

LATAM STRUCTURED FINANCE

Brazil Credit Review

Second Quarter 2011

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Brazil Credit Review Second Quarter 2011

Our last credit review looked at that growing threat of inflation in Brazil and the possible difficulties in the credit markets from the government's attempts to control this threat. One quarter later, the prognosis has become more critical. Despite being upgraded by Fitch and Moody's over the quarter, Brazil has been quietly dealing with its own credit problem while global investors are being distracted by the debt crisis in Europe. In the last few months several articles and papers have appeared pointing to a coming credit bubble in Brazil. On July 27th the newspaper DCI announced that the ratio of debt to GDP had passed 47%, the highest percentage ever. More impressive, this credit growth continues despite the Brazilian government's multipronged effort to slow economic and consumer credit growth.

In addition, the Financial Times discusses Brazil's growing credit predicament in a full page article in the July 13, 2011 edition on page 8 in a piece titled "Credit to Redeem" by Joe Leahy. (Yes, this is technically news for the third quarter, but it supports much of the material that I have planned to cover, so it goes in this edition.) The key points are that credit in Brazil, especially personal credit, has grown at a rapid rate and can be considered reaching bubble proportions. Second, the current financial and macro-economic efforts by the Brazilian government are threatening to pop this bubble. Data shows that bankruptcies are increasing dramatically in some sectors.

The Financial Times article quotes various experts about the coming demise of Brazil's economic boom and highlights a different threat from each expert. One of the big problems, writes Leahy, is that "Brazil spends more than it earns and invests little." Leahy notes "the global boom in commodity prices has brought a 30 percent improvement in Brazil's terms of trade ... But rather than use some of this to reduce debt and boost savings, the country has spending it all and more on additional imports – such as home appliances from China. This has led to a current account deficit of about 2.3 per cent of gross domestic product in the year to May."

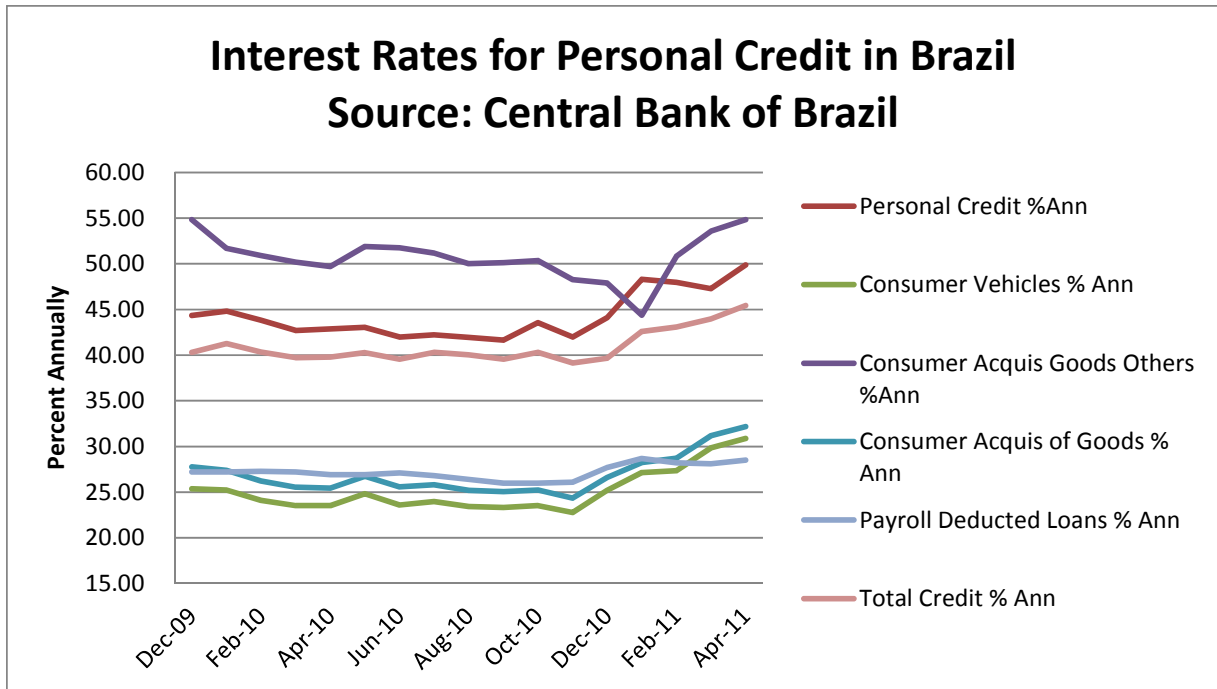
The bottom line is that Brazil's economy and its credit markets appear to be vulnerable to an economic slowdown. This quarter's review looks at the growth of Brazil's credit markets and quantifies the damage that an economic slowdown would have on these markets.

The Story behind Credit Scene

Promoters of the credit bubble story point to the level of debt payments to disposable income. Leahy notes that Brazilians spend about 25% of their disposable income on debt servicing compared to 16% in the United States. Naysayers point to the outstanding balance of credit in the system, 47% debt to GDP is fairly low compared to other developed countries and other BRICs. For example, real estate loans in Brazil are estimated to be somewhere between 10% and 15% of GDP.

At first look there would seem to be some disconnect. How can a country with such a low percentage of credit to GDP be experiencing a credit bubble? Anyone wishing to analyze Brazilian credit markets must realize that the country really has two financial markets; one credit market for very large global Brazilian companies and another for the rest of the country. Interest rates for credit for smaller companies and individuals in Brazil are in another universe. Some finance companies in Brazil charge 60% annually for a car loan versus 5% to 6% in the United States. An American borrower with a 6% four year car loan for \$50,000 makes the same payments that a Brazilian would pay on an R\$21,000 (\$12,850) 60% interest car loan for the same term (about \$1,170 a month, U.S. Dollar for the American borrower, Brazilian Real for the Brazilian). We estimate that Brazil's debt load equal to a debt to GDP ratio of 80% to 100% in most countries. Exhibit 1 is a graph of the most recent rates (averaged) from the Central Bank of Brazil. Similarly, small business borrowers pay very high interest rates in Brazil.

Exhibit 1



Consumer Sector Analysis

According to data acquired from Brazil's Central Bank, consumer credit has been driving overall credit growth. Consumer credit has grown 14.8% in the last twelve months while business credit has grown only 5.1% and total credit 8.8%. See Exhibit 2 and 3.

Exhibit 2

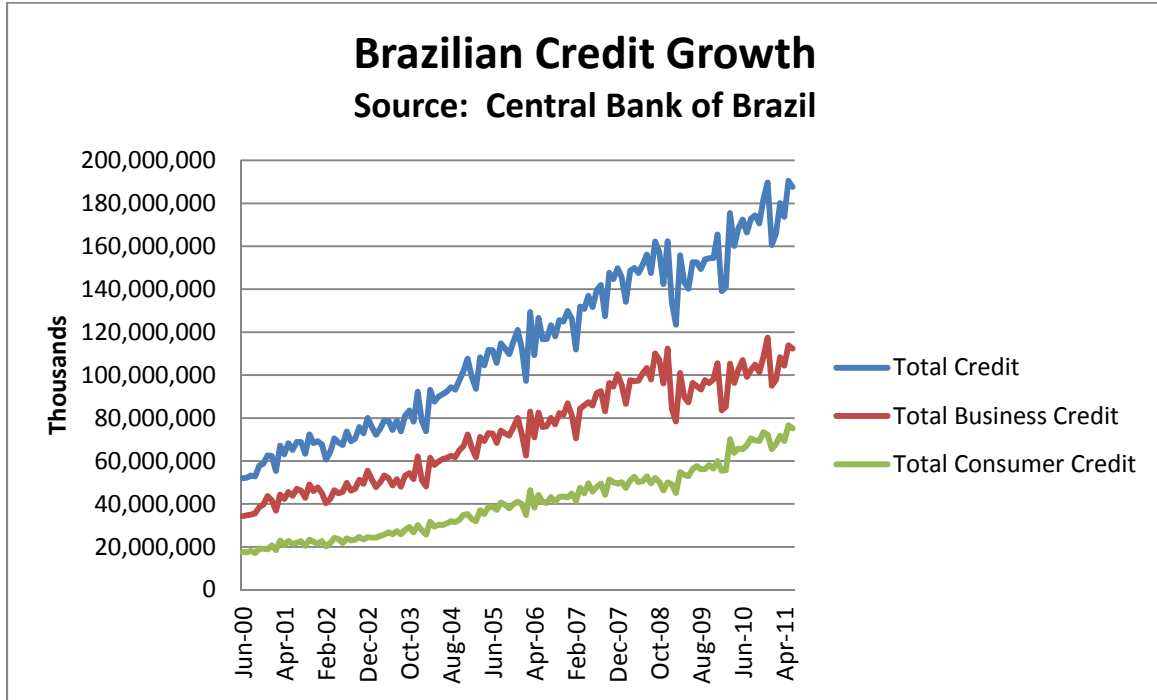
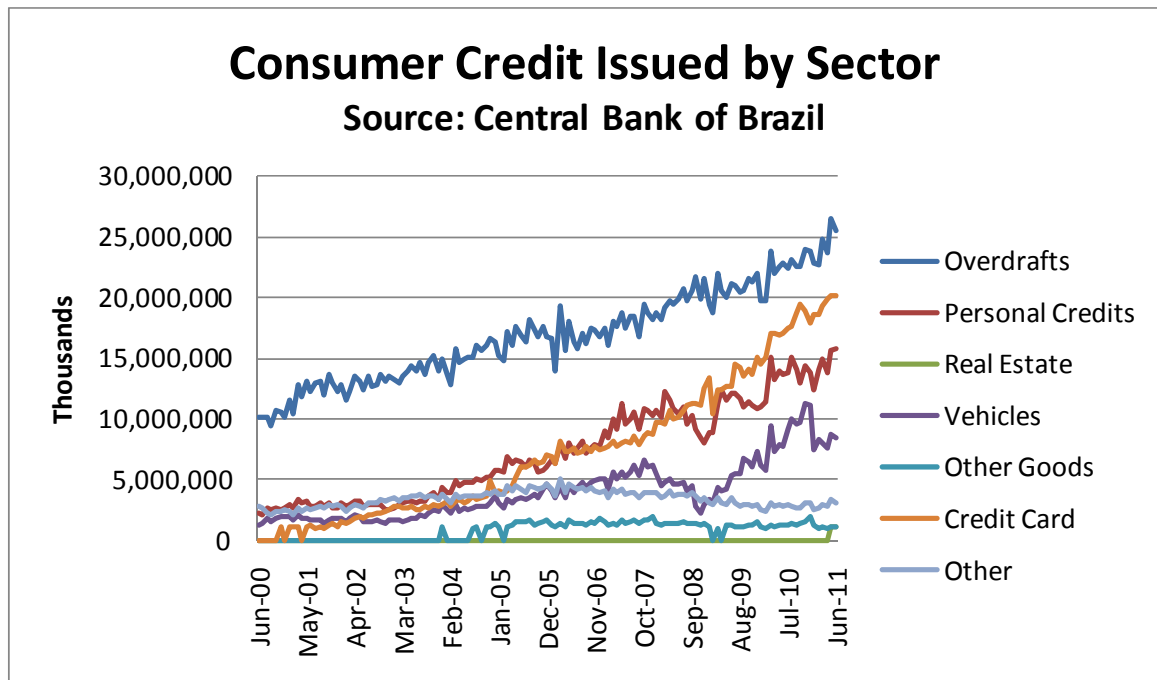
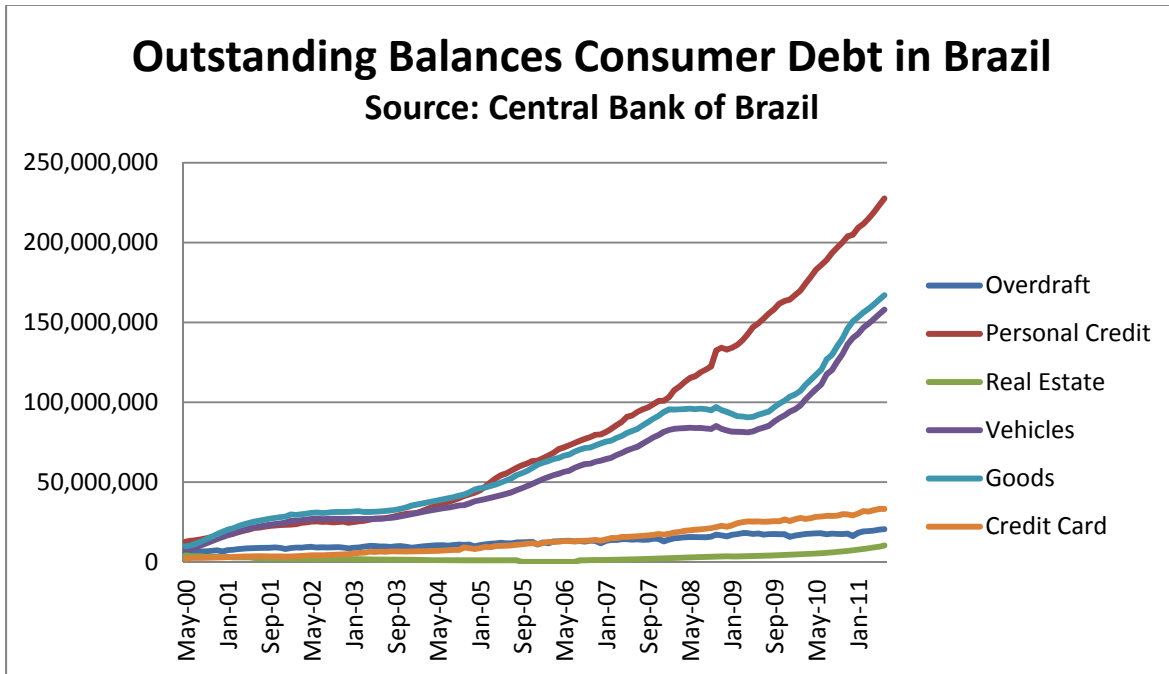


Exhibit 3



Even more alarming is the growth in outstanding balances for consumer credit. Notice in Exhibit 4 below that there is no wiggle in the lines like the previous graph for consumer debt issuance. Almost all of the series in the previous graph declined recently, especially when Mantega ordered an IOF tax on all credit transactions to buy goods or services. One would think that the series below would show some a leveling of growth during the last few months. Issuance of personal credit loans grew 15.3% but outstanding balances grew 22.46% from June 2010 to June 2011. Likewise, issuance of new consumer vehicle loans grew 10.2% over the last year while balances for consumer vehicle loans grew 42.1%. Total consumer vehicle loans issued during the first 6 months in 2011 is 9.8% higher than same period in 2010. This is indirect proof that the payments are not large enough to amortize the loans. Growing payments because of resets on interest-only and other alternative mortgages was one key factor that drove the U.S. credit markets over the edge in 2007-2008.

Exhibit 4



The Bank of Brazil data also shows that late payments on consumer credit have been driven by late payments on credit card debt with growth of 18.8% over the last twelve months and personal credit of 15.3% for the same period (probably mostly payroll loans). Exhibit 5 and 6 on next page.

Furthermore, Exhibits 7 and 8 on page 6 show that the percentage of loans with late payments has started increasing gently. Spreads and interest rates on consumer loans are also easing up. However, the data from the Central Bank of Brazil has a couple of shortcomings. The data only includes data from banks and not from other non-bank finance companies. Also, banks “manage” their data, for instance they will often write a new loan covenant with a borrower if they are unable to pay. In most countries this

would be considered a default with new bridge loan or some other type of interim financing.

Exhibit 5

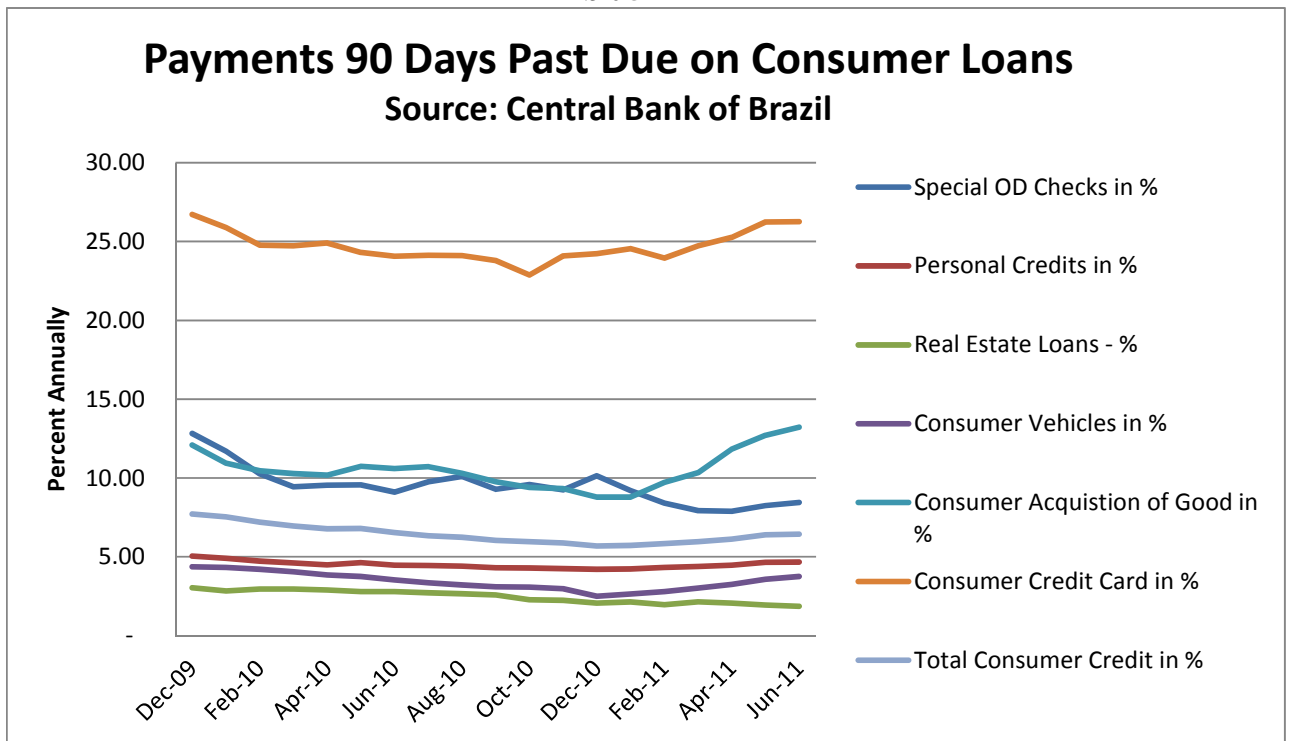


Exhibit 6

Payments 90 Days Past Due on Personal Credit - Brazil 2010-2011

Percent Bank Portfolio by Loan Type

Date	Special OD Checks in %	Personal Credits in %	Real Estate Loans - %	Consumer Vehicles in %	Consumer Acquisition of Good in %	Consumer Credit Card in %	Consumer other ops in %	Total Credit (Personal and Business) in %	
								Consumer Credit Card in %	Total Consumer Credit in %
Dec-09	12.82	5.04	3.04	4.37	12.08	26.72	24.18	5.53	7.71
Jan-10	11.70	4.91	2.84	4.33	10.94	25.89	24.85	5.49	7.53
Feb-10	10.26	4.72	2.95	4.20	10.46	24.76	24.42	5.30	7.19
Mar-10	9.44	4.60	2.96	4.04	10.28	24.72	25.16	5.14	6.96
Apr-10	9.54	4.49	2.89	3.86	10.18	24.91	23.48	5.07	6.78
May-10	9.57	4.63	2.80	3.76	10.73	24.31	23.76	5.14	6.79
Jun-10	9.11	4.46	2.80	3.53	10.60	24.08	22.57	4.97	6.54
Jul-10	9.76	4.44	2.71	3.35	10.71	24.14	19.69	4.89	6.33
Aug-10	10.09	4.40	2.66	3.21	10.29	24.11	20.22	4.83	6.24
Sep-10	9.29	4.31	2.57	3.10	9.77	23.79	19.74	4.71	6.03
Oct-10	9.58	4.29	2.28	3.07	9.40	22.87	20.89	4.67	5.95
Nov-10	9.24	4.24	2.23	2.98	9.32	24.09	19.19	4.65	5.88
Dec-10	10.13	4.21	2.06	2.49	8.79	24.23	19.97	4.54	5.68
Jan-11	9.20	4.22	2.13	2.64	8.78	24.55	18.28	4.63	5.72
Feb-11	8.41	4.32	1.95	2.80	9.72	23.95	19.93	4.69	5.84
Mar-11	7.94	4.39	2.13	3.01	10.33	24.72	20.34	4.78	5.96
Apr-11	7.90	4.47	2.06	3.25	11.84	25.26	19.48	4.89	6.12
May-11	8.25	4.65	1.93	3.57	12.71	26.23	19.08	5.07	6.40
Jun-11	8.45	4.66	1.86	3.75	13.22	26.26	17.84	5.06	6.43
Pct Chg in 2011	-16.58%	10.69%	-9.71%	50.60%	50.40%	8.38%	-10.67%	11.45%	13.20%
Pct Chg in YOY	-7.24%	4.48%	-33.57%	6.23%	24.72%	9.05%	-20.96%	1.81%	-1.68%

Source: Banco Central do Brasil Time Series Database

Exhibit 7

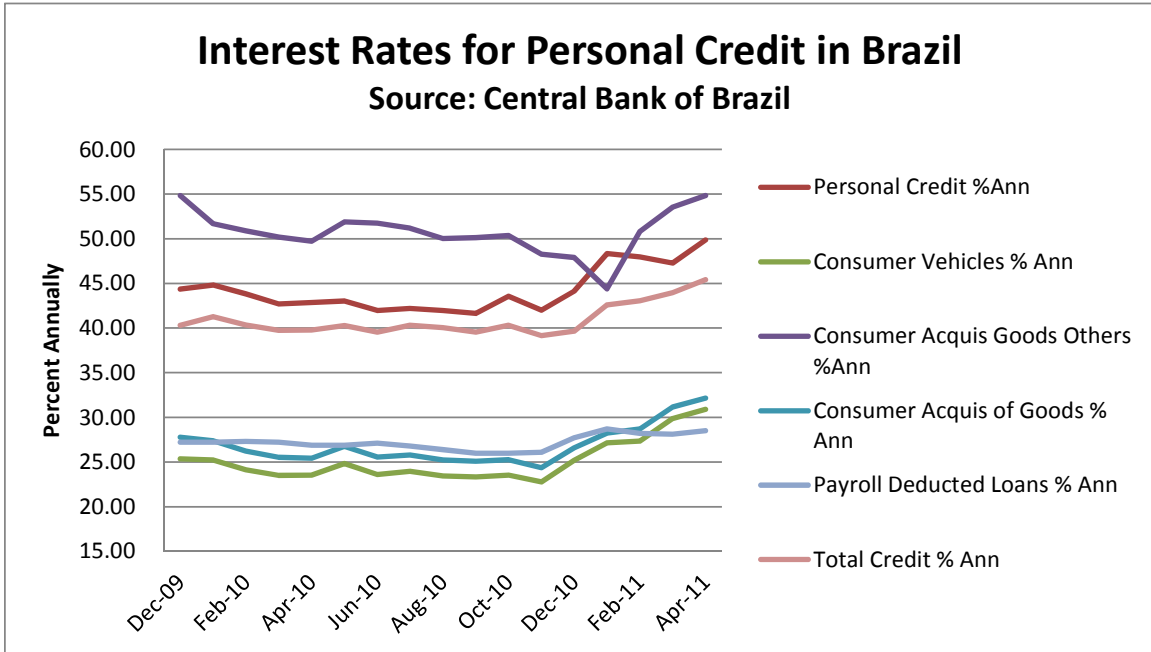
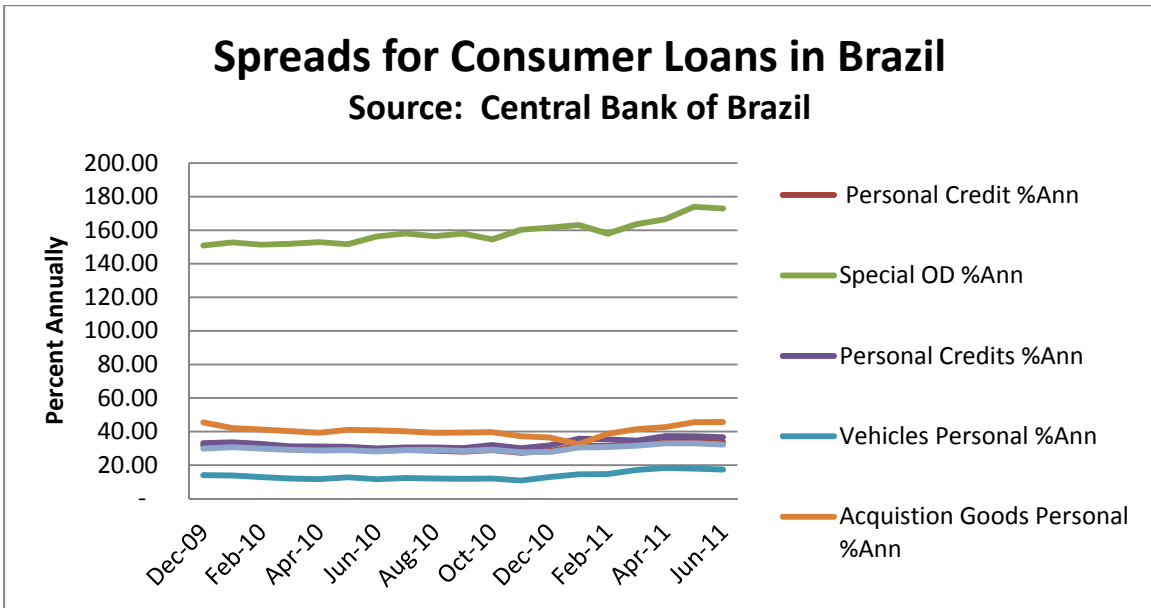


Exhibit 8



The Exhibits 9 and 10 use data from the credit bureau Serasa/Experian to address the shortcomings in the Central Bank of Brazil data and cut to the core of this question. Serasa/Experian’s index of credit quality uses Serasa/Experian’s models to measure credit risk based on several financial variables with results that vary between 0 and 100, 100 being the best. While Serasa/Experian’s own indices indicate that consumer credit quality is declining but somewhat stable, its data for late payments shows that some sectors in Brazil’s finance markets are experiencing serious problems. Clearly the non-

bank finance sources, which include credit cards, are in a different orbit. Also, late payments in this sector are beginning to affect the other sectors as the debt problem gains momentum.

Exhibit 9

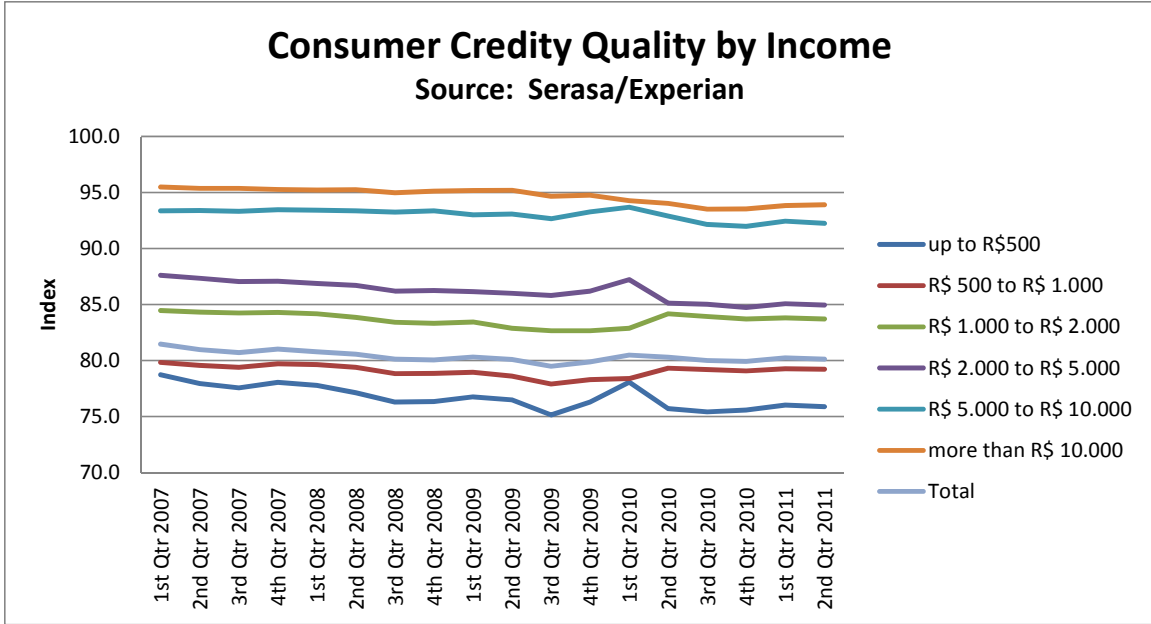
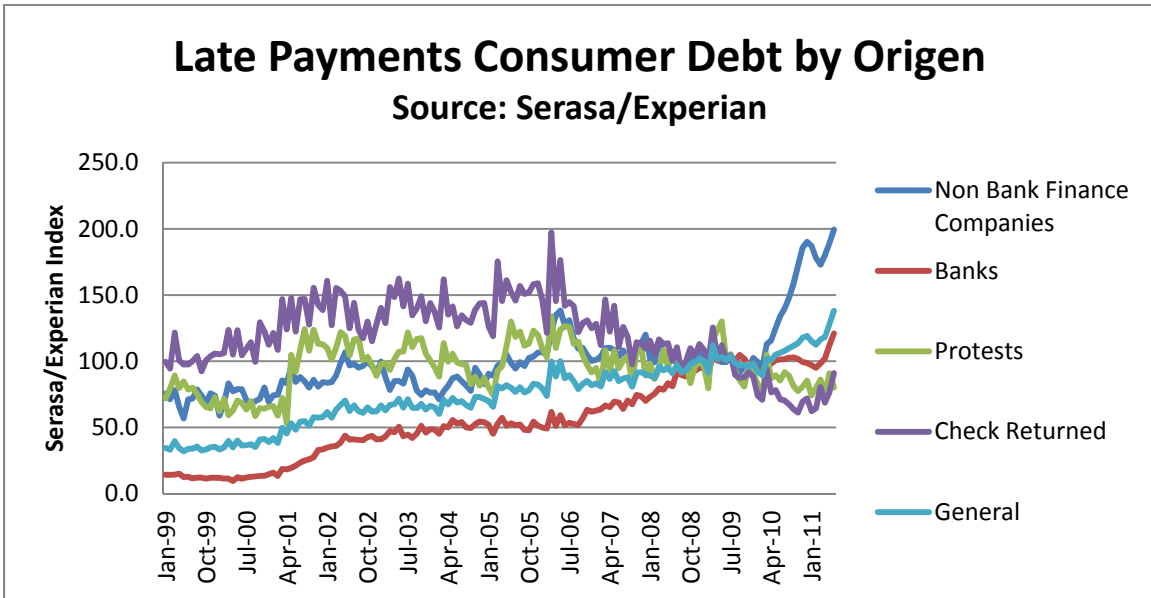
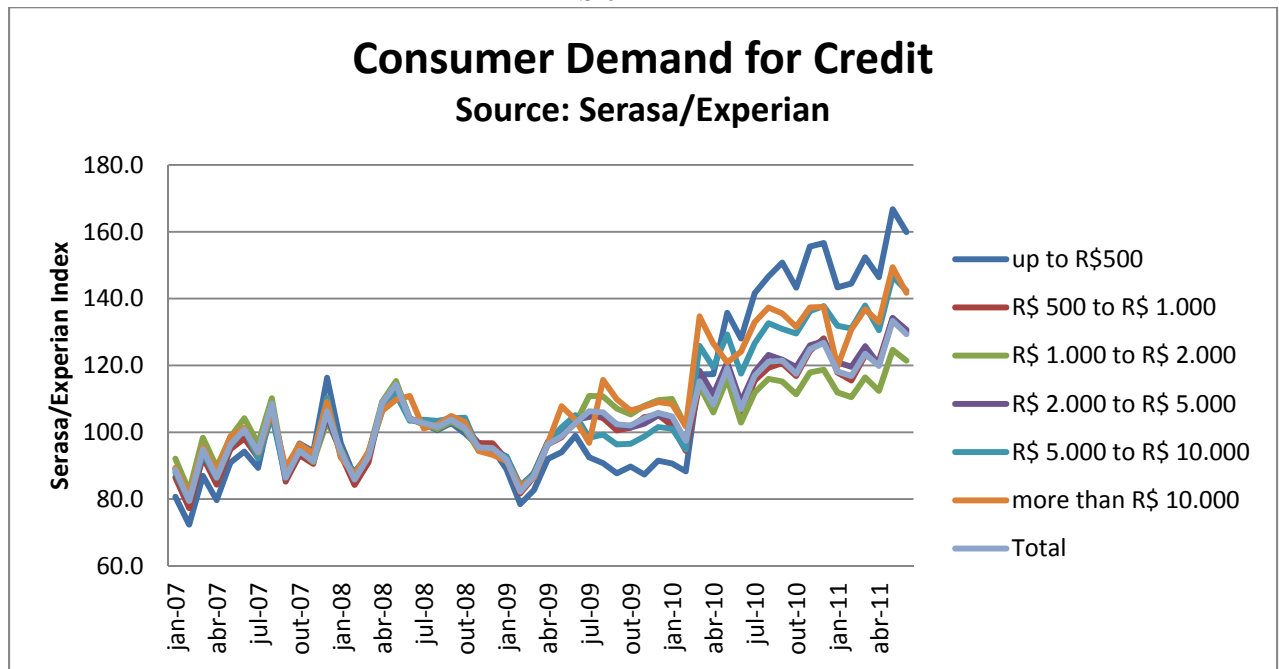


Exhibit 10



Serasa/Experian data also show that demand for consumer credit is growing dramatically. See Exhibit 11 below.

Exhibit 11



LatAm Structured Finance worked with Fundação Getulio Vargas in São Paulo, Brazil to develop a vector auto-regression model to forecast late payments on Brazilian debt based on macro-economic variables, interest rates and late payments across other debt sectors. The model uses data from June 2000 to June 2011 to make the forecast. Exhibit 12 on the next page shows the model forecast for late payments of more than 90 days past due over the next twelve months. The model uses the current market forecast for interest rates (forward curve for CDI), inflation (Central Bank of Brazil FOCUS Report and statistical database), and industrial production (Central Bank of Brazil FOCUS Report and statistical database). The model is currently predicting a small rise in late payments to around 6.6% of the bank portfolios, with the possibility (5% chance) of 7.4% and a 5% chance of 5.8%.

The Exhibit 13 shows the result of the same model when the forecast for industrial production is reduced to zero growth from January 2012 to June 2012. Notice the dramatic increase in late payments for overall consumer debt. The average forecast (the center path) rises to just above 9%, almost a 50% increase in late payments as a percentage of the bank's portfolios. The range of error extends from almost 10% to about 8.4%.

We would like to remind the reader that this is data for bank portfolios and the does not include late payments in finance company portfolios that have been performing much

more poorly. We believe that a severe economic slowdown or a recession in Brazil would push late payments and bankruptcies on consumer debt to much higher levels than we are seeing now.

Exhibit 12

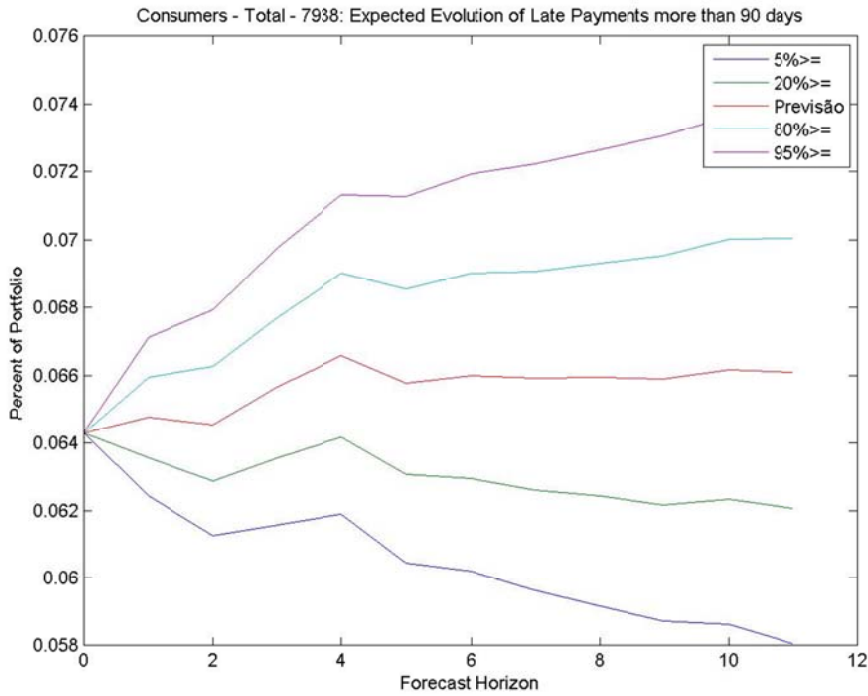
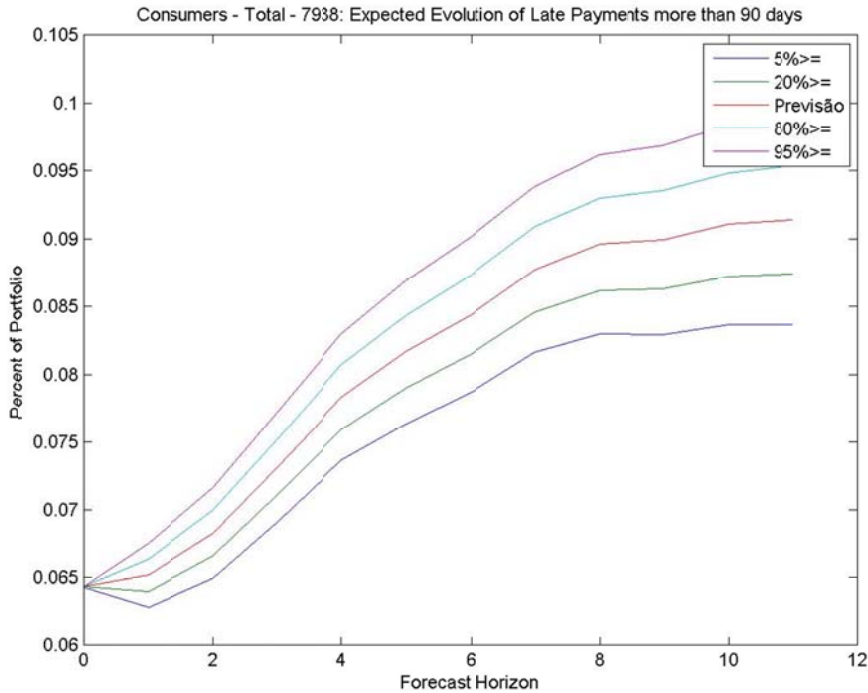


Exhibit 13



Business Credit

Business credit markets are behaving much better than the consumer credit market though there are some signs of weakness. According to the Central Bank of Brazil data, levels of late payments are increasing slightly and interest rates are increasing along with risk premiums, but the increases are much more rational than we see in the consumer markets. See Exhibit 14 and 15. As discussed earlier, overall business credit grew at a 5.1% rate over the last 12 months, much more sustainable than the 14.8% rate than consumer credit. Late payments on business debt seem under control and even declined in June for the first time in almost a year. Exhibit 16 and 17 on the following pages show that interest rates and spreads on business loans have also been stable, although they are beginning to trend upwardly in the last few months.

Exhibit 14

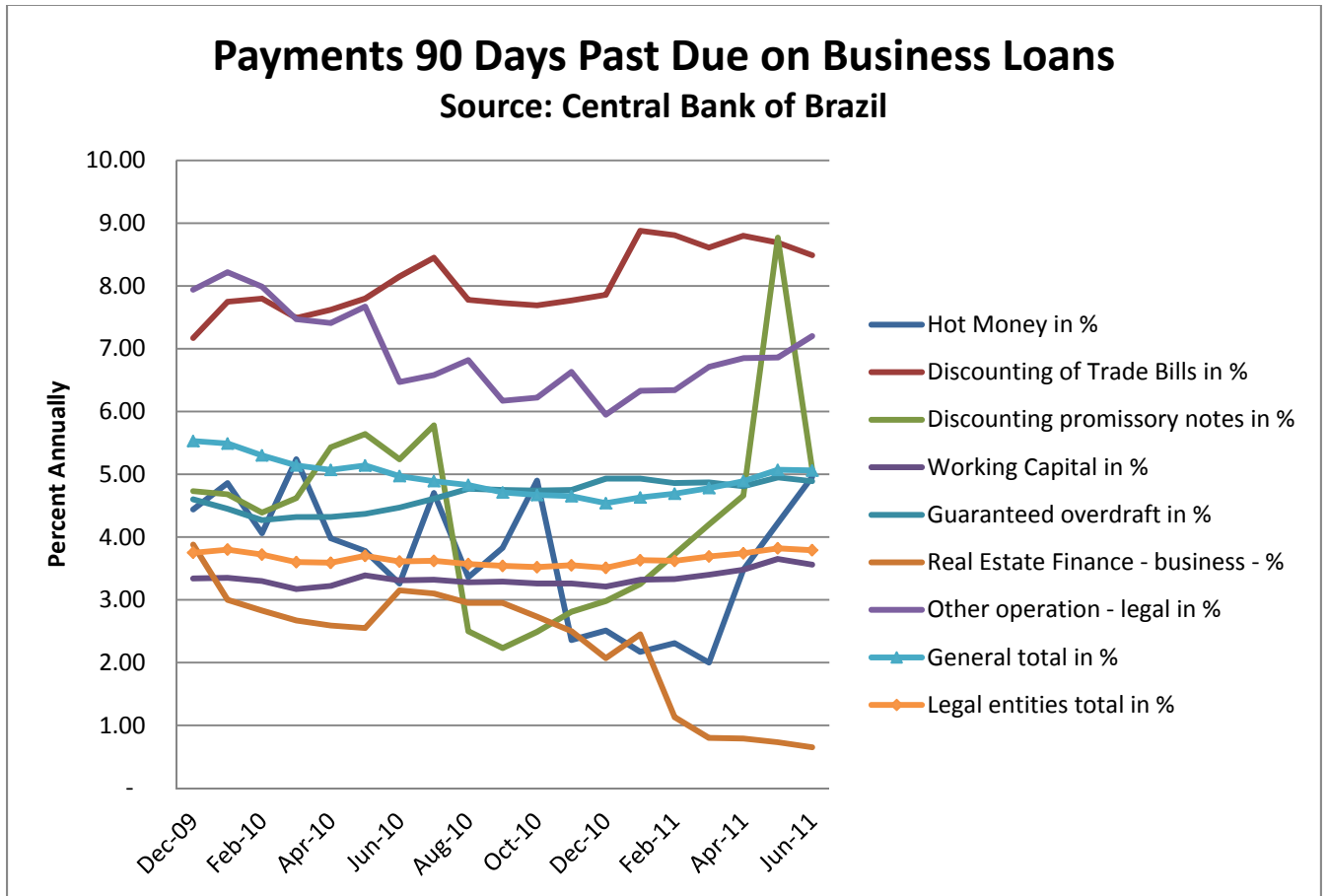


Exhibit 15

Payments 90 Days Past Due on Business Credit - Brazil 2010-2011

Percent Bank Portfolio by Loan Type

Date	Hot Money in %	Discounting of Trade Bills in %	Discounting		Guaranteed overdraft in %	Real Estate		Acquisition of good - legal - %	Other operation - legal in %	General total in %	Legal entities total in %
			promissory notes in %	Working Capital in %		Finance - business - %	Acquisition of good - legal - %				
Dec-09	4.44	7.17	4.73	3.34	4.60	3.88	3.49	7.94	5.53	3.75	
Jan-10	4.86	7.75	4.68	3.35	4.45	3.00	3.63	8.22	5.49	3.80	
Feb-10	4.06	7.80	4.39	3.30	4.27	2.83	3.59	7.99	5.30	3.72	
Mar-10	5.24	7.49	4.62	3.17	4.32	2.67	3.46	7.47	5.14	3.60	
Apr-10	3.98	7.62	5.43	3.22	4.32	2.59	3.20	7.41	5.07	3.59	
May-10	3.78	7.80	5.64	3.39	4.37	2.55	3.20	7.67	5.14	3.70	
Jun-10	3.26	8.15	5.24	3.31	4.47	3.15	3.09	6.47	4.97	3.61	
Jul-10	4.70	8.45	5.78	3.32	4.61	3.10	3.01	6.58	4.89	3.62	
Aug-10	3.36	7.78	2.50	3.28	4.77	2.95	2.84	6.82	4.83	3.57	
Sep-10	3.83	7.73	2.23	3.29	4.75	2.95	2.76	6.17	4.71	3.54	
Oct-10	4.90	7.69	2.49	3.26	4.74	2.73	2.70	6.22	4.67	3.52	
Nov-10	2.36	7.77	2.81	3.26	4.75	2.50	2.57	6.63	4.65	3.55	
Dec-10	2.51	7.86	2.98	3.21	4.93	2.07	2.48	5.95	4.54	3.51	
Jan-11	2.17	8.88	3.25	3.32	4.93	2.45	2.53	6.33	4.63	3.63	
Feb-11	2.31	8.81	3.73	3.33	4.86	1.13	2.55	6.34	4.69	3.62	
Mar-11	2.00	8.61	4.20	3.40	4.87	0.80	2.73	6.71	4.78	3.69	
Apr-11	3.48	8.80	4.66	3.48	4.81	0.79	2.59	6.85	4.89	3.74	
May-11	4.22	8.69	8.77	3.65	4.95	0.73	2.65	6.86	5.07	3.82	
Jun-11	4.96	8.49	5.08	3.56	4.89	0.65	2.51	7.20	5.06	3.79	
Pct Chg in 2011	97.61%	8.02%	70.47%	10.90%	-0.81%	-68.60%	1.21%	21.01%	11.45%	7.98%	
Pct Chg in YOY	52.15%	4.17%	-3.05%	7.55%	9.40%	-79.37%	-18.77%	11.28%	1.81%	4.99%	

Source: Banco Central do Brasil Time Series Database

Exhibit 16

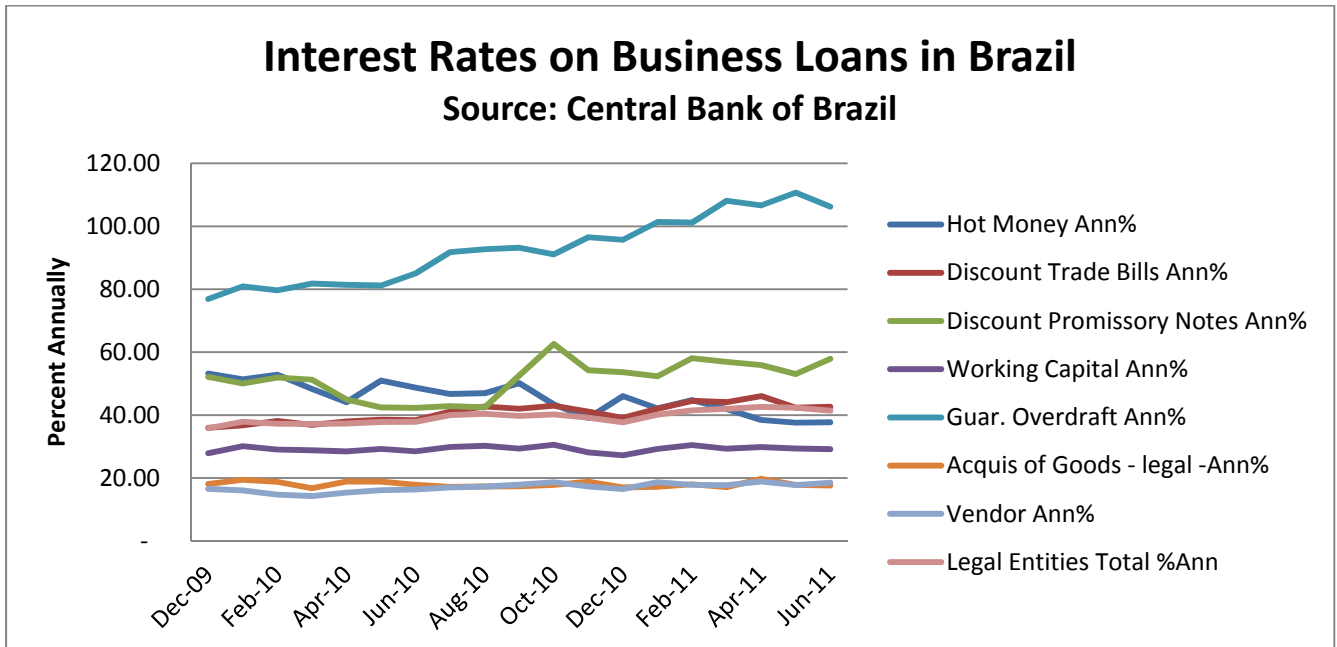


Exhibit 17

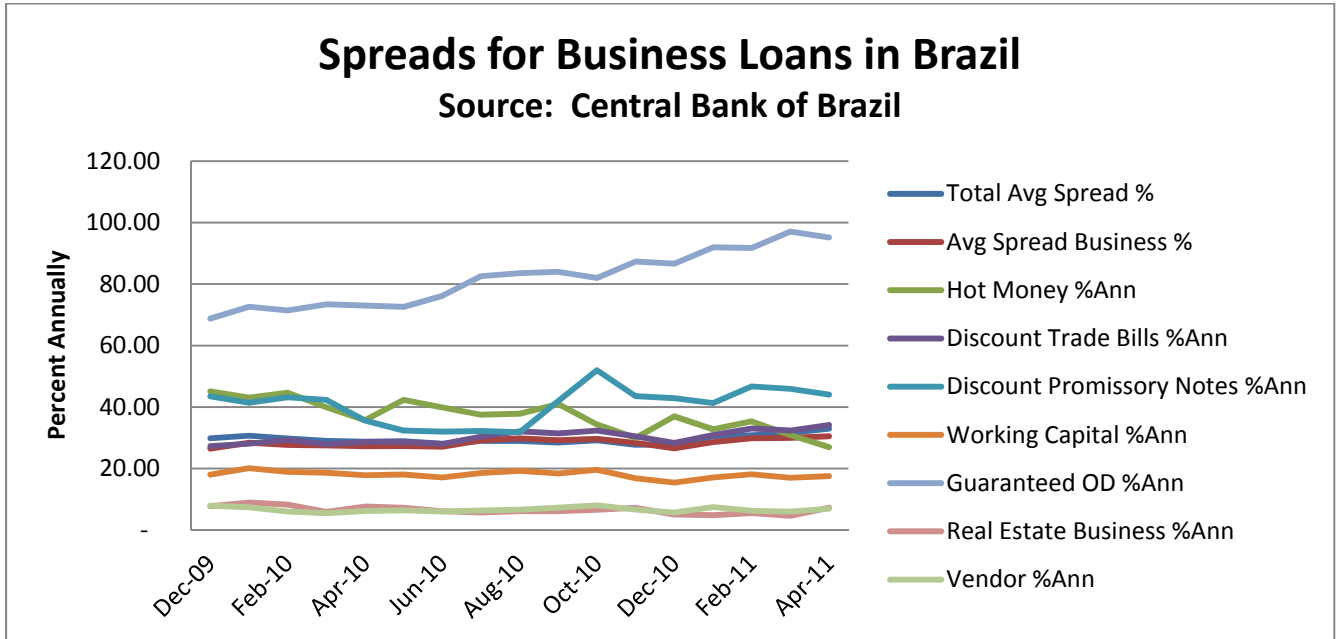


Exhibit 18 shows that Serasa/Experian’s quality of business credit index has stabilized in the second quarter and is still showing a small improvement over last year.

However, other Serasa/Experian business credit indicators exhibit contradictory data that is muddying the water. For instance Serasa/Experian’s series on payment punctuality is improving (Exhibit 19). However, Exhibit 20 on page 14 shows that late payments recorded by Serasa/Experian on business credit continued their upward ascent during the last quarter.

Late payments on non-bank debt continued to climb dramatically and those for bank debt began to spike in March and continued the upward climb during the entire second quarter. Note: the general series in blue also includes measures for protests of late payments and returned checks. Both these series declined over the last quarter and this offset the increases saw in late payments in the general index.

Exhibit 18

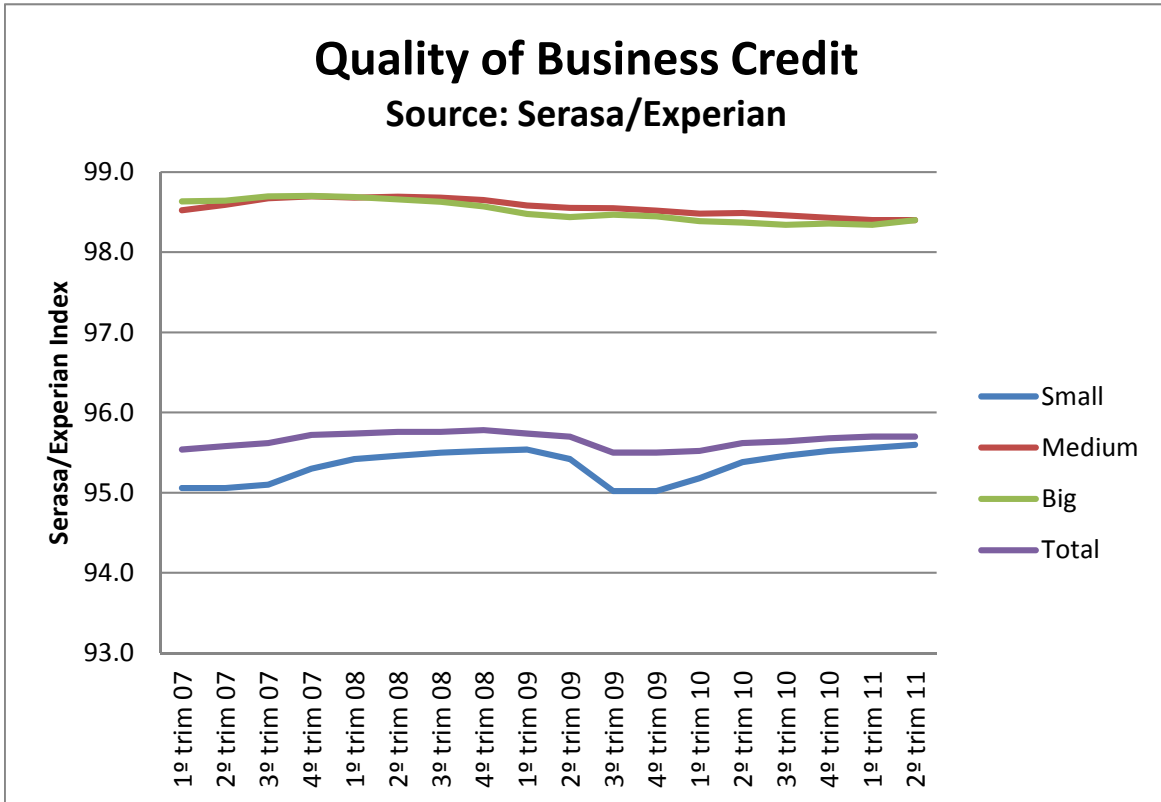


Exhibit 19

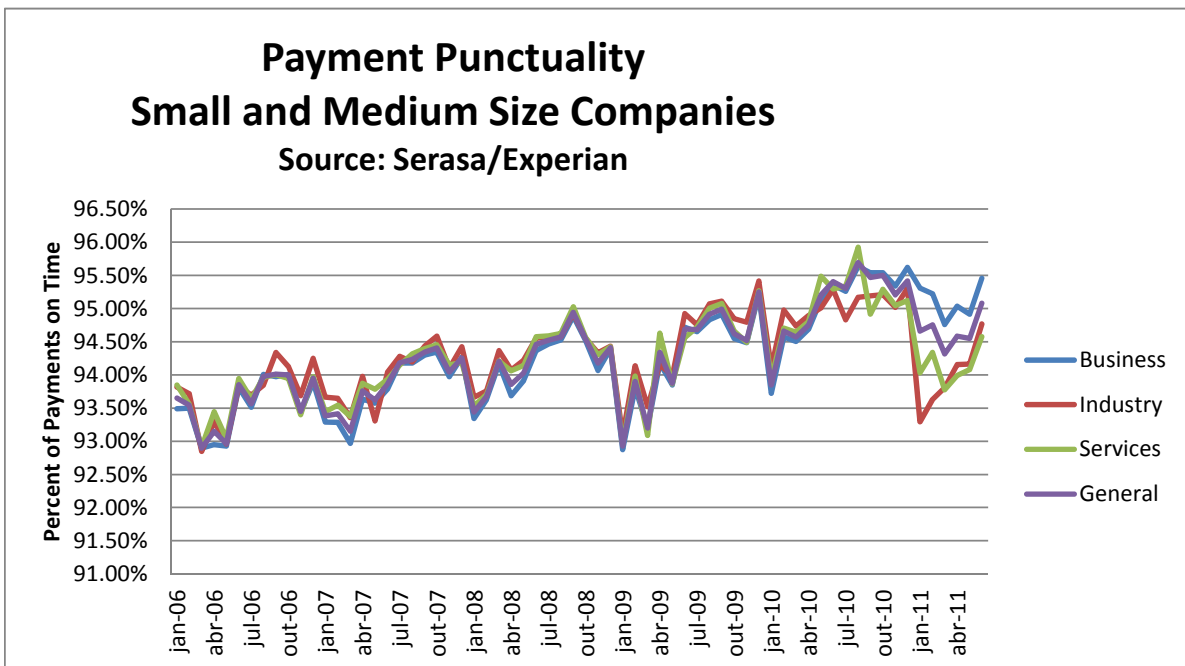
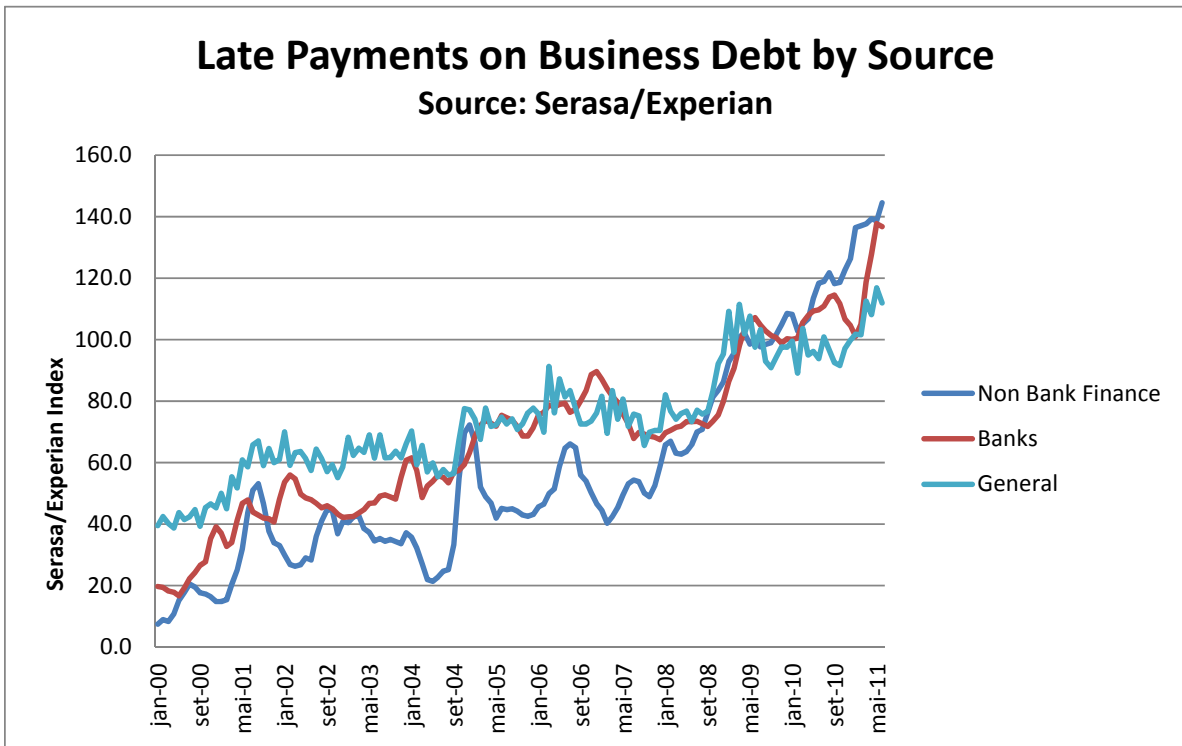


Exhibit 20



The bankruptcy picture in Brazil remains benign. Bankruptcy filings are oscillating within a stable range over the past few years and continued that behavior in the last quarter. Bankruptcies declared leveled off in the last quarter in general and remain dramatically below historical levels. See Exhibit 21 below and Exhibit 22 on the next page.

Exhibit 21

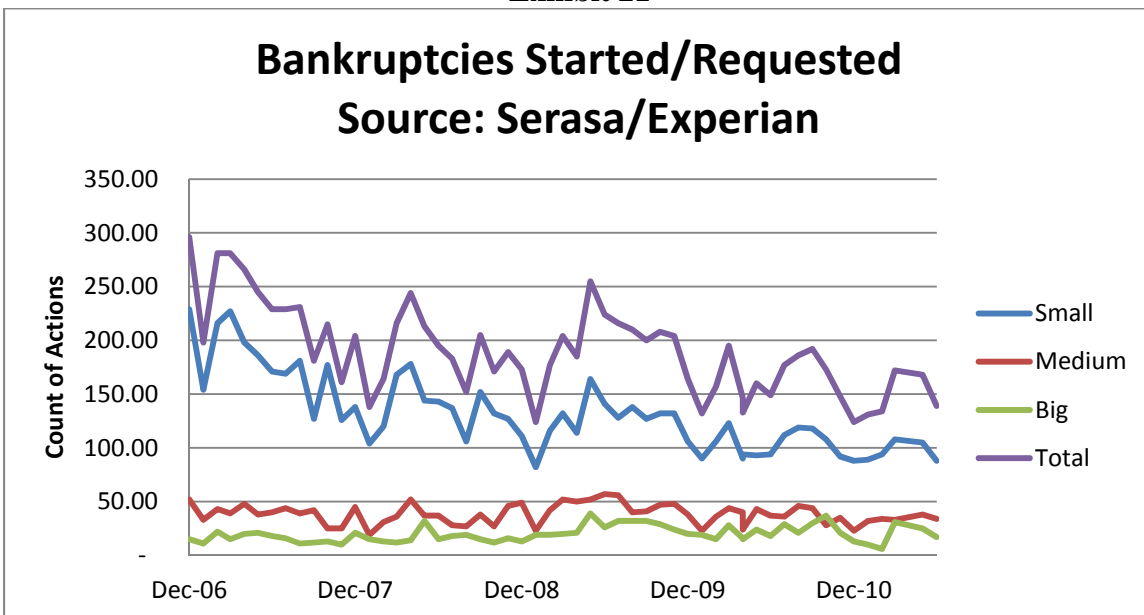
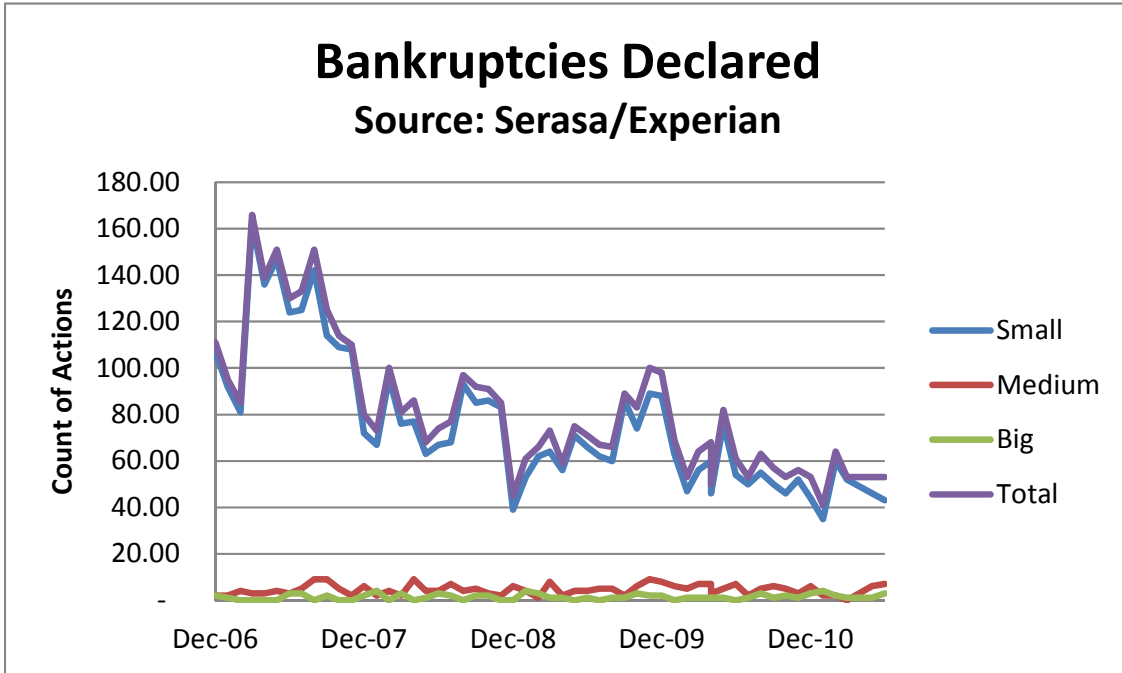
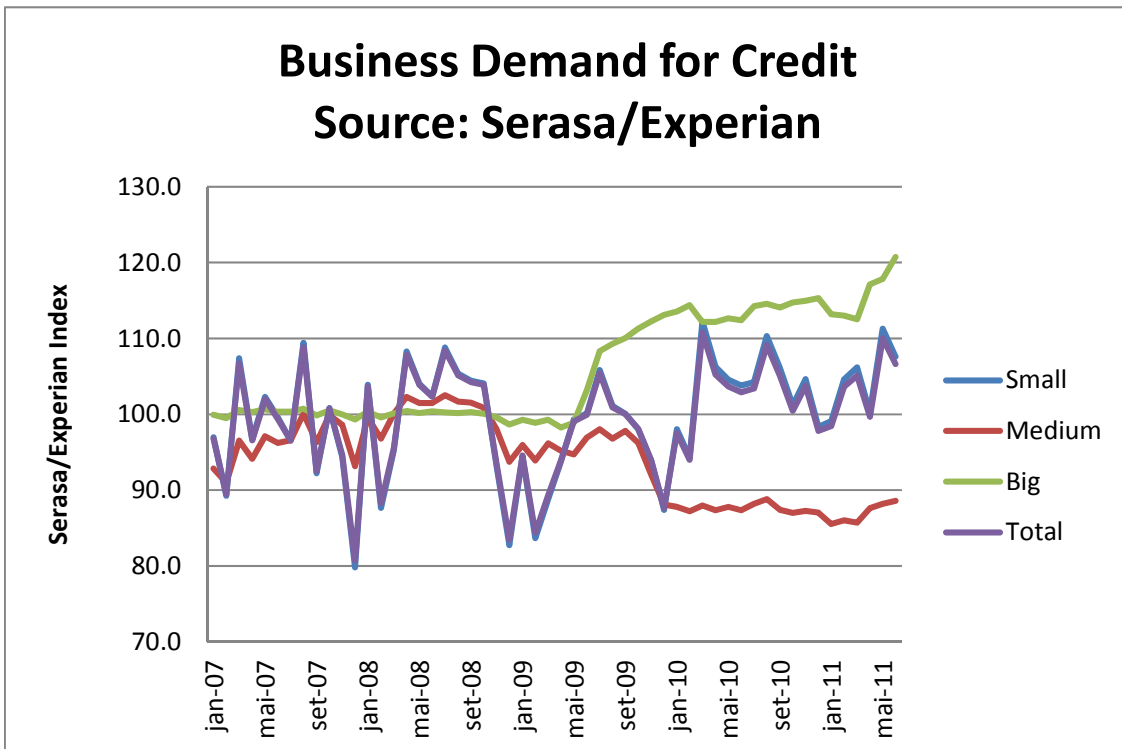


Exhibit 22



The picture for business demand for credit is also much more balanced with the big and medium size sectors seeing increases in demand for credit over the last three months. However, the demand for credit from large companies has been much stronger since 2009 (Exhibit 23).

Exhibit 23



Next we use our vector auto-regression model again to forecast late payments for business using the current economic forecast from the Central Bank of Brazil Focus database. Like the consumer data, we re-run the same set of data but reduce economic growth to zero for the first six months of 2012. The results are similar. The base case scenario for business defaults shows that default meander through 2012 with no significant change. (Exhibit 24) A reduction in Industrial Production to no growth in the last half of 2012 drives the model to predict a 65% increase in the level of payments over 90 days past due during the last half of 2012. Even the lowest band of the pessimistic scenario is significantly higher than the upper band of the base scenario. See Exhibit 25.

Exhibit 24

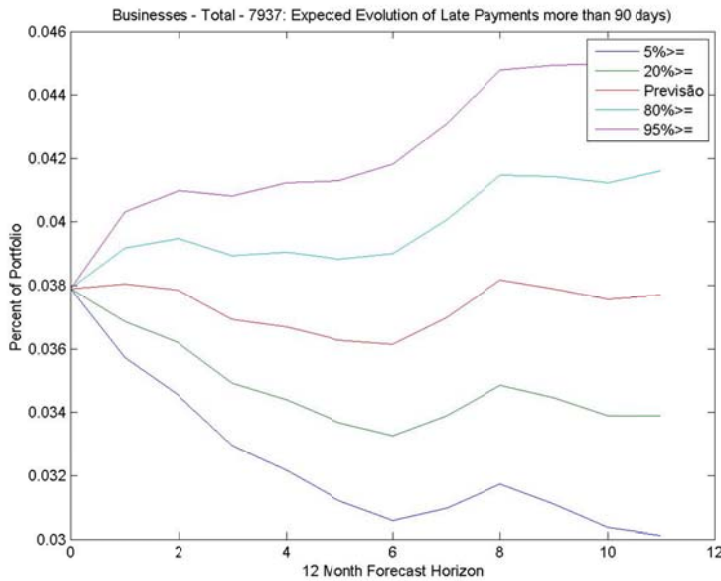
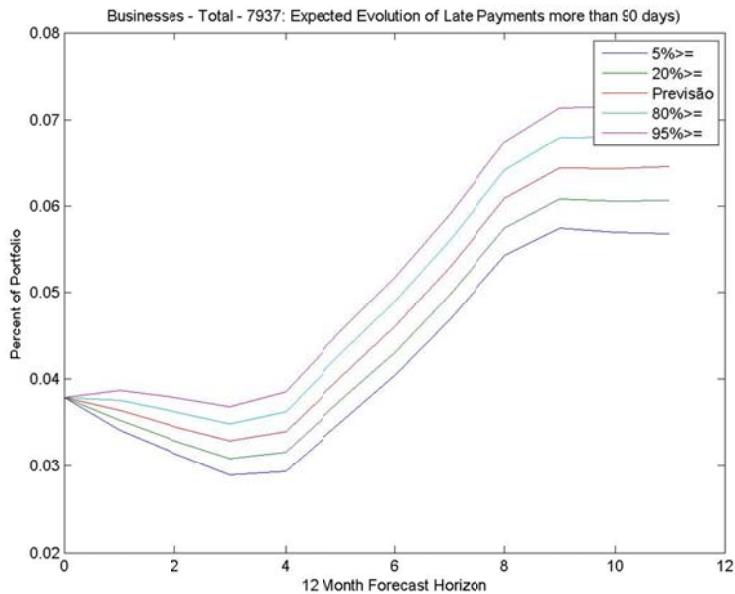


Exhibit 25



Summary

So what makes a credit bubble? What made a credit bubble in the United States? What makes this situation dangerous? One dangerous trend is the continued growth of consumer debt because of interest accrual and failure to amortize principal. This is similar to the state that homeowners in the United States found themselves in 2006 through 2008. Their payments grew to the level that the principal was not being amortized and they could not afford the payments on their houses. Given that Brazilian debtors are now paying on average 25% percent of their income to pay down debt, it seems that a significant number of Brazilian consumers are in the same situation.

Second, the government's efforts to control inflation have not been completely successful, any further drastic measures to slow down an overheated economy could dramatically increase defaults and reduce credit quality. The COPOM is hinting that it will take a breather in the hopes that inflation and the economy slow down due to the interest rate increases and other macroeconomic measures that have already been put in place. In reality, this is almost surely a big bet to avoid increasing rates at this time because further increases in interest rates would only drive the already strong Real to even new heights and almost surely slow down the economy dramatically. The government has adopted "macro-prudential" or macro-economic and regulatory controls instead.

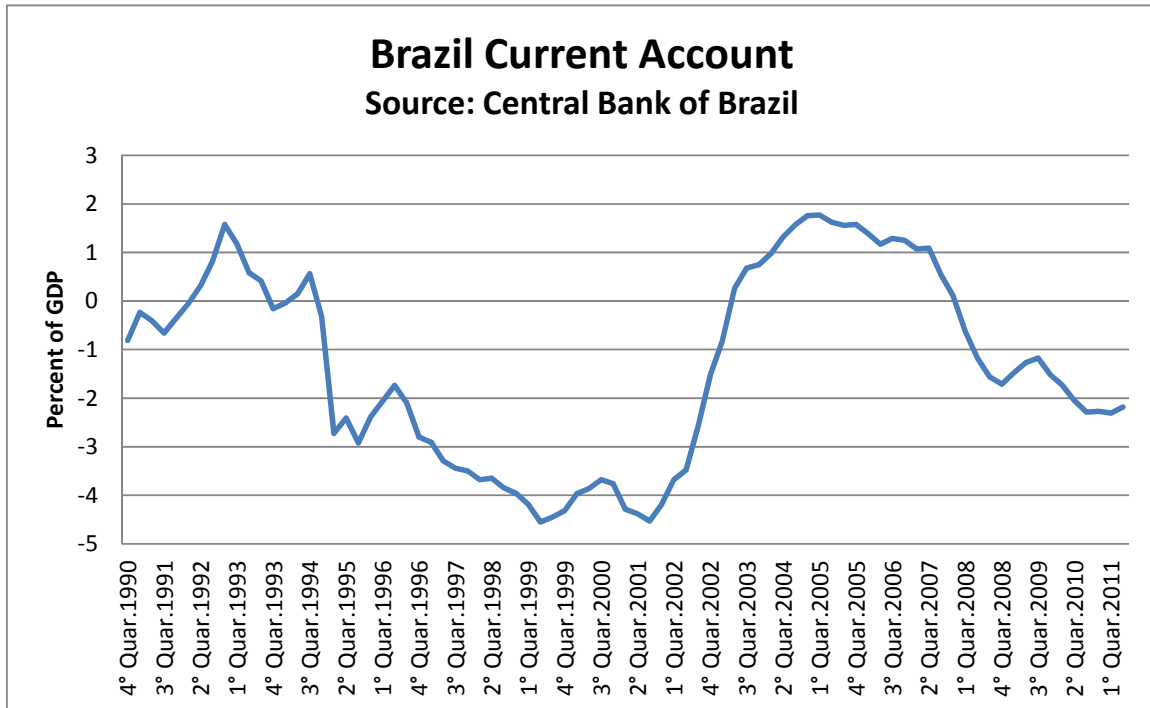
Almost all the economists are predicting an economic slowdown even without further tightening by the COPOM. Our proprietary mode predicts that this would be most detrimental variable affecting credit quality and that defaults and bankruptcies would increase in some consumer credit sectors in Brazil. In addition, we have the question of which comes first, a constriction of credit that drives Brazil into an economic slowdown or an economic slowdown that roils Brazil's credit markets. One thing is certain, a dramatic slowdown in the economy will push Brazil's consumer credit markets into the abyss.

While business credit may not suffer as much because it has been growing slower than consumer credit and late payments are much more stable, a severe economic slowdown will affect the healthier, more stable business credit markets also. Even now we see that late payments on business credit are increasing in Serasa/Experian's data. The condition of this market warrants close attention for signs of contagion from the consumer credit market. Business credit may have somewhat of a ceiling on defaults because the Brazilian government has no fear of using its balance to support the largest companies in the business sector, as we saw in 2008.

Brazil prevented an economic collapse in 2008 by spending heavily and using the BNDES, its internal development bank, to provide financing various key Brazilian corporations. However, small and medium sized Brazilian businesses suffered much more than the larger businesses with more access to credit. Moreover, Brazil is not currently in the same financial condition as in 2007 and 2008. We can see this in Brazil's Current Account. Brazil has used its reserves to defend its currency against the

continuing strength in the Real. The government also spent heavily in 2010 to support the election bid of the Worker's Party and President Dilma Rousseff. We are not proposing that Brazil is in a dire financial situation; after all it was recently upgraded by all of the major ratings agencies. But Brazil is definitely not in the same financial position to spend heavily in support of the economy as during the credit crisis as in 2008.

Exhibit 26



The problems with consumer debt are the key issue in Brazil. Will the smaller consumer sector have the capacity to “contaminate” the rest of Brazil’s credit markets? We think that it can. This reminds us of 2006 when we listened to analysts from a large, now defunct, U.S. investment bank argue that problems from high defaults in a small sector of the mortgage market would be contained to the small alternative mortgage loan space. The year 2008 proved otherwise. As Yogi Berra, the famous New York Yankee Catcher and Coach, would say, “It’s like deja-vu, all over again.” Players in the credit markets in Brazil would be advised to control or reduce the allocation to credit at this time or increase the interest rate spread charged on loans to compensate for the growing risk of a credit crisis in Brazil.