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“Payments: Fees, Funding, and Fungibility”

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Today I'll talk about important features of the industrial organization of U.S. payments.

Deposits

Credit cards

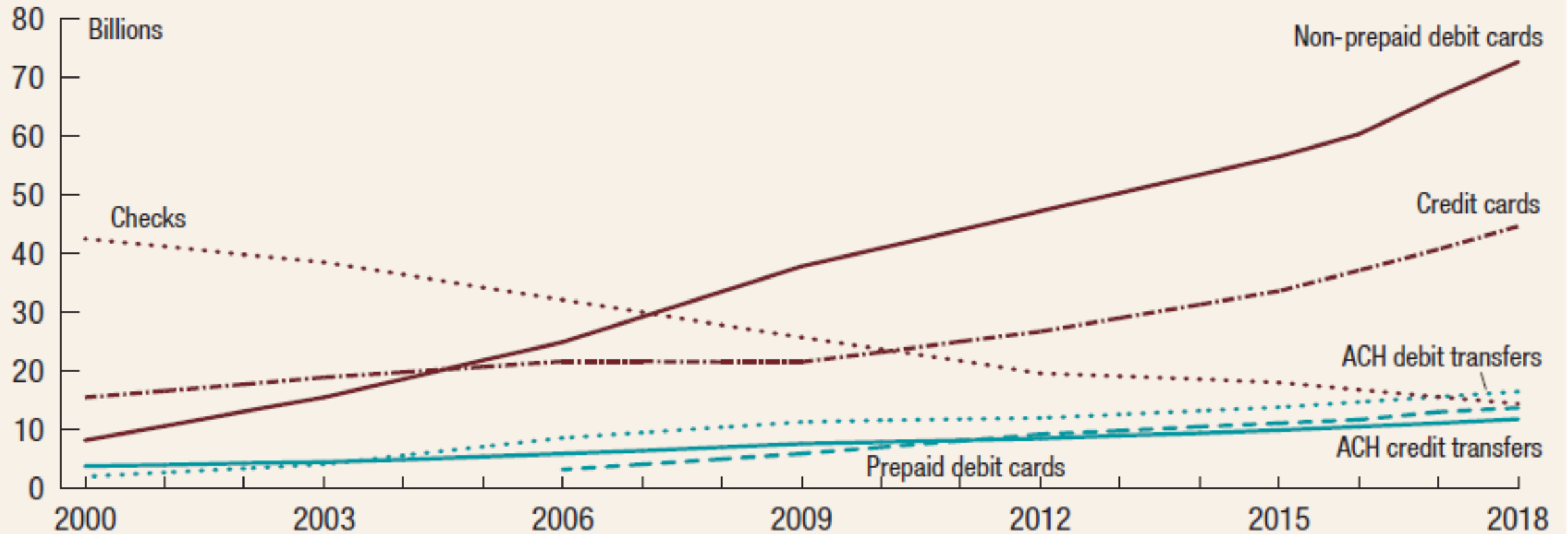
New payment types

Why are fees sometimes present and sometimes absent?

Why are some payments interoperable?

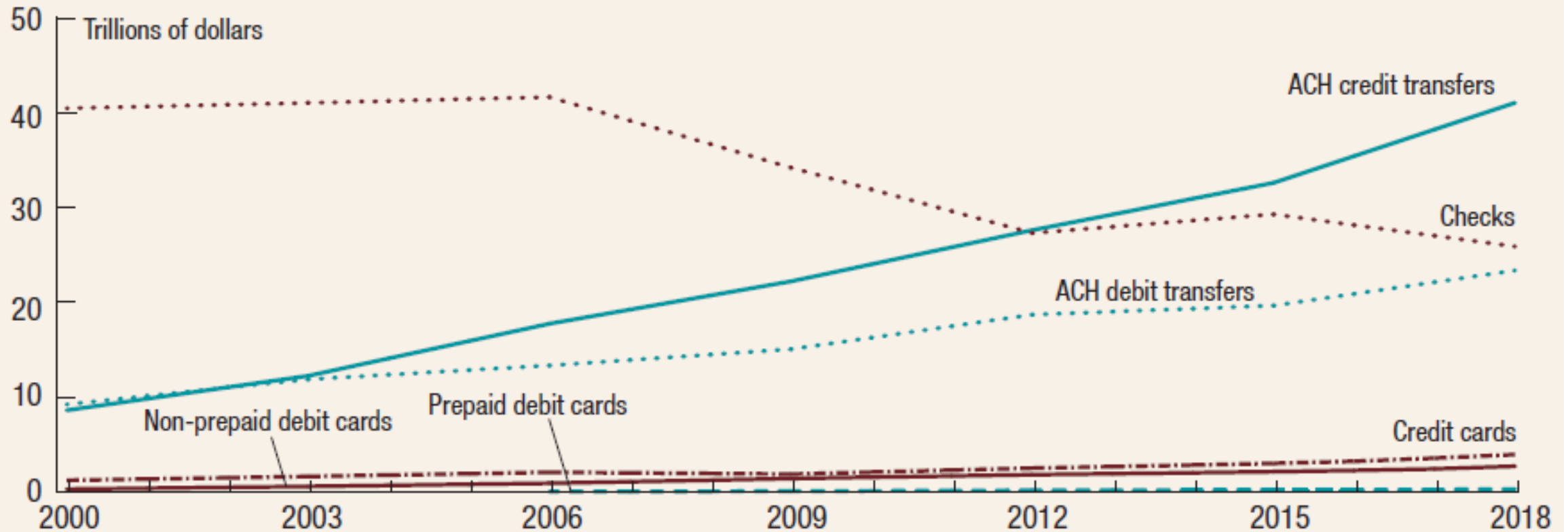
What are the non-fee revenue stream from payments?

Figure 1. Trends in noncash payments, by number, 2000–18



Note: All estimates are on a triennial basis. Card payments were also estimated for 2016 and 2017. Credit card payments include general-purpose and private-label versions. Prepaid debit card payments include general-purpose, private-label, and electronic benefits transfer (EBT) versions. Estimates for prepaid debit card payments are not displayed for 2000 and 2003 because only EBT was collected.

Figure 2. Trends in noncash payments, by value, 2000–18



Note: All estimates are on a triennial basis. Card payments were also estimated for 2016 and 2017. Credit card payments include general-purpose and private-label versions. Prepaid debit card payments include general-purpose, private-label, and electronic benefits transfer (EBT) versions. Estimates for prepaid debit card payments are not displayed for 2000 and 2003 because only EBT was collected.

Source: The 2019 Federal Reserve Payments Study. [federalreserve.gov](https://www.federalreserve.gov)

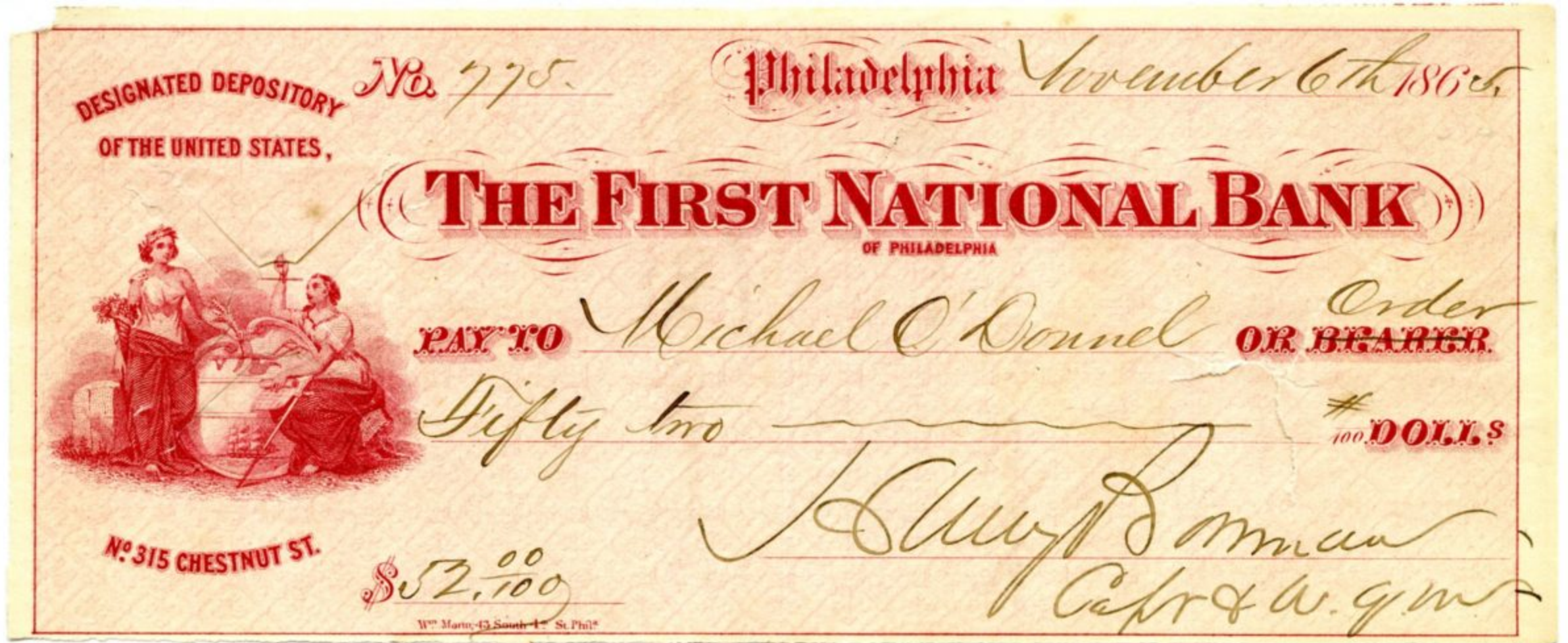
Checks and ACH payments draw on deposit accounts, and are typically made with very low, or no, fees.

Revenues accrue from interest earnings on deposits, and other associated banking products.

State bank notes were the primary form of money, pre-Civil War, 1837-1863. Most circulated at discounts to par.



Checks took over from notes in the post-Civil War period, call the National Bank Era, 1863-1914.



The New York Clearing House.



The right of direct presentment: by presenting a valid check at the bank counter, the bank was obligated to pay the full amount of the check, i.e., pay at par.



Federal Reserve Act (1913)

An Act To provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, ***to establish a more effective supervision of banking in the United States***, and for other purposes.

The checking system achieved universal interoperability with no exchange fees on the basis of

The right of direct presentment
Clearing Houses, and, later, the Fed
Bank Supervision

I focus primarily on the economics of financial institutions in generating and exchanging accounting information essential to the operation **of four-party cashless payment systems**.... The payment systems I discuss all involve four parties and **four consensual arrangements**.

Bank Interchange of Transactional Paper: Legal and Economic Perspectives

William F. Baxter Journal of Law and Economics, Vol. 26, No. 3 (Oct., 1983), 541-588.

It is sometimes stated that there are two levels at which competition occurs in payment networks: intrasystem competition occurs among members of a given network, and intersystem competition occurs among competing networks...Courts and commentators sometimes have treated the number of independent (and nonoverlapping) networks as the sole determinant of society's welfare.

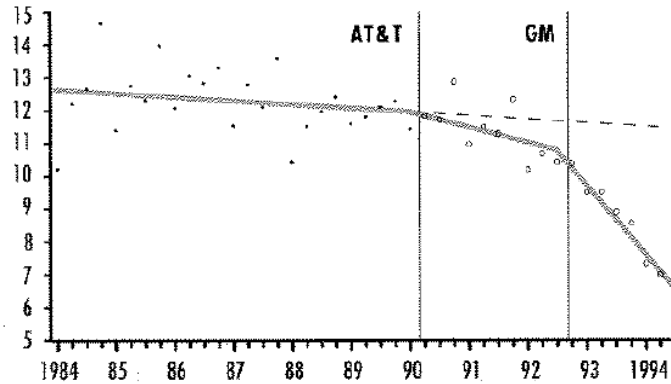
This analysis **refutes** the notion that society's welfare depends entirely on the number of independent networks in the market.

Dennis W. Carlton and Alan S. Frankel, "[Antitrust and Payment Technologies](#)," Federal Reserve Bank of St. Louis, Review, November/December 1995, Vol. 77, No. 6

Figure 1

Average Annual Fee Charged by Visa Issuers

Annual Fee (Current Dollars)

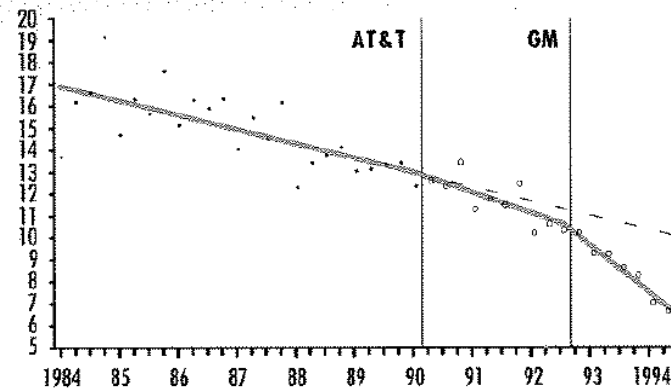


The inclusion of large issuers in the Visa consortium led to much more vigorous price competition. Here, annual fees are shown, and Carlton and Frankel also show similar directional effects on interest rates.

Figure 2

Average Annual Fee Charged by Visa Issuers

Annual Fee (Constant 1992 Dollars)



Intersystem competition can be quite weak in payment systems.

Intrasystem competition—interoperability—can create conditions for fierce competition.

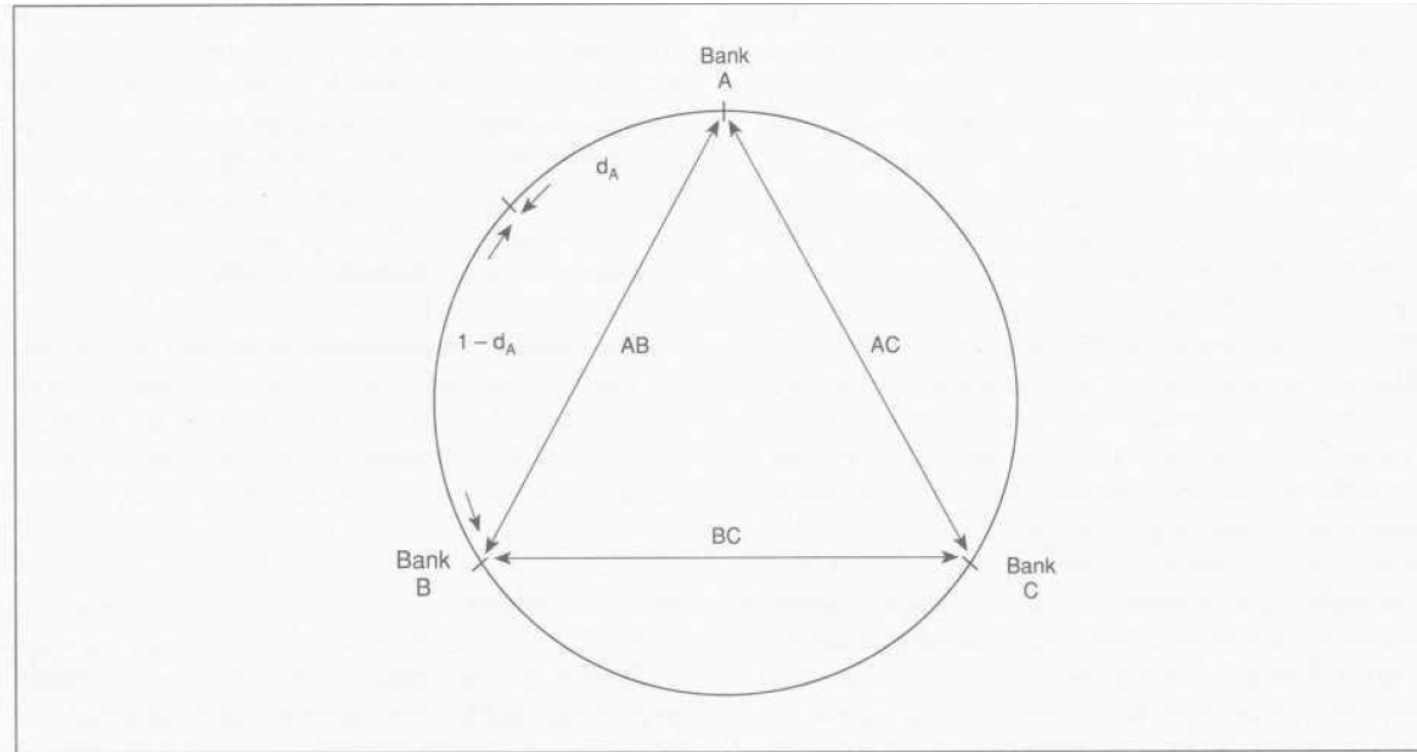


Figure 1. The model

It should be clear that full compatibility constitutes the *first-best* ATM structure since depositors benefit from the maximum accessibility to their funds when they travel around the city and regular transport costs are minimised. However, as discussed in section III, full compatibility is not an equilibrium outcome for our game²⁷.

Firms gain by preserving produce differentiation.

Credit and debit card networks had unique and contingent histories. Visa and Mastercard came to dominant positions early in credit cards, and, later in ATM networks. ATM networks sponsored the debit cards.

In the credit and debit card payment sectors

“consensual agreements” include interchange fees paid to issuers

Very extensive networks, where banks manage the credit and fraud risk

Duality, which makes the networks near universal

Revenues include fees and interest earnings on revolving credit, or interest savings on deposits

Venmo and other Money Service Providers do not have a “direct presentment” requirement, and instead have pay-ins and pay-outs using other payment instruments, such as credit and debit cards.

Interoperability is less demanded by these firms.

Digital Platforms earn revenue from Data Harvesting

Data harvesting is a hurdle to interoperability.



In the prospective “digital platform” payment systems

Revenues will likely include fees and revenues derived from use of data gleaned from transactions. Systems may seek to terminate transactions on other platforms, but interoperability poses challenges: increased competition from a loss of product and data differentiation.

Data harvested from digital payments allows firms to better target consumers.

Secondly, it creates consumer “lock-in.” A platform that has more of my data offers me better customization than a more “distant” platform. In that sense, the degree of data acquisition plays a role similar to “distance” in the ATM market. Garratt and Lee model this in their paper “Monetizing Privacy,” which Rod will speak about tomorrow.

So the data harvesting creates both a production economy of scale, and a demand side economy of concentration of activity.

The bank-centric payment systems based on deposits, check and ACH, are perhaps the best example of an “interoperable” set of payment systems, one for each bank, that we can point to.

Other payment systems, such as credit cards, often use the ACH as a settlement mechanism.

Similarly, Money Services Businesses, such as Venmo use bank payment systems for pay-ins and pay-outs.

Broadly speaking, the deposit-linked payment systems offered by banks are highly interoperable, safe, and efficient.

Credit cards, ATMs, and debit cards introduced four-party systems mediated by interchange fees. The fees and other incentives have led to a broad availability of the systems, but there is significant concentration in them.

The advent of platform payment systems is promising but seems to offer lower prospects for interoperability. They will earn revenue in nontraditional ways, and their safety is yet to be determined.

Should society develop a “direct presentment” standard for payments more generally?