds at the same time that neoliberal deregulation freed funds from the oversight of the state (Batiz and Woods, 2002). To expedite the movement of money, large firms, particularly commercial and investment banks, insurance companies, and securities firms, joined telecommunications firms to build an extensive network of fiber optics lines connecting the world's major financial centers, particularly New York and London (Warf, 1995). Starting with the TAT-8 line in 1989, and continuing with a series of evermore powerful systems across the Atlantic and Pacific Oceans, fiber optics is the mode of choice for the firms that run the world's economy. This infrastructure emerged as the backbone of the global financial system and played a powerful role in the growth of the internet. Using fiber optics, which greatly exceeded the capacity of competing systems such as satellites, financial institutions designed *electronic funds transfer systems* (EFTS) to shift funds effortlessly across borders, take advantage of differences in interest rates, speculate on exchange rate fluctuations, and avoid political upheaval.

The dominant form of EFTS is *Real Time Gross Settlement (RTGS) systems* (O'Mahony et al., 2001), which conduct transactions among large banks and national governments. The world's largest RTGS is the Fedwire system of the U.S. Federal Reserve, which allows transfers of funds among the accounts of member institutions. In 2010, Fedwire traffic amounted to \$2.6 trillion daily. Another large U.S. RTGS is the Clearing House Interbank Payments System (CHIPS), located in New York, created by a consortium of private commercial and investment banks; much of its business consists of foreign exchange transactions. Similarly, SWIFT (Society for Worldwide Interbank Financial Telecommunications), based in Belgium and formed in 1973, operates in hundreds of countries and handles billions of euros per day in transactions. In Britain, the Clearing House Association Payments System (CHAPS), operated by the Bank of England, functions in an analogous manner, as does the Bank of Japan's Financial Network System (BOJNET). In addition to these systems, some large banks established their own RTGS. For example, Citicorp, the largest U.S. bank, established the Global Information Network to expedite its foreign exchange transactions. Similar systems include MasterCard's Banknet, the London Stock Exchange Automated Quotation System (SEAQ), and the Swiss Options and Financial Futures Exchange (SOFFEX).

In the stock and bonds markets, EFTS facilitated the emergence of 24 hour/day trading in many centers, as well as the use of computerized trading programs, which greatly raised levels of volatility. Small investors using the internet (e.g., E-trade) joined the fray, undermining the role of financial specialists. The volume of stocks traded on exchanges grew exponentially. The world's largest stock exchange, the National Association of Security Dealers Automated Quotations (NASDAQ), was the first to be fully automated; NASDAQ connects tens of millions of traders worldwide, conducting thousands of transactions each second. In Europe, EASDAQ operates similarly, albeit on a smaller scale. Facing the challenge of on-line trading head-on, Paris, Belgium, Spain, Vancouver and Toronto all recently abolished their trading floors. The volatility of trading, particularly in stocks, also increased as hair-trigger computer trading programs allow fortunes to be made (and lost) by staying microseconds ahead of (or behind) other markets.

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