

Payment Cards and Economic Growth: The Positive Economic Impact of Digital Currency

Moody's Economy.com Study Findings

Summary

Digital currency - in the form of debit and credit products - is an increasingly important part of daily life for consumers, businesses and governments around the world. In 2008, almost 25 percent of worldwide consumer spending was through some form of payment card, up from 16 percent in 2003.

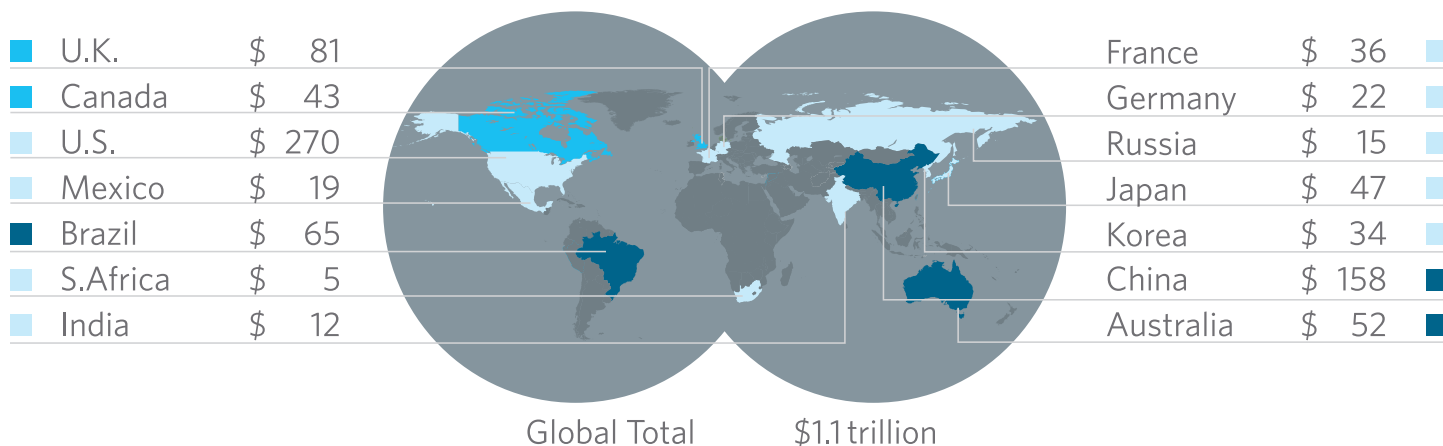
Moody's Economy.com recently completed a study to measure the economic impact of the shift from cash and checks to digital currency in 51 economies worldwide. The report's main conclusions were:

- > Digital currency - credit and debit card usage - delivered an additional \$1.1 trillion to the global economy cumulatively in the six years from 2003 through 2008. On average, that represents a 0.5 percent increase in total annual gross domestic product (GDP). During the same period, real global GDP grew by an average of 3.4 percent.
- > The migration from paper to electronic payments is a positive phenomenon and the study supports the adoption of policies that encourage and accelerate this shift.

Other Highlights

- > Card usage in the U.S. increased GDP by 0.4 percent, adding \$270 billion to the U.S. economy. By comparison, real GDP grew 2.4 in the U.S. from 2003 through 2008.
- > As a result of the shift to digital currency, Australia and Brazil experienced a cumulative GDP increase of 1.4 percent or \$52 billion and \$65 billion respectively; China increased by 1.3 percent or \$158 billion.
- > This \$1.1 trillion increase in GDP is equivalent to 4.9 million new jobs cumulatively across all the countries studies, 160,000 of which would be in the U.S.
- > The study also found that debit and credit have been equally influential in driving consumption and GDP growth. For example, in countries where the majority of card volume is debit-based, such as Norway and Denmark, consumption and GDP rose at a comparable or higher rate to those countries with significant credit volumes.

The Contribution of Increased Card Usage to GDP



GDP Contribution Measured In US \$ Billions



¹ *Economic Impact of Credit and Debit Cards*, Moody's Economy.com, January 2010. Includes volume for all general purpose consumer credit and debit products, including Visa, MasterCard and American Express, as well as all domestic payment schemes.

Payment Cards in the Economic Cycle

The study's findings support the assumption that digital currency enables commerce to operate more efficiently. According to the Moody's report these efficiencies come in various forms:

- > **Convenient access to resources** - digital currency gives consumers immediate access to all of their financial resources - funds on deposit or a line of credit - to be used to pay when goods or services are required such as groceries or a taxi ride without stopping to visit an ATM.
- > **Less "cash under the mattress"** - most cash transactions create spare change that often leaves the economic system, driving down consumption. Card payments keep this money in consumers' accounts to be spent at a later date.
- > **Reduces the gray economy** - cash payments are sometimes left undeclared as income by retailers. Cards can increase taxable income by creating an electronic audit trail.
- > **Reduced risk of fraud** - inherent in many electronic payment networks is the guarantee of payment for merchants and liability protection for cardholders in the case of fraud. These protections bolster confidence in the system, which can lead to greater overall consumption, particularly for high-value transactions.

Methodology

This study looked at how increases in card penetration impact consumption in 51 countries over six years. Real private consumption was modeled as comprising three main factors - real disposable income, interest rates and card penetration as a percentage of overall consumer spending.

- > The model used observed and actual disposable income and interest rates from 2003 to 2008.
- > Card penetration was held at its lowest level for the six year period (usually in the first year).
- > The model measured the difference between what actually happened (higher consumption), and what it predicted would have happened if card penetration stayed at the minimum value (lower consumption).
- > Finally, to measure the impact of card usage on actual GDP, the consumption figure was multiplied by the portion of GDP that is represented by consumer spending in each country. The credit and debit card model can therefore estimate the impact of card usage on the overall economy.

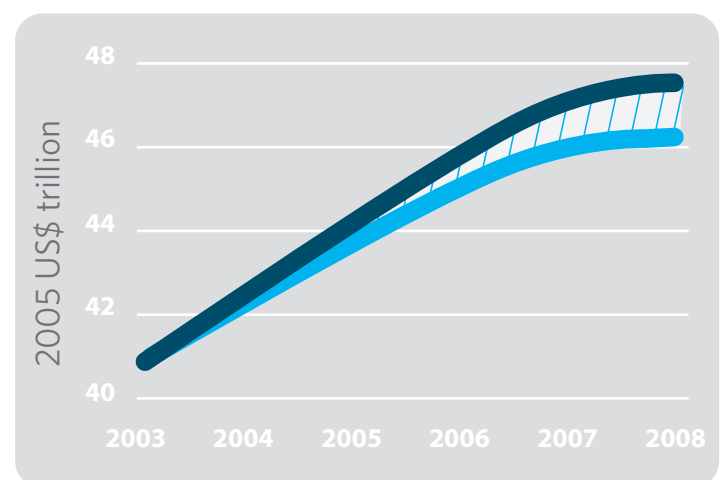
Future Economic Benefits

Digital currency is at a critical point in its development, having moved from the margins to the mainstream, particularly in developed economies. With almost 40 percent of global consumer spending remaining on cash and checks, the economic implications of moving to a more efficient, secure and transparent method of payment are important considerations for policymakers around the world.

- > The study found that, on average, increasing card usage by just 1 percent translates to a 0.024 percent increase in GDP. This equates to \$15 billion in additional GDP globally for every 1 percent increase.
- > This effect is more pronounced for developed countries like the U.S., where a 1 percent increase in card usage produced a 0.032 percent increase in GDP, the equivalent of adding \$4.3 billion to the U.S. economy.

The study unequivocally concludes that the availability of open electronic payment networks is an important contributor to consumption and economic growth, and access to these networks should be promoted worldwide.

Methodology Output



- Global GDP Without Increase in Card Penetration
- Observed Global GDP