

The political and organizational dynamics of private credit creation: a meso and macro analysis of credit card asset-backed securities

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Introduction

Prior to the sub-prime mortgage crisis and subsequent credit crunch after summer 2007, the American economy had experienced over seven years of protracted financial market growth and, before that, the 'roaring 90s' was considered the 'Goldilocks' economy based on its sustained macroeconomic expansion and low inflation rates. Much of this success was attributed to political support for free markets and low taxes as well as the Federal Reserves monetary control and hawkish position on inflation. The sub-prime mortgage crisis revealed many of the structural instabilities inherent in market and government practices previously obscured by skyrocketing profit rates. It now appears the Fed has not acted as a dispassionate guard against government interference in markets or as a shepherd guiding the economy toward sustained expansion. Now it seems that US economic expansion, especially since 2001, has been a product of uncontrolled (and unsupervised) private credit creation with rampant and unchecked asset price inflation as well as the deliberate and coordinated efforts to re-inflate markets in the wake of multiple downturns.

Instead of focusing specifically on the characters and events leading to the sub-prime mortgage crisis, this presentation looks at how rising indebtedness in the US household sector has been part and parcel of the overall macroeconomic trajectory of financialization, in particular since the dot com crisis in 2000. While outstanding mortgage debt levels are larger in scale (reaching almost \$9.7 trillion in 2007), this presentation aims to address the parallel trend of rising unsecured debt levels (at the macro level) and the dynamics of private credit creation within credit card markets. The final section looks at how these dynamics are at play in the workings of Citibank's credit card portfolio, the US' largest credit card and ABS issuer.

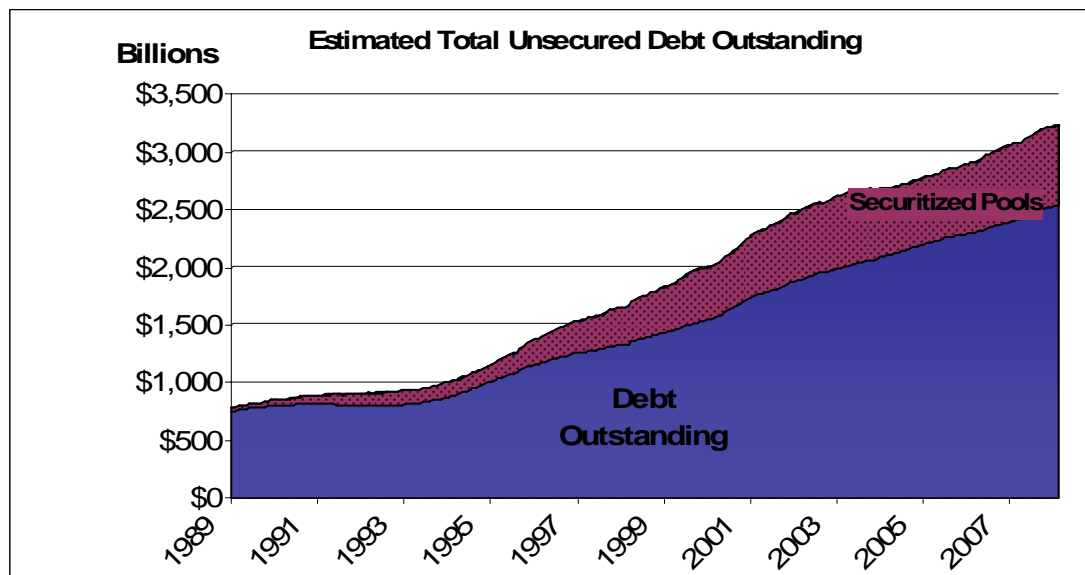
The macro-picture: financialization and unsecured consumer debt in the US economy

The financialization of the American economy has political and economic as well as cultural dimensions. The diverse literature on financialization admittedly has no established definition of what 'financialization' is, or an established methodology for evaluating it. Rather it encompasses a wide range of multi-level analyzes of parallel and intersecting trends manifest primarily in the Anglo-American economies since the mid-1990s. These include meso-level investigations of the machinations of the shareholder value

revolution and the impacts of financial innovation. Also, the delineation of specific macro-economic features of market-based (versus bank-based) systems as well as the unique accumulation patterns present in financialized economies of the US and UK. Finally, another portion of the literature using the concept of financialization has addressed the significant ways in which households/individuals have participate in these economic and cultural transformations through pensions savings plans and mortgage lending.

What I seek to add to this literature is a consideration for how escalating unsecured consumer debt levels in the US (but also the UK and Canada) have also integrated everyday consumption into this financial expansion. Moreover, how unsecured debt has contributed to the overall bolstering of macro consumption levels, especially in the wake of the dot com crash and 9/11 terrorist attacks.

Table One: Estimated total US unsecured debt outstanding



Source: Federal Reserve G19 total debt outstanding to financial institutions and securitized pools

Table one illustrates how the often cited figures for total unsecured debt outstanding (Federal Reserve’s G19 measure) excludes debts moved off balance sheet through Asset-Backed Securitization (ABS), which underestimates the total amount of debt. By adding these two series together the estimated total increases by just over 25%. Admittedly, this figure is also significantly lower than the actual amount of securitized debts because the method of data collection relies on call reports for US financial institutions only. Therefore, consumer credit ABS’ purchased by foreign investors is excluded from this measure. Nevertheless, these figures do show the significant increase of unsecured debt levels in the US, in particular in sharp rise since 2000.

To understand how the \$3.21 trillion (in 2007) of outstanding debt relates to the overall trajectory of macroeconomic expansion of the US economy we must consider it relative to overall economic growth and consumption levels.

Table two shows how this stock of debt relates to overall nominal GDP levels and the flow of consumption, via the Personal Consumption Expenditure measure. In this case we can see that consumer debt outstanding (including securitized pools) is equivalent to 23% of nominal GDP in 2007. Since GDP is the broadest measure of the overall size and growth of an economy, we can see that unsecured debt is a substantial amount even though it is much smaller than outstanding mortgage obligations. The Personal Consumption Expenditure (PCE) measures the actual and imputed expenditures of households; the measure includes data pertaining to durables, non-durables and services. It is essentially a measure of goods and services consumed by individuals. In 2007, the PCE was approximately 70% share of US GDP, and we can see that total unsecured consumer debt represented 32% of the largest component of GDP.

Table Two: Total Debt Outstanding and Securitized Pools as proportion of GDP and Personal Consumption Expenditure

Current Dollars		
Year	% of GDP	% of Personal Consumption Expenditure
1989	15.35	22.89
1990	15.25	22.68
1991	15.03	22.28
1992	14.62	21.34
1993	14.96	21.77
1994	16.17	23.58
1995	18.30	26.72
1996	19.53	28.46
1997	19.81	29.03
1998	20.74	30.11
1999	21.46	30.82
2000	22.88	32.68
2001	24.34	34.29
2002	24.90	34.98
2003	24.40	34.05
2004	23.64	32.92
2005	23.23	32.46
2006	23.13	32.56
2007	23.21	32.34

The steady increase of unsecured debt is having real effects on the overall growth and trajectory of US economic expansion. The largest jump in unsecured debts contribution to the PCE, the its equivalent value relative to nominal GDP was from 2000-2001, rising nearly 2% in both cases.

This shows the scale of private credit creation in the credit card market, as receivables moved off-balance sheet through ABS allows the lending pool to be re-capitalized using the same capital reserves (either through deposits for

banks or initial capital stock used by specialist or non-bank lenders). Taken together we can see a plausible link between the widespread private credit creation used by consumer credit lenders and its impact on broader macroeconomic indicators via individuals' use of debt to fuel consumption.

Financialization and competitiveness in the credit card industry

Translating macroeconomic trajectories of rising household unsecured debt levels to the dynamics of meso-level trends in the consumer credit industry is a complex and difficult process. Therefore, the remainder of this presentation will focus on the credit card industry and the particular dynamics of financialized competitiveness among card issuers.

The US credit card market has a huge number of participants. Currently, over 6,000 depository institutions issue VISA and MasterCard credit cards and independently set the terms and conditions on their plans. Close to 10,000 other institutions act as agents for card-issuing institutions. In addition to the firms issuing cards through the VISA and MasterCard networks, two large nonbank firms, American Express Co. and Discover Financial Services, issue independent general purpose credit cards to the public. Yet, despite this highly competitive market profit rates remain extremely high. The Federal Reserves yearly congressional report on credit card banks (December 2006, seventeen banks with assets exceeding \$200 million met the definition of a credit card bank) reported net earnings before taxes of 3.34 percent of outstanding balances adjusted for credit card-backed securitization. For example, for all commercial banks, the average return on all assets, before taxes and extraordinary items, was 2.01 percent in 2006.

Crotty (2008) referred to puzzling coexistence of intense competition and historically high profit rates as 'Volcker's Paradox'. While Crotty was looking specifically at commercial banking, this presentation extends his framework to the credit card industry to examine what factors contribute to this phenomenon which seems to defy basic economic principles. In the case of the credit card industries two key components have contributed to high profit rates in the face of growing competition: the widespread use of ABS to create new credit without recourse to new capital or deposits and the unique pricing techniques facilitated through credit scoring and profit profiling.

Firstly, securitization lowers the cost of funds for credit issuers, which increases profitability, and allows credit to be recycled through re-capitalisation of loan pools. Creating an ABS involves bundling together thousands of small loans, specifically the anticipated interest payments owed on these outstanding loans, into a Master Trust. This trust is a legal entity, called a special purchase vehicle, backed by a certificate which investors buy shares and receive interest and principal payments over a twelve-month contract. Through this process interest-based income streams are bundled together, sold, and transferred off balance sheet as a sale of assets. By moving assets off balance sheet the loan pool can be re-capitalized. The resulting re-capitalisation recycles the credit pool, allowing new loans to be issued from the same capital stock. Profits result from the difference between

the high rates of interest charged on credit cards and the lower rate of interest paid out to securities.

Table 3: G19 Revolving Debt Outstanding and Securitized Pools

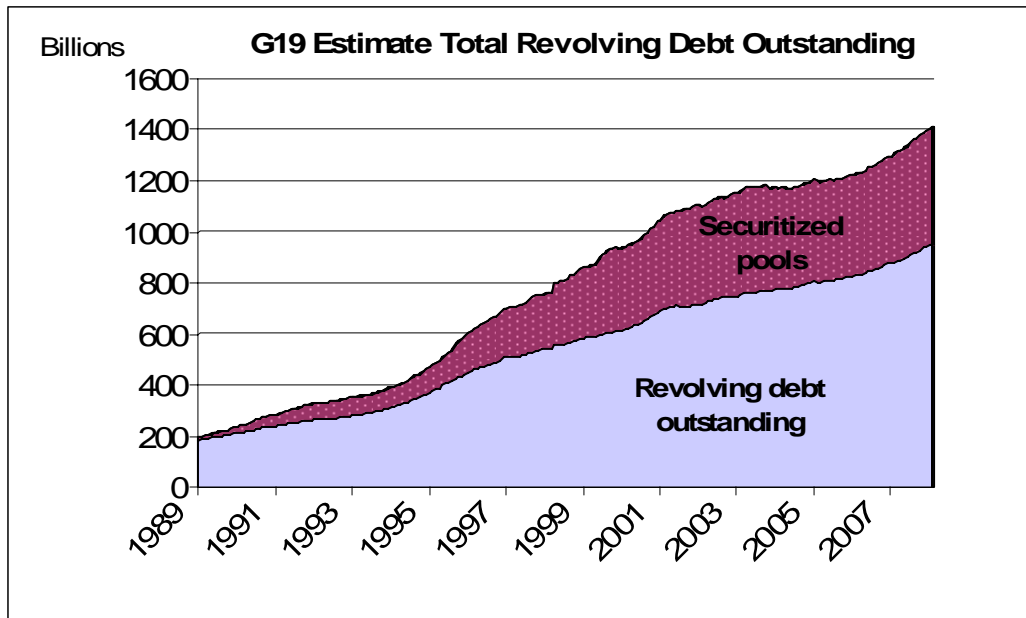


Table 3 shows isolates the particular trends in the credit card market (classified as revolving debt in the G19 measure), which reveals the much more substantial impact ABS has in the credit card market as it increases the total amount outstanding (in 2007) by almost 50%. When we compare the stock of credit card debt outstanding to the flow of PCE in the US we see a steady increase in the overall level of debt relative to consumption levels. In 2007, outstanding credit card debt was the equivalent of 14% of personal consumption expenditure in the US.

As a result of its contractual structure, the ability to issue an ABS is predicated on the existence of a substantial number of individuals with unpaid balances in a portfolio. Without reliable amounts of unpaid balances, there can be no ABS or further re-capitalization. ABS has made credit issuers dependent on indebtedness for its future expansion and profitability; this explains why individuals with existing high debt levels are continually targeted with new offers. Therefore, widespread use of securitization created a bias for consumer credit issuers by making repayment of outstanding debt a limitation on the profitability of an ABS. In their efforts to secure investors for annual (or bi-annual) ABS issues, consumer credit portfolio managers are primarily focused on capturing, or creating, persistent revolving debtors.

Understanding the underlying needs of credit card pool managers ties in with known marketing trends within the industry. For example, extensive market research which found that the more often people used their credit cards the more likely they were to overspend and not pay their full balance. This led many credit card initiated new partnerships with large MNCs to implement new product benefit cards. For example, *Air Miles* product benefits card gave

cardholders points for every dollar purchased. Reward schemes sought to encourage more widespread use of credit cards to increase revolving balances and augment merchant fee volumes (Pae 1992; Martin 2004).

Too often pre-approved credit mail-outs, instant on-line credit decisions, and zero percent balance transfers are explained away as a loss of prudence by banks. When considering the important role ABS plays in this market, another explanation is the portfolio managers' desire for a larger proportion of revolving debtors. This led to new poaching strategies to lure individuals with existing debts. For instance, affinity card programs and 'teaser rates' became the primary means of attracting existing revolvers, a requirement for future profitable ABS issues. Teaser rates are low introductory offers or zero per cent balance transfers, which specifically target existing revolver debtors.

The second key component of profitability for credit card issuers in the face of fierce competition is their unique pricing practices. Risk-based pricing is often understood as a rational calculative process where volumes of data on individuals can be transformed into discriminant categories. In practice, how risk-profiles are used by lenders is fraught with idiosyncrasies; as Burton et al (2004) assert, the term sub-prime "means different things to different lenders but it is often defined by what it is not, rather than by what it is" (9). At its inception, credit scoring involved analyzing basic employment and credit histories to determine whether to 'accept' or 'reject' a potential customer based on their probability of default.

Table 4: Distribution of Interest Rates Paid By Cardholders with Balances

Accounts with Balances	Interest Rate
31%	0% or low introductory rate
36%	Regular interest rate
33%	Interest rate higher than 20%

Source: (Wheary, Shapiro et al. 2007)

Also, credit card lenders use their access to detailed information provided by credit bureaus to move beyond simple accept/reject criteria by adapting more detailed credit profiles to determine the price of credit and potential profitability of each customer. The availability of data on types of credit used, payment history, amount of debt outstanding, how long account open, how many applications made, how long have been in repayment are used to produce individual behavioural scores (FICO model).¹ For example, profiles can be

¹ FICO model is based on a proportional weighting of the six categories. Payment history (35%) this includes the number of unpaid bills, any bills sent to collection, bankruptcies etc. The more recent the problem, the lower your score. Outstanding Debt (30%) how much of the

generated which classify individuals into four groups (non-users, convenience users, revolvers and late payers) based on how individuals use their credit cards. This information is then used to determine the interest rates charged on credit products to ensure maximum profitability.

These new calculative technologies led to the profiling of each customer's potential profitability. Behaviour scoring techniques allowed lenders to calibrate the level of APR charged to different customers as well as target promotional offers to new customers or counteract account closures (attrition rates) among existing customers. The monthly surveillance of individual credit profiles has allowed lenders to integrate their profit strategies to generate more revenue from cross-product marketing (for example, payment protection schemes), higher interest charges, fees and penalties. Another result of the regular surveillance of individual accounts is the practice of 'Universal Default' which involves raising the interest rate on one credit card, due to changes in a consumer's credit score, because of a late payment to another creditor. In addition to charging a fee, credit card companies can also raise interest rates retroactively to existing balances. One late payment can cause a cascade of penalties on all outstanding credit card accounts. Late fees and penalties provided \$10 billion in revenue for the card companies in 2004.

Financialization and competitiveness: a case study of Citibank

Currently, securitization funds about 70% of Citibank's U.S. credit card business. The receivables in the credit card accounts designated to the master trust as of December 30, 2007 included \$1,048,382,235 of finance charge receivables and \$79,778,536,490 of principal receivables – which amounts include overdue finance charge receivables and overdue principal receivables.

For the monthly period ending December 30, 2007, 58.29% of the accounts had a credit balance or otherwise had no payment due, 17.08% of the cardholders paid their entire outstanding balance, 3.50% of the cardholders made only the minimum payment due, and the remaining 21.13% of the cardholders paid an amount greater than the minimum due, but less than the entire outstanding balance.

total credit line is being used on credit cards and other revolving charges? High balances or more precisely, balances that are close to your credit limit can negatively affect your credit score. Length of your credit history (15%) How long have your accounts been open? High loan amounts that you have paid as agreed and have had open a long time work best. Closing old accounts can have a negative affect because it makes your credit history appear shorter. Recent inquiries (10%) Every time you apply for any kind of credit you create an inquiry on your credit report. A lot of inquiries negatively affect your credit score. However, ordering a copy and checking your own credit report or personal credit score counts as a soft inquiry and does not go against your score. Types of credit in use (10%). How much is still owed on current mortgage loans, credit cards and finance companies compared with the original loan amounts? Also it's important not to open a number of new credit card accounts just to increase your available credit. It will have the opposite affect and lower your score.

SEC Filing Feb 2008 Account Balance	As of December 30, 2007		Receivables outstanding	Percentage of total receivables outstanding
	Number of Accounts	Percentage of Total number of accounts		
Credit Balance	752,757	1.60%	\$ (89,205,109)	-0.11%
No Balance	26,929,205	57.39	0	0.00
Less than or equal to \$500.00	4,637,646	9.89	874,648,668	1.08
\$500.01 to \$1,000.00	2,161,605	4.61	1,595,312,494	1.97
\$1,000.01 to \$2,000.00	2,749,684	5.86	4,023,638,245	4.98
\$2,000.01 to \$3,000.00	1,869,673	3.98	4,632,142,509	5.73
\$3,000.01 to \$4,000.00	1,381,784	2.94	4,808,601,390	5.95
\$4,000.01 to \$5,000.00	1,076,536	2.29	4,830,885,432	5.98
\$5,000.01 to \$6,000.00	852,462	1.82	4,676,688,607	5.79
\$6,000.01 to \$7,000.00	696,917	1.49	4,520,584,478	5.59
\$7,000.01 to \$8,000.00	573,139	1.22	4,291,287,240	5.31
\$8,000.01 to \$9,000.00	480,798	1.02	4,081,280,134	5.05
\$9,000.01 to \$10,000.00	410,336	0.87	3,895,036,619	4.82
\$10,000.01 to \$15,000.00	1,238,045	2.64	15,083,087,320	18.66
\$15,000.01 to \$20,000.00	615,763	1.31	10,626,665,738	13.15
Over \$20,000.00	501,553	1.07	12,976,264,960	16.05
Total	46,927,903	100.00%	\$80,826,918,725	100.00%

"Receivables Outstanding" in these tables include both finance charge receivables and principal receivables.

Composition of Accounts by FICO Score

Once a customer has been issued a card, Citibank (South Dakota) refreshes the FICO score on most accounts on a monthly basis. Citibank (South Dakota) generally does not refresh the FICO scores of accounts with a zero balance that have been determined to be inactive, accounts in forbearance or workout programs and certain other categories of accounts. A FICO score of zero indicates that the FICO score of an account has not been refreshed for one of these reasons or that the customer did not have enough credit history for a FICO score to be calculated.

FICO Score	Number of Accounts	Percentage of Total Number of Accounts	Receivables Outstanding	Percentage of Total Receivables Outstanding
0	14,349,941	30.58%	\$ 1,097,808,254	1.36%
001 to 599	1,910,037	4.07	7,216,557,006	8.93
600 to 639	1,525,397	3.25	6,451,524,297	7.98
640 to 659	1,260,484	2.69	5,807,191,746	7.18
660 to 679	1,648,327	3.51	7,528,463,983	9.31
680 to 699	2,114,094	4.50	8,895,721,175	11.01

700 to 719	2,660,925	5.67	9,904,694,728	12.25
720 to 739	2,965,286	6.32	9,133,024,227	11.30
740 to 759	3,285,251	7.00	7,846,596,172	9.71
760 to 800	8,952,252	19.08	12,354,532,635	15.29
801 and above	6,255,909	13.33	4,590,804,502	5.68
Total	46,927,903	100.00%	\$80,826,918,725	100.00%

Profitability: Static Pool Data

Revenue Yield is the sum of finance charges, fees paid by cardholders, and interchange, less a 1.50% servicing fee payable only from interchange. Deductions for finance charge write-offs as well as re-investment income from funds in the Interest Funding Account and the Principal Funding Account are not reflected in revenue yield. The revenue yield percentage is computed by dividing revenue yield by the principal receivables balance as of the beginning of the due period*. If there is a lump sum addition or lump sum removal during the due period, then the denominator is the weighted average principal receivables balance over the due period. The principal receivables balance shown in the table does not include finance charges, and is as of the beginning of the due period. If there is a lump sum addition or lump sum removal during the due period, then the balance shown is the weighted average principal receivables balance over the due period.

Year of Account Origination	Principal Receivables Dec 2006	Yield Dec 2006
2001 and earlier	\$53,834,407,856	17.32%
2002	\$5,471,707,774	15.85%
2003	\$3,278,337,087	18.01%
2004	\$4,873,055,301	18.50%
2005	\$4,094,789,871	21.66%
2006	\$1,617,993,937	23.36%
Total	\$73,170,291,826	17.70%
Year of Account Origination	Principal Receivables Dec 2007	Yield Dec 2007
2002 and earlier	\$56,619,390,509	16.89%
2003	\$3,444,205,012	16.86%
2004	\$5,315,335,201	17.05%
2005	\$4,770,588,775	19.26%
2006	\$4,389,295,377	19.93%
2007	\$3,217,920,244	16.01%
Total	\$77,756,735,118	17.18%

Conclusions