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Recapitalization of Public Sector Banks - Will it reduce the Non-Performing Asset Levels?

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Abstract: *The research paper studies the relationship between the Non Performing Asset levels of public sector banks with Capital Adequacy Ratio of each bank over a period of time. The study is an attempt to confirm whether the measure of recapitalization of public sector banks by pushing Rs 25000 crore in the year 2016 & 2017 followed by Rs 10000 in the year 2018 and 2019 will reduce the NPA levels of public sector banks.*
Secondary data has been collected from RBI website over the period; from the financial years 2009 to 2015 across the banking groups- nationalized, SBI & Associates, old & new private and foreign banks. The average NPA levels are studied across the groups through Analysis of Variance (ANOVA) and further research is made on nationalized banks and SBI group & associates based on the above results of ANOVA and a correlation analysis is performed between Non-performing assets (NPA) and Capital Adequacy Ratio (CAR) to study the association between the two variables. The researcher concludes the paper with suggestions whether the recent policy recommendations made in the form of project Indradhanush and Union Budget 2016 for recapitalizing public sector banks stand appropriate or not.

Keywords: *Public Sector Banks, Capital Adequacy Levels, Non-Performing Assets, Recapitalization, JEL: G21, G28, G29*

I. Introduction

Non-Performing assets have been worrisome for banks all over the world. The competition and the pressure arising in the sector leads banks to lend belligerently and the result of the same is seen in the bank's financial statements. RBI terms an asset as NPA when an asset is out of order status for more than 90 days. NPAs are further classified into the following categories by the Reserve Bank of India-

1. Sub-Standard Assets- An asset which remains in non-performing for a period of less than or equal to 12 months
2. Doubtful Assets- An asset which remains in sub-standard category for a period of 12 months
3. Loss Assets- Loss of an asset identified by bank / internal or external auditor/ RBI. There might be only salvage value.

Indian banks are mainly divided into public sector, old private sector, new private sector and foreign banks. Each sub-division has reacted to the above mentioned pressure uniquely and their asset performance has been distinctively singular over the years. The reason behind choosing the financial year 2013 onwards for the study is to reason out the Basel III implications on NPA levels.

The public sector banks which have a considerable 70 % market share have the highest levels of NPAs. It is definitely a worrisome zone as these are placing stress on the industry's profitability. If corrective measures are not taken now, it will dampen the confidence levels of the stakeholders. Government and Reserve Bank of India are thus taking measures to recapitalize these banks with various new schemes like project Indradhanush.

Recapitalization

A change in a company's long-term financing mix is termed as recapitalization.Post subprime crises banks have lost money; i.e. their liabilities are greater than their assets. Recapitalizationinvolves a major change in the way a bank is funded; this could come about through issuing new shares or loan from a government. This improves the banks' bank balance and prevents them from going bust.If a bank is provided with loan it can help improve liquidity, but it doesn't improve their balance sheet, because they still owe the extra money received. i.e. the money shows up as an asset, but also as liability because the bank has to pay it back. Recapitalization would inject money without creating a liability.

Post the financial crisis in 2008 banks in United States formed a Toxic Assets Relief Programme (TARP) under which $700 billion were allocated to major financial institutions like AIG, Bank of America, Citigroup etc as well as non-financial institutions like General Motors, Chrysler etc. In the UK bank

recapitalization involved capital injections of over £45bn in the Royal Bank of Scotland (RBS) and over £20bn in Lloyds Banking Group (LBG). In Ireland the government provided recapitalization for the major banks such as Allied Irish Bank (AIB), Bank of Ireland (BoI) and Anglo Irish Bank. Under the plan the Government would take €2 billion in preference shares in each of Bank of Ireland and Allied Irish Bank and €1.5 billion in preference shares in Anglo Irish Bank, giving it a 75% control of the latter.The IMF estimates banks need £400bn to recapitalize Spanish banks. In the Euro zone the countries adopted European Stability Mechanism (ESM) whereby an amount of €41.3 billion was disbursed to the Spanish government in 2012–2013, and €1.5 billion to Cyprus in 2013 for bank recapitalization in these countries. Greece was recapitalized with a little over €5.5 billion by ESM.

Thus recapitalization has had a positive impact in the American and European continents.Indian bank's recapitalization will enrich the capital in banking making them more sustainable to absorb the losses. With the introduction of Basel III; the capital norms more stringent for protecting the banks in times of adversity. The latest rules state that the minimum capital adequacy requirements (CAR) levels to be maintained by banks from 2013 are 10.5% of Risk Weighted Assets (RWA).

II. Literature Review

Rajeev (2010) has studied Indian banks NPA from the year 2002 to 2009. The exploratory paper examines the trends of NPAs in India. One interesting feature revealed is that the NPA/NPL as a percentage of the total loans has been declining for almost all countries over the years. The average NPA as a percentage of total loans across the countries was around 11.89 per cent in 2001, which declined to around 6.44 per cent in 2005. Public sector banks were doing better that the old Indian private sector banks. However, when compared with the foreign banks they do not fare well. It was concluded in the paper that NPA in the priority sector is still higher than that of the non-priority sector. Within the priority sector, the SSI's performance is the worst. Systematic data on NPAs started to become available in a usable form from 1998 only

Khurana (2010) has done analysis of new private banks in the year 2005-06. Prasad (2011) study involves operational performance of SCBs since 2000 and the researcher has concluded that New private sector banks and Foreign banks are backed by latest technologies to overcome NPAs whereas Public Sector and Old Private sector banks have to overcome old systems, employee resistance and outdated processes to catch up with the competition to reduce NPAs.

Shyamala (2012) paper has findings of the study mentioned that Ratio of Gross NPA to Gross Advances is 9.83 percent by Nationalized banks, Ratio of Net NPA to Net Advances of Nationalized bank group has secured 4.80percent, Ratio of Gross NPA to Total Assets is found to be 4.39 percent by Nationalized bank group; Ratio of Net NPA to Total Assets of Nationalized bank group with 1.97 percent which is more than SBI and its Associates and private bank group. When the overall position was assessed; it is found that nationalized bank group has secured the first place and the second place was taken by SBI and its Associates.

Das (2013) The author of the research paper concluded that internal reasons contribute in a higher percentage towards rise of NPAs as compared to the external factors pointed out by the author like performance of economy. Moreover the intension of management professionals in corporates towards defaulting is doubtful as inspite of sitting on huge pile of cash they incline to invest the same in real estate and precious metals rather than making loan repayment.

Kaur (2013) The findings of the study stressed that out of the data collection from the study 60% managers viewed NPA norms were too harsh as compared to global banking market. Business uncertainties, dishonest borrowers, lack of follow up and evaluation of the project are the areas which contribute to higher NPAs. Most managers believed that compromise was a better method of loan recovery. Most managers shared opinion that there was insufficient training provided on the said subject.

Bamoriya (2013) Multiple Regression Modeling was used to investigate the impact of selected Key Financial Heads on NPA of SCBs in India. Total Assets and Total Deposits had significant impact on NPAs whereas Total Advances and Net Interest Income had no significant impact. This implies that among Key Financial Heads, bank should attempt to manage Total Assets and Total Deposits to keep a check on NPAs. Further, while keeping a check on NPAs bank should give priority to Total Deposits management over Total Assets. Reason is that study findings suggested 3.5 times more influence of Total Deposits (against Total Assets) on NPAs.

Bandopadhyay (2013) The research had predicted selected PSBs future upward trend in respect of the financial parameter GNPA for all the selected PSBs, which puts question mark on the wisdom and integrity of the top management in PSBs in India in handling credit portfolio. The Penalized Spline (Semi Parametric Curve Fit) model is extended to get the forecasted values for the respective data-set after testing with Goodness of Fit (R2 and Sig F) after considering outliers.

Sharma (2005) NPAs have an irreparable damage to the entire economy. It endangers credit system, separate effort is required for judiciary system to control NPAs.

III. Research Problem

This research paper studies the relationship between the NPA levels of public sector banks with CAR of each bank over a period of time. The study is an attempt to confirm whether the recent measure of recapitalization of public sector banks by pumping Rs 25000 crore in the year 2016 & 2017 followed by Rs 10000 in the year 2018 and 2019 will reduce the NPA levels of public sector banks.

Research Methodology

Data is collected from Reserve Bank of India Statistics page for progressing with the examination of the statistics. The data consists of all 20 public sector banks, 6 SBI & Associates, 13 Old Private Sector Banks, 7 New Private Sector Banks and only 11 Foreign Banks. Only 11 Foreign Banks were chosen depending on data available on the RBI website.

The researcher has used Single Factor ANOVA technique for finding the variances within the groups of banks namely Public Sector, SBI & Associates, Old Private Sector, New Private Sector and Foreign Banks. The research is done for a long term time period and the stretch considered for the same is from the year 2009 to the year 2015.

Null Hypothesis: Means of NPA for different Bank Groups are the same

Alternate Hypothesis: Means of NPA for different Bank Groups are different.

The second objective of the research is to study the correlation between the Non-Performing Assets (NPA) and the Capital Adequacy Ratio (CAR) of banks.

Null Hypothesis: The correlation between Capital Adequacy Ratio (CAR)and Non-Performing Assets (NPA) = 0

Alternate Hypothesis: The correlation between Capital Adequacy Ratio (CAR) and Non-Performing Assets (NPA) < 0

IV. Data Analysis

Indian banks NPAs had a terrific increase since the past few years as seen from Table 1 annexure. The amount of stressed assets of only public sector banks are more than Rs 4 lakh crore according to 2016 data. The first objective of the paper is an attempt to find the variances between and within the groups of banks. From the Descriptive Statistics the Means of the varied groups of banks were calculated and ANOVA was performed.

The results shown in the table below shows the output of the ANOVA analysis and whether we have a statistically significant difference between our group means. As we can see that the P value is large we reject the null hypothesis stating that the means of all the different groups of banks are the same. As P value is larger than the alpha 0.05, it means that the NPA for all banks across the groups is not same.

The F Value also proves the same as F> F Critical and thus we are rejecting the null hypothesis of all bank groups have the same NPA levels. From figure one we can see that the NPA means for Nationalized Banks and SBI & Associates is the highest and thus we will be doing a further statistical correlation for these banks.

Analysis of Variance

Figure 1:

Banks	Mean 2015	Mean 2014	Mean 2013	Mean 2012	Mean 2011	Mean 2010	Mean 2009
Nationalized	102480	73724	51114	34812	22136	18197	13272
SBI	122514	133028	104631	80357	50655	38399	30209
Old	7049	4544	4007	3231	2844	2558	2236
New	35633	26622	22659	20811	20774	19393	19792
Foreign	9319	10036	6903	5554	4280	6081	5789

Figure 2

SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Nationalized	7	315733.8	45104.8	1086319565.0		
SBI	7	559793.0	79970.4	1716195592.9		
Old	7	26468.6	3781.2	2729245.1		
New	7	165683.1	23669.0	33788495.3		
Foreign	7	47960.9	6851.6	4375550.1		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*

Between Groups	27796786995	4	6949196749	12.21983559	5.18799E-06	2.6896
Within Groups	17060450691	30	568681689.7			
Total	44857237685	34				

Correlation

The government's project Indradhanush and Union Budget 2016 decision for recapitalizing public sector banks in the form of capital infusion pumping Rs 25000 crore in the year 2016 & 2017 followed by Rs 10000 in the year 2018 and 2019 might not be sufficient to cover the losses. The research further attempts is to see the correlation of NPA of these public sector and SBI & Associates banking groups to Capital Adequacy Ratio levels maintained by the banks since 2009, the time period of the study. As the capital infusion is going to affect the capital ratios of these banks the researcher has taken into consideration the CAR (as attached in Table 2 of annexures) and compared the same with NPAs.

Figure 3:

BANKS	**CORRELATION**
Allahabad Bank	-0.9764
Andhra Bank	-0.9493
Bank of Baroda	-0.8850
Bank of India	-0.7459
Bank of Maharashtra	-0.4289
Canara Bank	-0.8496
Central Bank of India	-0.7755
Corporation Bank	-0.8489
Dena Bank	-0.6534
IDBI Bank Limited	-0.1772
Indian Bank	-0.5957
Indian Overseas Bank	-0.8757
Oriental Bank of Commerce	-0.7721
Punjab & Sind Bank	-0.9038
Punjab National Bank	-0.7308
Syndicate Bank	-0.9479
UCO Bank	-0.0136
Union Bank of India	-0.9623
United Bank of India	-0.9808
Vijaya Bank	-0.6300
State Bank of Bikaner & Jaipur	-0.6655
State Bank of Hyderabad	-0.5791
State Bank of India	-0.5357
State Bank of Mysore	-0.8412
State Bank of Patiala	-0.6810
State Bank of Travancore	-0.8847

From the figure 3 we can deduce that the correlation for all such public sector and SBI & Associates banking groups is negative. It means that with higher NPA levels of banks over the years the Capital Adequacy Ratio is reducing.

The table provides the result that the alternate hypothesis which states that the correlation between Capital Adequacy Ratio (CAR) and Non-Performing Assets (NPA) < 0

V. Findings of Research

Non-Performing Assets have risen over the years and the adequate measures must be provided to the banking sector to help them overcome the losses as banking being the backbone of the economy. Government and RBI thinks it appropriate to support the public sector and SBI Group to recapitalize the banks. This research commends the initiative taken by both the higher authorities as from the above analysis we can see that the correlation between NPA and CAR is negative. The infusion of capital will help banks over their declining non-performing assets. With increased capital in the balance sheet the toxic assets will be equally balanced out.

The bearish market in the past one year was stressing more on NPA, with economy in good spirits post good monsoon and overall performance in the emerging market segment the NPA levels might further reduce. Further studies can be done in this area as after infusion of the capital how actually the banks have performed and whether the CAR and NPA levels had any correlation at that point of time.

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Annexures

Table 1: NPA Levels in Indian Banks

BANKS	**GROSS NPA 2015**	**GROSS NPA 2014**	**GROSS NPA 2013**	**GROSS NPA 2012**	**GROSS NPA 2011**	**GROSS NPA 2010**	**GROSS NPA 2009**
Allahabad Bank	83,580	80,680	51,370	20,590	16,479	12,218	10,783
Andhra Bank	68,765	58,576	37,145	17,980	9,956	4,879	3,681
Bank of Baroda	162,614	118,759	79,826	44,648	31,525	24,007	18,429
Bank of India	221,932	118,686	93,095	64,709	48,116	48,827	24,709
Bank of Maharashtra	64,021	28,599	11,376	12,970	11,737	12,098	7,984
Canara Bank	130,400	75,702	62,602	40,318	31,374	25,903	21,680
Central Bank of India	118,730	115,000	84,560	72,730	23,940	24,580	23,160
Corporation Bank	71,067	47,368	20,482	12,742	7,902	6,509	5,592
Dena Bank	43,930	26,160	14,525	9,565	8,422	6,420	6,208
IDBI Bank Limited	126,850	99,602	64,500	45,514	27,847	21,294	14,357
Indian Bank	56,704	45,622	35,655	18,508	7,403	5,101	4,592
Indian Overseas Bank	149,225	90,205	66,080	39,201	30,896	36,111	19,234
Oriental Bank of Commerce	76,662	56,179	41,840	35,805	19,205	14,688	10,581
Punjab & Sind Bank	30,822	25,535	15,369	7,634	4,243	2,062	1,610
Punjab National Bank	256,949	188,801	134,658	87,196	43,794	32,144	25,069
Syndicate Bank	64,424	46,111	29,785	31,827	25,990	20,068	15,945
UCO Bank	102,651	66,214	71,301	40,862	31,504	16,664	15,395
Union Bank of India	130,309	95,637	63,138	54,499	36,228	26,709	19,234
United Bank of India	65,529	71,180	29,638	21,764	13,558	13,723	10,200
Vijaya Bank	24,432	19,859	15,329	17,185	12,592	9,945	6,988

Nationalised Banks	2,049,595	1,474,474	1,022,272	696,245	442,711	363,948	265,431
State Bank of Bikaner & Jaipur	29,451	27,332	21,195	16,515	8,354	6,119	4,903
State Bank of Hyderabad	49,848	58,242	31,860	20,074	11,505	6,490	4,534
State Bank of India	567,253	616,054	511,894	396,765	253,263	195,349	157,140
State Bank of Mysore	21,364	28,189	20,806	15,026	8,637	5,953	3,676
State Bank of Patiala	43,597	37,584	24,530	18,878	13,817	10,066	5,739
State Bank of Travancore	23,571	30,769	17,499	14,888	8,352	6,420	5,260
SBI Group	735,085	798,169	627,785	482,144	303,928	230,396	181,252
Catholic Syrian Bank Ltd.	4,748	3,336	2,109	1,829	1,925	1,493	1,718
City Union Bank Ltd.	3,358	2,931	1,731	1,235	1,125	935	1,021
Dhanlaxmi Bank Limited	5,583	4,858	3,803	1,043	671	775	644
Federal Bank Ltd.	10,577	10,874	15,540	13,008	11,483	8,210	5,895
ING Vysya Bank Ltd.	7,452	2,630	1,214	1,495	1,554	2,345	2,094
Jammu & Kashmir Bank Ltd.	27,641	7,834	6,438	5,166	5,188	4,623	5,593
Karnataka Bank Ltd.	9,442	8,359	6,389	6,847	7,022	5,496	4,432
KarurVysya Bank Ltd.	6,778	2,792	2,859	3,210	2,282	2,353	2,059
Lakshmi Vilas Bank Ltd.	4,546	5,465	4,599	3,077	1,578	3,252	1,441
Nainital Bank Ltd.	774	611	673	310	214	234	190
Ratnakar Bank Ltd.	1,112	778	259	331	215	276	173
South Indian Bank Ltd.	6,435	4,326	4,339	2,672	2,303	2,110	2,606
Tamilnad Mercantile Bank Ltd.	3,187	4,280	2,145	1,775	1,411	1,150	1,204
Old Private Sector Banks	91,633	59,073	52,095	41,999	36,971	33,253	29,068
Axis Bank Ltd.	41,102	31,464	23,934	18,063	15,994	13,180	8,978
DCB Bank Ltd	1,861	1,385	2,150	2,418	2,636	3,192	2,900
HDFC Bank Ltd.	34,384	29,893	23,346	19,994	16,943	18,168	19,881
ICICI Bank Ltd.	150,947	105,058	96,078	94,753	100,343	94,807	96,493
IndusInd Bank Ltd.	5,629	6,208	4,578	3,471	2,659	2,555	2,550
Kotak Mahindra Bank Ltd.	12,372	10,594	7,581	6,142	6,035	3,252	6,892
Yes Bank Ltd	3,134	1,749	943	839	805	602	849
New Private Sector Banks	249,429	186,351	158,610	145,679	145,415	135,754	138,543
American Express Banking Corp.	202	195	446	234	203	174	452
BNP Paribas							

	122	163	163	275	113	681	683
Bank of Nova Scotia	1,932	1,935	579	96	96	96	20
Barclays Bank Plc	3,111	4,639	5,543	5,471	7,812	14,217	10,479
Citibank N.A.	7,806	14,842	13,587	8,464	8,387	12,754	18,057
DBS Bank Limited	12,839	21,156	5,820	2,147	834	760	312
Deutsche Bank (Asia)	1,193	1,673	1,544	1,348	1,785	2,608	2,426
HSBC	7,915	6,601	6,408	7,201	9,955	16,833	13,161
JP Morgan Chase Bank	-	234	244	269	272	953	615
Standard Chartered Bank	66,564	57,826	38,801	32,122	11,478	10,956	9,280
The Royal Bank of Scotland N.V.	821	1,136	2,796	3,465	6,145	6,854	8,189
Foreign Banks	102,504	110,401	75,931	61,092	47,080	66,887	63,675
All Banks	3,477,674	2,814,820	2,095,304	1,572,839	1,121,519	965,992	816,512

Table 2: CAR Levels in Public Sector & SBI & Associates

BANKS	**CAR 2015**	**CAR 2014**	**CAR 2013**	**CAR 2012**	**CAR 2012**	**CAR 2010**	**CAR 2009**
Allahabad Bank	10.45	9.96	11.03	12.83	12.96	13.62	13.11
Andhra Bank	10.63	10.78	11.76	13.18	14.38	13.93	13.22
Bank of Baroda	12.61	12.28	13.30	14.67	14.52	14.36	14.05
Bank of India	10.73	9.97	11.02	11.95	12.17	12.94	13.01
Bank of Maharashtra	11.94	10.79	12.59	12.43	13.35	12.78	12.05
Canara Bank	10.56	10.63	12.40	13.76	15.38	13.43	14.10
Central Bank of India	10.90	9.87	11.49	12.40	11.64	12.23	13.12
Corporation Bank	11.09	11.65	12.33	13.00	14.11	15.37	13.61
Dena Bank	10.93	11.14	11.03	11.51	13.41	12.77	12.07
IDBI Bank Limited	11.76	11.68	13.13	14.58	13.64	11.31	11.57
Indian Bank	12.86	12.64	13.08	13.47	13.56	12.71	13.98
Indian Overseas Bank	10.11	10.78	11.85	13.32	14.55	14.78	13.20
Oriental Bank of Commerce	11.41	11.01	12.04	12.69	14.23	12.54	12.98
Punjab & Sind Bank	11.24	11.04	12.91	13.26	12.94	13.10	14.35
Punjab National Bank	12.21	11.52	12.72	12.63	12.42	14.16	14.03
Syndicate Bank	10.54	11.41	12.59	12.24	13.04	12.70	12.68
UCO Bank	12.17	12.68	14.15	12.35	13.71	13.21	11.93
Union Bank of India	10.22	10.80	11.45	11.85	12.95	12.51	13.27
United Bank of India	10.57	9.81	11.66	12.69	13.05	12.80	13.28
Vijaya Bank	11.43	10.56	11.32	13.06	13.88	12.50	13.15
Nationalized Banks							
State Bank of Bikaner & Jaipur	11.57	11.55	12.16	13.76	11.68	13.30	14.52
State Bank of Hyderabad	11.26	12.00	12.36	13.56	14.25	14.90	11.53
State Bank of India	12.00	12.44	12.92	13.86	11.98	13.39	14.25
State Bank of Mysore	11.42	11.08	11.79	12.55	13.76	12.42	12.99
State Bank of Patiala	12.06	10.38	11.12	12.30	13.41	13.26	12.60
State Bank of Travancore	10.89	10.79	11.70	13.55	12.54	13.74	14.03
SBI Group							
Catholic Syrian Bank Ltd.	11.00	11.00	12.29	11.08	11.22	10.82	12.29
City Union Bank Ltd.	16.52	15.01	13.98	12.57	12.75	13.46	12.69
Dhanlaxmi Bank Limited	9.59	8.67	11.06	9.49	11.80	12.99	15.38
Federal Bank Ltd.	15.46	15.14	14.73	16.64	16.79	18.36	20.22
ING Vysya Bank Ltd.	15.30	16.76	13.24	14.00	12.94	14.91	11.65
Jammu & Kashmir Bank Ltd.	12.57	12.69	12.83	13.36	13.72	15.89	14.48

Karnataka Bank Ltd.	12.41	13.20	13.22	12.84	13.33	12.37	13.48
KarurVysya Bank Ltd.	14.62	12.59	14.41	14.33	14.41	14.49	14.92
Lakshmi Vilas Bank Ltd.	11.34	10.90	12.32	13.10	13.19	14.82	10.29
Nainital Bank Ltd.	14.86	15.13	14.34	15.09	16.35	15.68	13.10
Ratnakar Bank Ltd.	13.13	14.64	17.11	23.20	56.41	34.07	42.30
South Indian Bank Ltd.	12.01	12.42	13.91	14.00	14.01	15.39	14.76
Tamilnad Mercantile Bank Ltd.	13.89	15.59	15.01	14.69	15.13	15.54	16.05
Old Private Sector Banks							
Axis Bank Ltd.	12.07	16.07	17.00	13.66	12.65	15.80	13.69
DCB Bank Ltd	14.95	13.71	13.61	15.41	13.25	14.85	13.30
HDFC Bank Ltd.	16.79	16.07	16.80	16.52	16.22	17.44	15.69
ICICI Bank Ltd.	17.02	17.70	18.74	18.52	19.54	19.41	15.53
IndusInd Bank Ltd.	12.09	13.83	15.36	13.85	15.89	15.33	12.55
Kotak Mahindra Bank Ltd.	17.17	18.83	16.05	17.52	19.92	18.35	20.01
Yes Bank Ltd	15.60	14.40	18.30	17.90	16.50	20.60	16.60
New Private Sector Banks							
American Express Banking Corp.	19.07	16.56	18.17	19.30	23.61	19.10	21.34
BNP Paribas	11.61	13.89	13.82	14.70	11.92	15.78	12.37
Bank of Nova Scotia	16.85	19.59	11.95	14.93	11.80	13.15	12.70
Barclays Bank Plc	18.15	19.72	19.09	14.99	14.89	16.99	17.07
Citibank N.A.	15.30	16.49	15.90	16.03	17.31	18.14	13.23
DBS Bank Limited	17.01	13.81	12.99	14.38	14.98	16.96	15.70
Deutsche Bank (Asia)	15.62	14.84	14.08	14.12	15.03	16.45	15.25
Hongkong& Shanghai Banking Corporation Ltd.	14.84	17.36	17.10	16.04	18.03	18.03	15.31
JP Morgan Chase Bank, National Association	17.07	25.58	26.89	23.96	22.99	23.63	15.90
Standard Chartered Bank	12.49	12.48	13.00	11.05	11.88	12.41	11.56
The Royal Bank of Scotland N.V.	14.23	15.32	14.50	12.46	11.65	12.50	12.66
Foreign Banks							