

EMEAP Money Markets

Annex: Survey Results

EMEAP Working Group on Financial Markets

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Overview of 2017 WGFM Money Market Survey

The EMEAP Working Group on Financial Markets (WGFM) studied the money markets in the region (WGFM Money Market Study) as part of the Work Plan 2016-2018. The objective of the Study was to analyze whether markets had improved from the status observed in previous WGFM reports and to identify what EMEAP can do to further improve the function of money markets in the region and enhance market communication tools.

The Study consisted of a survey (WGFM Money Market Survey), experience sharing among EMEAP members, and input from private sectors.

A large portion of the Survey was dedicated to collect quantitative data to study not only the size but also the structure of markets. For example, the Survey collected the market size with the breakdown of the types of market participants. Such data was reported for each instrument, such as call, repo and FX swap. Furthermore, the Survey collected data on the share of short-term funding.

The template of the Survey was carefully designed to avoid putting unnecessary reporting costs. For example, it was agreed that the Survey will build on existing and accessible data for EMEAP member central banks, and the Survey was not conducted to the private sectors. The survey template was finalized after the feasibility check of each survey item by the WGFM members.

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1 Australia

1.1 Key players in money markets

1.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Dec 2016
Government bonds	38.5%
Maturity less than 1Y	1.1%
Central bank bonds	0.0%
Maturity less than 1Y	0.0%
Other public bonds	0.3%
Corporate bonds	55.2%
Maturity less than 1Y	14.2%
Other private bonds	5.9%
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	1,386

1.2 Market structure, by types of entities

1.2.1 Uncollateralized call

Amount outstanding as of end-March 2017

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	0.0%	0.0%
Banks, local	76.5%	14.4%
Banks, foreign	23.5%	85.6%
Securities dealers	0.0%	0.0%
Local	0.0%	0.0%
Foreign	0.0%	0.0%
Others	0.0%	0.0%
Non-residents	0.0%	0.0%
Total	100.0%	100.0%
Total (in BN USD)	5	5

1.2.2 Repo

Amount outstanding as of end-December 2016

	Cash borrowing side	Cash lending side
Residents	44.9%	84.5%
Central bank	0.0%	46.3%
Banks, local	28.9%	31.5%
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	16.1%	6.7%
Non-residents	55.1%	15.5%
Total	100.0%	100.0%
Total (in BN USD)	86	82

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1.2.3 FX swap

Amount outstanding as of end-June 2016

	Home currency borrowing side	Home currency lending side
Residents	100.0%	-
Central bank	6.9%	-
Banks, local	76.3%	-
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	16.8%	-
Non-residents	0.0%	-
Total	100.0%	-
Total (in BN USD)	508	-

1.2.4 Other

Amount outstanding as of end-December 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	143	69

1.3 Market structure, by terms

1.3.1 Contract terms

Amount outstanding as of end-March 2017

	Uncollateralized call	Repo	FX swap
Overnight	100.0%	-	-
1 week or less	-	-	-
1 week to 1 month	-	-	-
Others	-	-	-
Total	100.0%	-	-
Total (in BN USD)	5	-	-

[Ref] Transaction terms reported in 2010 WGFM Report¹

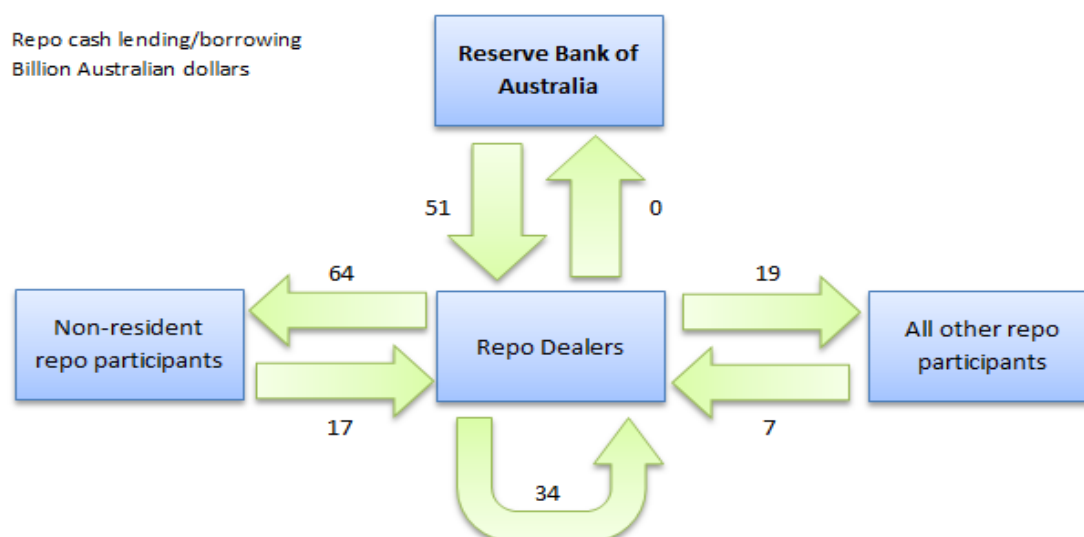
Major terms	3M – 6M
Share	66%

¹ Main maturity structure of banks' money market transactions.

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1.4 Repo markets

1.4.1 Description of repo market



Note: 'Repo Dealers' includes all resident banks and securities dealers. Direction of arrows indicate where the cash is being lent.

In the Australian repo market, the shares of non-residents and the central bank are high in borrowing side and lending side, respectively. RBA reported that this could be partly attributed to non-resident financial institutions engaging in collateral swaps which have become more profitable due to a drop of AUD/JPY basis cost. For details, see RBA's Bulletin September Quarter 2016 (<https://www.rba.gov.au/publications/bulletin/2016/sep/5.html>).

Nevertheless, the liquidity provision by RBA does not coincide with the liquidity absorption, which implies that repo dealers perform a role of cash redistribution.

1.4.2 Market structure of repo market, by types of collaterals

Amount outstanding

	end-Dec 2016
Government bonds	68.1%
Central bank bonds	0.0%
Other public bonds	-
Private bonds	31.9%
Other bonds	-
Total	100.0%
Total (in BN USD)	143

1.5 Open market operation tools

1.5.1 Number of counterparties

	11 Apr 2017
Banks, local	32
Banks, foreign	49
Securities dealers	8
Local	0
Foreign	8
Others	73
Total	162
[Ref] Total number of banks	80

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2 China

2.1 Key players in money markets

2.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Dec 2016
Government bonds	35.4%
Maturity less than 1Y	-
Central bank bonds	0.0%
Maturity less than 1Y	-
Other public bonds	-
Corporate bonds	27.5%
Maturity less than 1Y	-
Other private bonds	-
Maturity less than 1Y	-
Total	100.0%¹
Total (in BN USD)	9,186

¹ Besides government bonds and corporate bonds, there are other bonds in China bond market while the detailed types and amount outstanding of other bonds are not available (the total amount of other bonds accounts for 37.1% of total amount of all types of bonds in China).

2.2 Market structure, by types of entities

2.2.1 Uncollateralized call

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	-	-
Banks, local	70.9%	93.9%
Banks, foreign	4.0%	4.6%
Securities dealers	18.4%	-
Local	18.4%	0.0%
Foreign	-	-
Others	6.8%	1.5%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	57	57

2.2.2 Repo

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	0.0%	4.2%
Banks, local	71.5%	85.4%
Banks, foreign	1.6%	0.3%
Securities dealers	8.7%	1.7%
Local	8.7%	1.7%
Foreign	-	-
Others	18.2%	8.4%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	341	355

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2.2.3 FX swap

Amount outstanding as of end-December 2016

	Home currency borrowing side	Home currency lending side
Residents	100.0%	99.8%
Central bank	0.0%	-
Banks, local	82.1%	75.6%
Banks, foreign	17.8%	24.0%
Securities dealers	-	0.0%
Local	0.0%	0.0%
Foreign	-	-
Others	0.1%	0.1%
Non-residents	0.0%	0.2%
Total	100.0%	100.0%
Total (in BN USD)	1,276	1,276

2.2.4 Other

Not reported

2.3 Market structure, by terms

2.3.1 Contract terms

Daily average turnover in 2016²

	Uncollateralized call	Repo	FX swap
Overnight	88.1%	85.5%	1.7%
1 week or less	9.8%	10.9%	3.9%
1 week to 1 month	2.1%	3.2%	6.5%
Others	0.1%	0.3%	88.0%
Total	100.0%	100.0%	100.0%
Total (in BN USD)	57	341	1,276

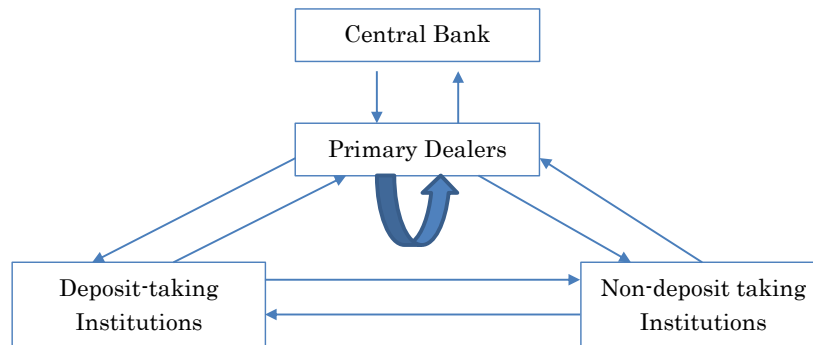
[Ref] Transaction terms reported in 2010 WGFM Report³

Major terms	O/N
Share	75%

² Figures for FX swap are based on amount outstanding as of end-December 2016.³ Main maturity structure of banks' money market transactions.

2.4 Repo markets

2.4.1 Description of repo market



The interbank repo market participants are institutional investors, which mainly include: commercial banks, credit cooperatives, securities companies, insurance agencies, funds, and other non-bank financial institutions, non-financial institutions and overseas institutions. The main providers of repurchase funds are the policy banks, national commercial banks and some money market funds. The main borrowers are securities companies and other non-bank financial institutions.

Participants borrow cash mainly to finance their inventory of assets. The providers participate in the repo market for liquidity management.

2.4.2 Market structure of repo market, by types of collaterals

Not reported

2.5 Open market operation tools

2.5.1 Number of counterparties

	End-Mar 2017
Banks, local	41
Banks, foreign	3
Securities dealers	4
Local	4
Foreign	0
Others	0
Total	48
[Ref] Total number of banks	1,433

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3 Hong Kong

3.1 Key players in money markets

3.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Dec 2016
Government bonds	5.9%
Maturity less than 1Y	0.9%
Central bank bonds	55.7%
Maturity less than 1Y	53.8%
Other public bonds	2.9%
Corporate bonds	8.9%
Maturity less than 1Y	0.7%
Other private bonds	26.7%
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	223

3.2 Market structure, by types of entities

3.2.1 Uncollateralized call

Amount outstanding as of end-December 2016

Residents	-
Central bank	-
Banks, local	-
Banks, foreign	-
Securities dealers	-
Local	-
Foreign	-
Others	-
Non-residents	-
Total	100.0%
Total (in BN USD)	15

3.2.2 FX swap

Daily average turnover in April 2016¹

Residents	-
Central bank	-
Banks, local	-
Banks, foreign	-
Securities dealers	-
Local	-
Foreign	-
Others	-
Non-residents	-
Total	100.0%
Total (in BN USD)	44

3.2.3 Other

Not reported

¹ Note that the data for this figure is based on BIS Triennial Survey, which has different coverage with the data referred to in the Survey Report. The data referred to in the Survey Report is HKMA's Monthly Statistical Bulletin.

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3.3 Market structure, by terms

3.3.1 Contract terms

Not reported

[Ref] Transaction terms reported in 2010 WGFM Report²

Major terms	1M
Share	70%

² Main maturity structure of banks' money market transactions.

3.4 Repo markets

3.4.1 Description of repo market

The repo market in Hong Kong is small. The deep and efficient uncollateralised call and FX swap markets are able to support the borrowing needs of banks as required, rendering little real need for banks to resort to the repo market. The little repo market activity that takes place in Hong Kong is driven by needs of market participants. No active market participants are currently observed. There are no market makers in Hong Kong's repo market, and the HKMA does not play an intermediating role in the market.

[Ref] HKD money market in Hong Kong

Hong Kong has a deep and liquid HKD money market, comprising mainly uncollateralized call and FX swap. Repos are not actively traded. In general, there are no restrictions on participation in the HKD money market, e.g. no restrictions on foreign entities' participation. The HKMA does not designate any market makers for the call, swap, or repo markets in Hong Kong, and the HKMA does not play an intermediating role.

Participants trade based on their needs. For instance, local banks have wider access to the retail deposit base. They usually have surplus funds, so they are typically net lenders. Meanwhile, foreign banks have limited access to retail deposits, and are usually net borrowers.

Despite the Global Financial Crisis and its aftermath, the money market in Hong Kong continued to operate smoothly and in an orderly manner. It is however worth noting that, as in many other markets, the unsecured interbank lending market has shrunk against the backdrop of (i) banks' changing risk appetite; (ii) implementation of regulatory reforms (e.g. banks' increased reliance on more "stable" funds); and (iii) accommodative monetary conditions rendering reduced needs for interbank borrowing. Anecdotal evidence suggests that this situation is more pronounced for longer-dated segment (e.g. beyond 3-month).

No new policy initiatives have been put in place. HKMA does not envisage the structure of the money market to change materially in the future.

3.4.2 Market structure of repo market, by types of collaterals

Not reported

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3.5 Open market operation tools

NAP

4 Indonesia

4.1 Key players in money markets

4.1.1 Amount outstanding of bonds by types of issuers

Types of bond	Dec 2016
Government bonds	78.0%
Maturity less than 1Y	2.1%
Central bank bonds	6.7%
Maturity less than 1Y	6.7%
Other public bonds	-
Corporate bonds	13.3%
Maturity less than 1Y	-
Other private bonds	2.0%
Maturity less than 1Y	0.4%
Total	100.0%
Total (in BN USD)	171

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4.2 Market structure, by types of entities

4.2.1 Uncollateralized call

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	30.6%	-
Banks, local	57.4%	94.0%
Banks, foreign	12.0%	6.0%
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	1	1

4.2.2 Repo market

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	92.4%	33.2%
Banks, local	7.6%	66.6%
Banks, foreign	0.1%	0.2%
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	0.0%	0.0%
Total	100.0%	100.0%
Total (in BN USD)	1	0.1

4.2.3 FX swap

Daily average turnover in 2016

	Home currency borrowing side	Home currency lending side
Residents	94.4%	99.0%
Central bank	0.0%	5.4%
Banks, local	45.7%	61.0%
Banks, foreign	37.8%	30.6%
Securities dealers	0.0%	-
Local	-	-
Foreign	-	-
Others	11.0%	2.0%
Non-residents	5.6%	1.0%
Total	100.0%	100.0%
Total (in BN USD)	1	1

4.2.4 Other

Amount outstanding as of December 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Non-residents	0.0%	0.0%
Total	100.0%	100.0%
Total (in BN USD)	1	1

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4.3 Market structure, by terms

4.3.1 Contract terms

Daily average turnover in 2016

	Uncollateralized call	Repo	FX swap
Overnight	42.3%	0.8%	0.0%
1 week or less	50.3%	59.2%	0.0%
1 week to 1 month	6.8%	39.7%	77.1%
Others	0.5%	0.3%	22.9%
Total	100.0%	100.0%	100.0%
Total (in BN USD)	1	1	1

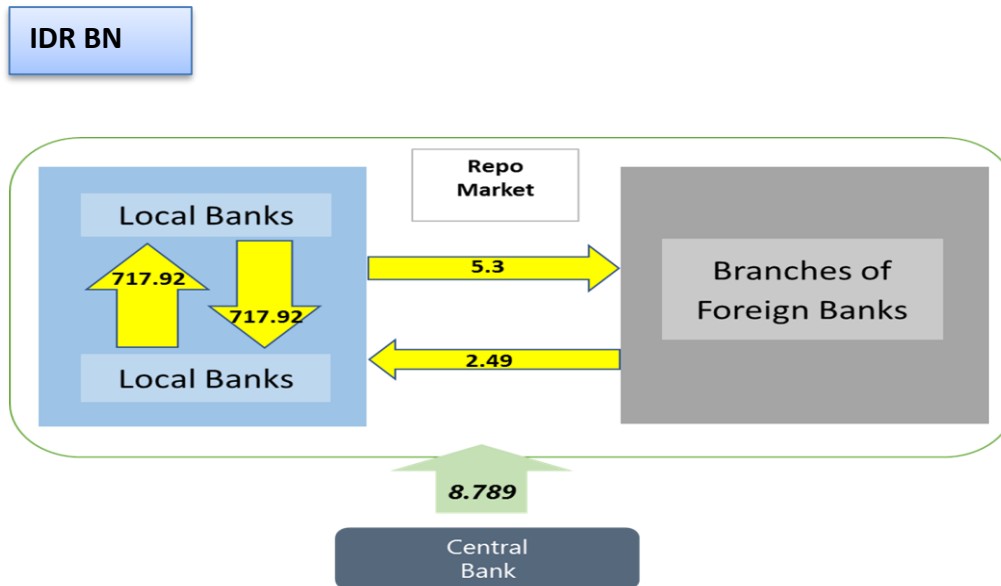
[Ref] Transaction terms reported in 2010 WGFM Report¹

Major terms	O/N
Share	78%

¹ Main maturity structure of banks' money market transactions.

4.4 Repo markets

4.4.1 Description of repo market



In Indonesia, the central bank remains the main participant in repo market. Outside the central bank, domestic repo market mainly consists of banks as players while participation of non-bank players is limited. Repo market became somewhat active in Indonesia since 2014 when Bank Indonesia initiated the use of Master Repurchase Agreement (Mini MRA), a domestic version of repo agreement, for all banks who wished to use such standard contract. However, since 2017, Indonesia Financial Service Authority (FSA; in Indonesia known as OJK) obliged all financial institutions under their supervision (including banks) to adopt GMRA with Indonesia Annex for all repo transactions. This measure, though took some time to be effectively implemented, helped to expand eligible counterparties and develop repo market further.

Repo transaction conducted by the central bank mostly in the form of Reverse Repo transaction (absorbing liquidity from the market) with Banks (both Local Banks and Branches of Foreign Banks), as part of monetary operation to manage liquidity in the overall banking system. Central Bank also can do Term Repo (providing liquidity to the market) on its discretion to respond tightness in liquidity condition.

Branches of foreign banks are less active in repo market and more active in FX swap market due to their structural position of long foreign currency and short local currency. Some prudential measures on bank liquidity and solvency (i.e. liquidity ratio, Basel III, & capital adequacy) also discourage them to give up securities in repo transaction.

In addition, there is very limited presence, if none, of Securities Company in repo market, as they are less incentivized to fund margin/short-selling transaction using repo/reverse repo market. Also, this may be due to business funding preference to issue bonds rather than borrow from repo market.

In summary, major market participants in Indonesia repo market is Local Banks. However, in many cases, Local Banks still prefer uncollateralized transaction. Branches of Foreign Banks tend to fund their local currency with FX Swap.

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4.4.2 Market structure of repo market, by types of collaterals

Daily average turnover in 2016

Types of bonds	2016
Government bonds	96.5%
Central bank bonds	3.5%
Other public bonds	-
Private bonds	-
Other bonds	-
Total	100.0%
Total (in BN USD)	1

4.5 Open market operation tools

4.5.1 Number of counterparties

	Dec 2016
Banks, local	93
Banks, foreign	10
Securities dealers	-
Local	-
Foreign	-
Others	13
Total	116
[Ref] Total number of banks	116

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5 Japan

5.1 Key players in money markets

5.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Dec 2016
Government bonds	78.2%
Maturity less than 1Y	9.1%
Central bank bonds	-
Maturity less than 1Y	-
Other public bonds	12.2%
Corporate bonds	8.2%
Maturity less than 1Y	1.2%
Other private bonds	1.4%
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	11,899

5.2 Market structure, by types of entities

5.2.1 Uncollateralized call

Amount outstanding as of end-July 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	-	-
Banks, local	38.6%	79.7%
Banks, foreign	5.0%	-
Securities dealers	20.0%	-
Local	-	-
Foreign	-	-
Others	36.4%	20.3%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	129	118

5.2.2 Repo

Amount outstanding as of end-July 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	0.0%	0.0%
Banks, local	31.5%	24.1%
Banks, foreign	0.0%	-
Securities dealers	29.0%	36.2%
Local	7.5%	9.2%
Foreign	21.4%	27.1%
Others	39.5%	39.6%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	1,060	941

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5.2.3 FX swap

Amount outstanding as of end-July 2016

	Home currency borrowing side	Home currency lending side
Residents	100.0%	100.0%
Central bank	-	-
Banks, local	15.3%	72.4%
Banks, foreign	59.9%	6.1%
Securities dealers	13.2%	12.2%
Local	7.4%	11.2%
Foreign	5.8%	1.0%
Others	11.6%	9.3%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	222	287

5.2.4 Collateralized call

Amount outstanding as of end-July 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	-	-
Banks, local	0.0%	78.3%
Banks, foreign		
Securities dealers	12.5%	-
Local	-	-
Foreign	-	-
Others	87.5%	21.7%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	22	21

5.2.5 Other

Amount outstanding as of end-July 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	542	568

5.3 Market structure, by terms

5.3.1 Contract terms

Amount outstanding as of end-July 2016

	Uncollateralized call	Repo	FX swap
Overnight	65.8%	45.1%	-
1 week or less	3.3%	9.1%	-
1 week to 1 month	17.1%	21.6%	-
Others	13.8%	24.2%	-
Total	100.0%	100.0%	-
Total (in BN USD)	140	1,064	-

	Collateralized call
Overnight	95.7%
1 week or less	
1 week to 1 month	0.0%
Others	0.0%
Total	100.0%
Total (in BN USD)	21

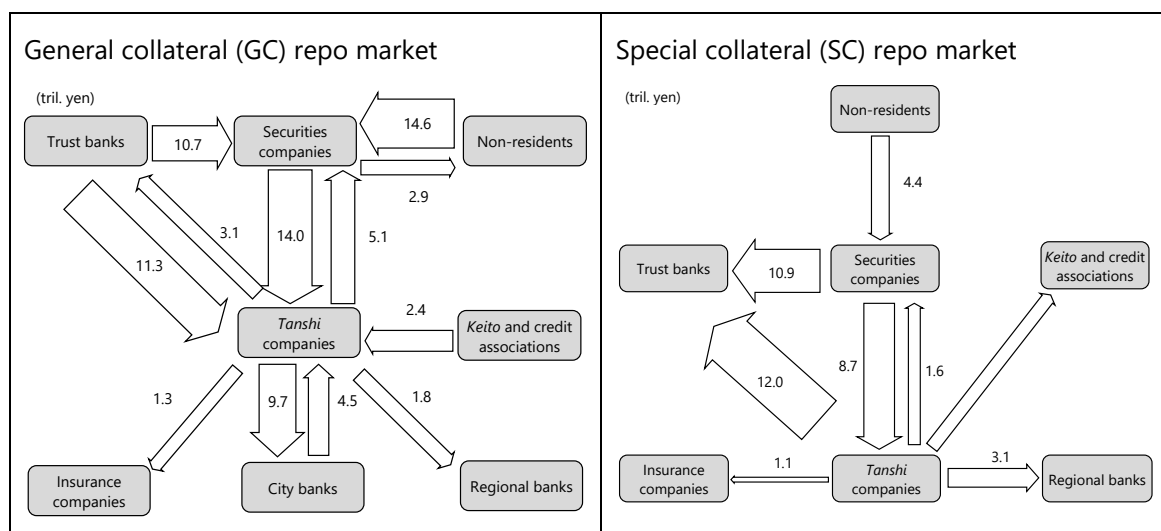
[Ref] Transaction terms reported in 2010 WGFM Report¹

Major terms	O/N
Share	30%

¹ Main maturity structure of banks' money market transactions.

5.4 Repo markets

5.4.1 Description of repo market²



Note: Includes only the major transactions. The arrows show the direction and the size of flow of cash in amount outstanding in 2017.

As depicted above, in Japan, money market brokers,³ securities companies⁴ and trust banks⁵ have a large presence in both general collateral (GC) repo market and special collateral (SC) repo market.

One of the key drivers of SC repo market on the securities borrowers' side is the need for securities companies to borrow specific issues to cover short positions incurred in conducting outright transactions with their customers. Securities providers in the SC repo market are typically trust banks who holds large amount of securities entrusted from their customers. Trust banks procure cash at relatively lower repo rate in SC repo market, which in turn they invest in GC repo market at relatively higher repo rate⁶. Cash borrowers in GC repo market are securities companies who need to finance their inventory of securities which they hold for future transactions in secondary market. Contrary to trust banks, the number of securities companies is large and the size of securities companies is dispersed. Abovementioned transactions are often facilitated by money market brokers, which results in their large presence in the repo market. Non-residents use repos to obtain JGBs or for short-term fund management.

² Below description is based on Bank of Japan Review "Toward Further Development of the Repo Market" April 2015. The overall structure of Japanese repo market remains largely unchanged in the wake of the changes in monetary policy, including the introduction of negative interest rate in Jan 2016 and Quantitative and Qualitative Monetary Easing with Yield Curve Control in Sep 2016. The amount outstanding of the GC repo market increased after the introduction of negative interest rate, partly because GC repo served as an alternative of uncollateralized call which required adjustment of IT systems to enable trading at negative interest rates. The increase in the amount outstanding of GC repo was also attributed to the non-residents' transactions to invest yen funds in GC repos against the backdrop of widening of the USD funding premium. Meanwhile, the amount outstanding of SC repo declined partly due to a decline in demand of securities companies for borrowing bonds in SC repo transactions to cover short positions amid the tighter market conditions of JGBs due to the BOJ's JGB purchases. For more details, see Bank of Japan "Trends in the Money Market in Japan" Nov 2016.

³ Local nonbank financial institutions called Tanshi companies, reported under "others" in Item 5.2.2.

⁴ Nonbank financial institutions, reported under "local dealers" or "foreign dealers" in Item 5.2.2.

⁵ Local banks, reported under "local banks" in Item 5.2.2.

⁶ Investment trusts and insurance companies conduct similar transactions as trust banks, combining SC repos and GC repos.

The Bank of Japan has reverse/repo operation for liquidity control but the size and the frequency of the operation is small in the repo market.

It is a notable feature in the repo market that the nonbanks are active, as opposed to the participants in the call market dominated by local banks⁷. Other feature is that the repo rate is in the deeper negative territory than that of call transactions. Because of this, arbitrage trade using repo transactions are broadly seen after the introduction of the negative interest rate policy.

5.4.2 Market structure of repo market, by types of collaterals

Amount outstanding

Types of bonds	end-Jul 2016
Government bonds	100.0%
Central bank bonds	-
Other public bonds	-
Private bonds	-
Other bonds	0.0%
Total	100.0%
Total (in BN USD)	1,060

⁷ "Others" depicted in the above diagrams include small and mid-sized banks, which are called Regional Banks and *Shinkin* banks.

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5.5 Open market operation tools

5.5.1 Number of counterparties

	May 2017
Banks, local	5-225
Banks, foreign	0-16
Securities dealers	0-24
Local	-
Foreign	-
Others	4-9
Total	9-274
[Ref] Total number of banks⁸	195

⁸ The total number of banks does not cover certain types of banks such as *Keito* and credit associations who may be eligible for the Bank of Japan's market operation counterparties.

6 Korea

6.1 Key players in money markets

6.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Mar 2017
Government bonds	36.0%
Maturity less than 1Y	3.7%
Central bank bonds	10.0%
Maturity less than 1Y	6.7%
Other public bonds	14.2%
Corporate bonds	12.8%
Maturity less than 1Y	4.8%
Other private bonds	27.0%
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	1,506

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6.2 Market structure, by types of entities

6.2.1 Uncollateralized call

Daily average amount outstanding in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	-	-
Banks, local	60.2%	45.7%
Banks, foreign	25.2%	20.5%
Securities dealers	14.6%	-
Local	14.6%	-
Foreign	-	-
Others	-	33.8%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	14	14

6.2.2 Repo

Daily average amount outstanding in 2016

	Cash borrowing side	Cash lending side
Residents	99.1%	97.4%
Central bank	21.0%	0.0%
Banks, local	6.5%	43.8%
Banks, foreign	1.1%	3.1%
Securities dealers	51.3%	12.7%
Local	51.3%	12.7%
Foreign	-	-
Others	19.2%	37.8%
Non-residents	0.9%	2.6%
Total	100.0%	100.0%
Total (in BN USD)	57	57

6.2.3 FX swap

Not reported

6.2.4 Other

Amount outstanding as of end-December 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	-
Non-residents	-	-
Total	100.0%	-
Total (in BN USD)	156	-

6.3 Market structure, by terms

6.3.1 Contract terms

Daily average turnover in 2016

	Uncollateralized call	Repo	FX swap
Overnight	93.5%	92.3%	-
1 week or less	5.3%	3.3%	-
1 week to 1 month	1.2%	0.3%	-
Others	0.1%	4.1%	-
Total	100.0%	100.0%	-
Total (in BN USD)	11	39	-

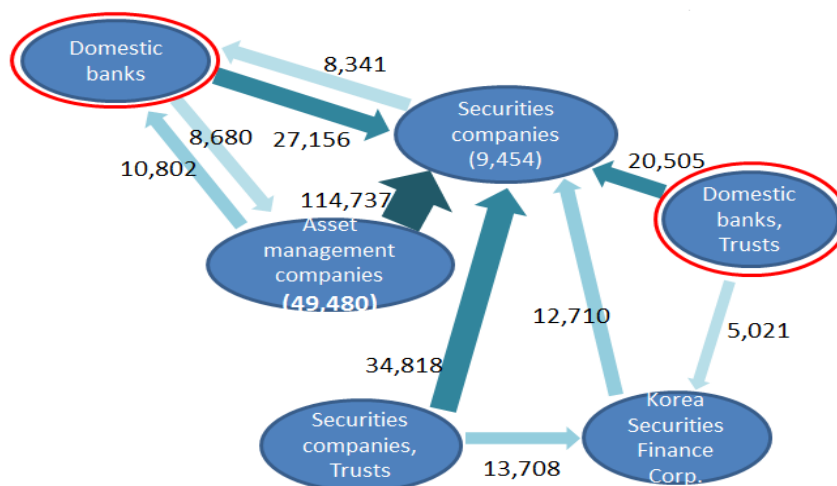
[Ref] Transaction terms reported in 2010 WGFM Report¹

Major terms	O/N
Share	91%

¹ Main maturity structure of banks' money market transactions.

6.4 Repo markets

6.4.1 Description of repo market



Note:

1. Above diagram illustrates institutional repos only.
2. Daily average transaction volume during 2016, institutional repos only.
3. Units: one hundred MM KRW
4. Transactions above 500 BN KRW are presented. The figures in brackets are the transaction volume occurred between the concerning groups.

The major repo sellers are securities companies, while the major repo buyers are asset management companies and securities trusts.

Securities companies usually sell repos to raise operating funds. Asset management companies and securities trusts buy repos to operate short-term excess funds for additional earnings.

Although it is not indicated in the diagram, the Bank of Korea participates in the repo market. The Bank of Korea carries out repo transactions for open market operations.

The distinct feature of the Korean repo market is that the size has increased greatly since 2017.² In the past, non-financial institutions used to be allowed to participate in the call market, but the government has gradually implemented a policy excluding them³. As a result, the participation of securities companies and asset management companies in the repo market, which used to be more active in the call market, has increased significantly. Recently, as asset management companies sell repos for additional profits, the repo market size has increased further.

² The average daily repo transactions volume increased more than 3 times between 2010 and 2016.

³ Since March 2015, other than banks, only securities companies chosen as KTB primary dealers or eligible counterparties for the Bank of Korea's open market operations, have been able to borrow money in the call market, and they may do so only within 15% of their equity capital. Asset management companies have been permitted to provide call loans in the call market only within 2% of their total collective investment property.

6.4.2 Market structure of repo market, by types of collaterals

Amount outstanding

Types of bonds	end-Dec 2016
Government bonds	54.2%
Central bank bonds	17.6%
Other public bonds	8.3%
Private bonds	19.8%
Other bonds	-
Total	100.0%
Total (in BN USD)	61

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6.5 Open market operation tools

6.5.1 Number of counterparties

	end-Mar 2017
Banks, local	14
Banks, foreign	6
Securities dealers	10
Local	10
Foreign	0
Others	2
Total	32
[Ref] Total number of banks	60

7 Malaysia

7.1 Key players in money markets

7.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Dec 2016
Government bonds	53.2%
Maturity less than 1Y	2.6%
Central bank bonds	0.7%
Maturity less than 1Y	0.7%
Other public bonds	0.0%
Corporate bonds	46.0%
Maturity less than 1Y	-
Other corporate bonds	0.0%
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	283

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7.2 Market structure, by types of entities

7.2.1 Repo

Daily average turnover in 2016

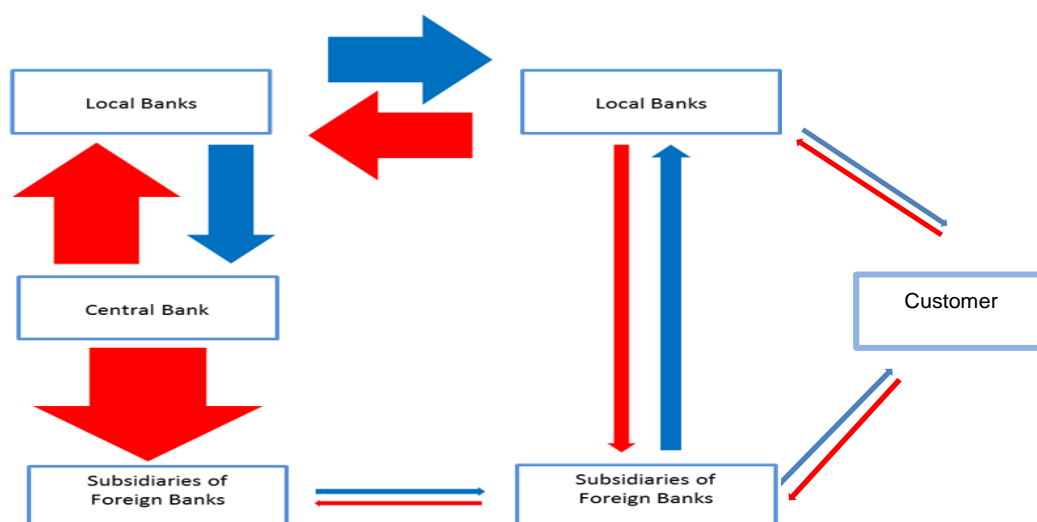
	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	60.0%	8.5%
Banks, local	34.8%	53.6%
Banks, subsidiaries of foreign banks	5.2%	37.9%
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	0.2	0.2

7.2.2 Other

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	0.1	0.1

7.3 Repo markets

7.3.1 Description of repo market



Note: Reflects only transacted repo volume for whole year of 2016 between various parties. The arrows show the direction and the size of flow of securities/cash.

Repurchase agreement (repo) is one of the instruments used in Malaysian financial markets with a total volume of MYR204 billion transacted in 2016. The main participants in the repo market are Bank Negara Malaysia (BNM) and the commercial banks (both local and subsidiaries of foreign banks). The commercial banks also conduct repo with its customers (corporations) but the volume is negligible. The low demand for repo by corporate clients is due to the legal documentations required as well as operational management of the securities.

BNM primarily uses repo as part of its monetary operations to manage liquidity in the banking system, as well as to provide securities to support bond market activities. BNM can either use repo to absorb surplus liquidity or reverse repo to inject liquidity in the banking system. BNM also takes the initiative to recirculate securities back into the market via securities-driven repo operations. BNM will publish list of securities available for securities driven repo and interested interbank participants can make a request to borrow the listed securities from 2 weeks up to 1 month tenure.

Based on the volume transacted reported in 2016, it is a notable that majority of the repo transactions in the market were carried out with BNM, where subsidiaries of foreign banks are the main participants which borrow securities from BNM. As for the local banks, activities with BNM include repo and reverse repo. Local banks were observed to be active participants of repo transactions with other local banks.

One of the key drivers for interbank borrower is the need to borrow specific issue of securities to cover their short positions incurred in conducting outright securities transactions with counterparties or corporate clients. One of the key drivers for interbank seller is the need to borrow cash at a cheaper repo rate (compared to outright cash borrowing in the interbank market) to cover their short liquidity position. However, despite repo rates being generally lower

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than the equivalent unsecured rates, banks' short term liquidity requirement are generally met via the unsecured money market. This is mainly due to the stable banking system environment, which results in higher credit risk tolerance of banks to lend short-term money uncollateralised.

7.3.2 Market structure of repo market, by types of collaterals

Daily average turnover

Types of bonds	2016
Government bonds	95.6%
Central bank bonds	1.7%
Other public bonds	-
Corporate bonds	2.7%
Other bonds	-
Total	100.0%
Total (in BN USD)	0.2

7.4 Open market operation tools

7.4.1 Number of counterparties

	end-Dec 2016
Banks, local	29
Banks, subsidiaries of foreign banks	25
Securities dealers	0
Local	0
Foreign	0
Others	0
Total	54
[Ref] Total number of banks	56

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8 New Zealand

8.1 Key players in money markets

8.1.1 Amount outstanding of bonds by types of issuers

Types of bond	end-Feb 2017
Government bonds	99.8%
Maturity less than 1Y	10.3%
Central bank bonds	0.2%
Maturity less than 1Y	0.2%
Other public bonds	-
Corporate bonds	-
Maturity less than 1Y	-
Other private bonds	-
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	53

8.2 Market structure, by types of entities

8.2.1 Uncollateralized call

Amount outstanding as of end-February 2017

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	0.0%	0.0%
Banks, local	10.0%	10.0%
Banks, foreign	90.0%	90.0%
Securities dealers	0.0%	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	0.3	0.3

8.2.2 Repo

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	-	-
Central bank	7.0%	1.0%
Banks, local	-	-
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100%
Total (in BN USD)	2	2

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8.2.3 FX swap

Daily average turnover in 2016

	Home currency borrowing side	Home currency lending side
Residents	-	-
Central bank	0.9%	5.2%
Banks, local	-	-
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	4	4

8.2.4 Collateralized call

Amount outstanding as of end-February 2017

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	0.0%	0.0%
Banks, local	0.0%	0.0%
Banks, foreign	100.0%	100.0%
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	0.3	0.3

8.2.5 Other

Not reported

8.3 Market structure, by terms

8.3.1 Contract terms

Amount outstanding as of end February-2017¹

	Uncollateralized call	Repo	FX swap
Overnight	100.0%	-	-
1 week or less	-	-	100.0%
1 week to 1 month	-	-	-
Others	-	-	-
Total	100.0%	-	100.0%
Total (in BN USD)	0.3	-	3

	Collateralized call
Overnight	100.0%
1 week or less	
1 week to 1 month	-
Others	-
Total	100.0%
Total (in BN USD)	0.3

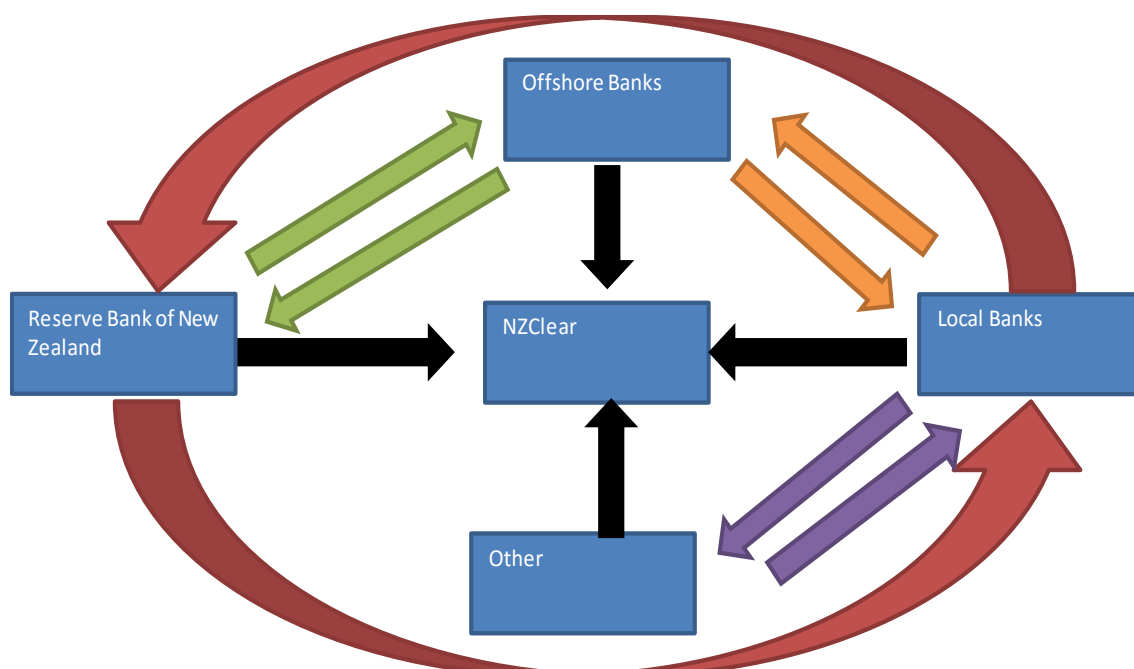
[Ref] Transaction terms reported in 2010 WGFM Report²

Major terms	-
Share	

¹ Figures for FX swap is based on average amount outstanding in April 2016.² Main maturity structure of banks' money market transactions.

8.4 Repo markets

8.4.1 Description of repo market



Note: "Other" includes Non-resident investors who may enter into repo transactions with local banks. "NZClear" refers to the securities depository

New Zealand's repo market is less developed than those in most other Western economies. The primary participants are retail banks and the Reserve Bank, both of which use repo for short-term liquidity management. Unlike in some of the other more developed markets, there are no financial institutions specialising in using repo markets to take leveraged positions on the underlying securities. Two factors contributing to this absence are the limited pools of domestic savings and the lack of liquid securities markets. Prudential supervision by the Reserve Bank also limits the degree to which retail banks can undertake leveraged position-taking in the repo market. In particular, the Bank's prudential liquidity policy limits their reliance on short-term wholesale funding.

Offshore holders of New Zealand government bonds wishing to increase their holdings may use the repo market to fund the purchase, or can alternatively enter the foreign exchange market to access New Zealand dollars directly. Offshore investors tend to largely favour the foreign exchange market and as such do not participate to any great degree in the repo market. Also, non-resident bond holders tend to hold the bonds and not supply them to the market when there are shortages, further reducing repo activity. As a result the RBNZ operates two facilities, namely the repo and bond lending facilities to lend the Government bonds it holds on its balance sheet when there are market shortages.

Market Structure

Repos are principally used by banks for managing short-term fluctuations in their cash holdings,

rather than for general balance sheet funding. Consequently, the most liquid part of the repo curve is between 1 – 7 days. Trading does occur further out the curve in the 1 – 3 month space however it is not very common. Dealing is done either directly or through one of the two local brokers. Given the small number of participants in the NZ repo market the dynamics rarely change and certain banks are often seen to be on the same side of a repo trade (i.e. some banks are normally net lenders or net borrowers of cash on a daily basis in the repo market).

The largest liquidity providers in the NZ repo market are the 4 largest local retail banks. Smaller local banks and some offshore banks also use the repo market to manage NZD positions however the government security collateral pool can be restricting.

Collateral

The General Collateral classification includes only New Zealand government securities. Banks predominately repo New Zealand Government bonds. Treasury-bills and inflation linked bonds are used to a much lesser extent. No other securities are used in the repo market.

Pricing

As discussed above, New Zealand's repo market consists of very short term trading for cash management purposes. Given the short term nature of the market, trading generally occurs close to the Official Cash Rate (OCR). The RBNZ manages the level of cash in the system with its daily Open Market Operations and FX swap dealing to facilitate the GC market trading close to the OCR. The ORRF also caps the Overnight repo rate at OCR + 50bps.

8.4.2 Market structure of repo market, by types of collaterals

Not reported

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8.5 Open market operation tools

8.5.1 Number of counterparties

Types of entities	end-Feb 2017
Banks, local	4
Banks, foreign	24
Securities dealers	0
Local	0
Foreign	0
Others	0
Total	28
[Ref] Total number of banks	24

9 The Philippines

9.1 Key players in money markets

9.1.1 Amount outstanding of bonds by types of issuers

Types of bonds	end-Mar 2017
Government bonds	84.9%
Maturity less than 1Y	4.5%
Central bank bonds	0.4%
Maturity less than 1Y	-
Other public bonds	-
Corporate bonds	14.7%
Maturity less than 1Y	1.3%
Other private bonds	-
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	126

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9.2 Market structure, by types of entities

9.2.1 Uncollateralized call

Amount outstanding as of 29 March 2017

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	0.0%	0.0%
Banks, local	66.7%	100.0%
Banks, foreign	0.0%	0.0%
Securities dealers	0.0%	0.0%
Local	0.0%	0.0%
Foreign	0.0%	0.0%
Others	33.3%	0.0%
Non-residents	0.0%	0.0%
Total	100.0%	100.0%
Total (in BN USD)	0.04	0.04

9.2.2 Repo¹

Amount outstanding 29 March 2017

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	100.0%	0.0%
Banks, local	0.0%	80.5%
Banks, foreign	0.0%	19.5%
Securities dealers	0.0%	0.0%
Local	0.0%	0.0%
Foreign	0.0%	0.0%
Others	0.0%	0.0%
Non-residents	0.0%	0.0%
Total	100.0%	100.0%
Total (in BN USD)	6	6

¹ There are no outstanding interbank repo trades since April 2013.

9.2.3 FX swap

Amount outstanding as of 29 March 2017

	Home currency borrowing side	Home currency lending side
Residents	100.0%	100.0%
Central bank	2.4%	0.0%
Banks, local	64.3%	79.0%
Banks, foreign	33.4%	21.0%
Securities dealers	0.0%	0.0%
Local	0.0%	0.0%
Foreign	0.0%	0.0%
Others	0.0%	0.0%
Non-residents	0.0%	0.0%
Total	100.0%	100.0%
Total (in BN USD)	8	9

9.2.4 Other

Amount outstanding as of 29 March 2017

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	15	15

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9.3 Market structure, by terms

9.3.1 Contract terms

Amount outstanding as of 29 March 2017

	Uncollateralized call	Repo	FX swap
Overnight	100.0%	100.0%	-
1 week or less	-	0.0%	-
1 week to 1 month	-	0.0%	100.0%
Others	-	0.0%	-
Total	100.0%	100.0%	100.0%
Total (in BN USD)	0.04	6	0.2

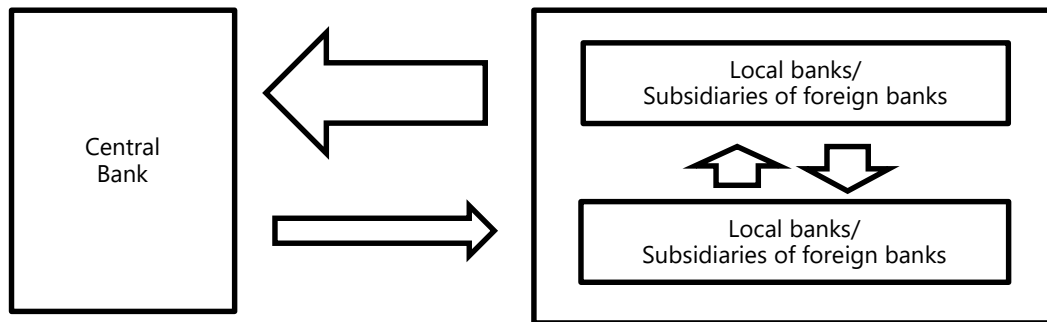
[Ref] Transaction terms reported in 2010 WGFM Report²

Major terms	O/N
Share	5%

² Main maturity structure of banks' money market transactions.

9.4 Repo markets

9.4.1 Description of repo market



The repo market in the Philippines is generally dominated by repo transactions with the BSP where the reverse repo (RRP) facility is the BSP's primary monetary policy instrument. Thus, the BSP is the main borrower in the market while banks and non-banks with quasi-banking function (NBQB) are the lenders. This is consistent with the data provided under survey.

Before the shift to the IRC system in June 2016, the BSP's repurchase (RP) facility was its primary monetary policy tool to provide liquidity to the system. Repos entered for this purpose have maturities ranging from overnight to one month, with participants including banks and NBQBs. Given the shift to IRC, the RP Facility was replaced by the Overnight Lending Facility (OLF) while the term RPs were abolished.

The BSP conducts RRP transactions, along with other monetary facilities, primarily to siphon excess liquidity in the system. Lenders then engage in RRP with the BSP after taking into account their excess funds.

Cash borrowing through repo is generally not popular as the country has been operating under abundant liquidity for many years. It could be noted that availments for the BSP's repo facility (RP, a lending facility) is usually for the BCP purposes of the banks/NBQBs. Nonetheless, it was observed that peso liquidity conditions started to tighten in 2017 due to the BSP siphoning liquidity in bulk through the Term Deposit Facility (TDF), the large Retail Treasury bond issuances of the National Government and substantial peso requirements for long holidays and the tax season. By the 4th quarter of 2017, more banks were seen borrowing from the BSP's OLF especially during the Christmas season.

To encourage financial institutions' engagement in the repo market, the Money Market Association (MART) launched the Interbank Repurchase Program in November 2017. The program set out standards for master agreements, collateral assets and terms and established a trading platform to encourage OTC repo. BSP and the Bureau of Internal Revenue have also taken steps to encourage repos under the program by removing reserve requirements and exempting stamp tax, both of which used to require additional costs on repos. However, it could be noted that banks prefer to borrow from the interbank call loan market rather than the interbank repo market because they do not have to put collateral and it is cheaper.

Previously, the Inter-Professional Repo Agreement Market program was started by the Philippine Dealing System (PDS) in the latter part of 2008, wherein banks, non-bank financial institutions and trust entities can participate. However, trading volume was subdued and remained nil since April 2013 amid concerns about the structure of the program as well as taxes on the transaction.

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9.4.2 Market structure of repo market, by types of collaterals

Amount outstanding

	29 Mar 2017
Government bonds	100.0%
Central bank bonds	0.0%
Other public bonds	0.0%
Private bonds	0.0%
Other bonds	-
Total	100.0%
Total (in BN USD)	6

9.5 Open market operation tools

9.5.1 Number of counterparties

	29 Mar 2017
Banks, local	55
Banks, foreign	19
Securities dealers	0
Local	0
Foreign	0
Others	38
Total	112
[Ref] Total number of banks	602

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10 Singapore

10.1 Key players in money markets

10.1.1 Amount outstanding of bonds by types of issuers

Types of bonds	Dec 2016
Government bonds	21.2%
Maturity less than 1Y	1.7%
Central bank bonds	16.0%
Maturity less than 1Y	16.0%
Other public bonds	0.0%
Corporate bonds	62.7%
Maturity less than 1Y	5.6%
Other private bonds	0.0%
Maturity less than 1Y	0.0%
Total	100.0%
Total (in BN USD)	375

10.2 Market structure, by types of entities

10.2.1 Uncollateralized call

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	-	-
Central bank	-	-
Banks, local	-	-
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	2	2

10.2.2 Repo

Daily average turnover in 2016

	Cash borrowing side	Cash lending side
Residents	-	-
Central bank	-	-
Banks, local	-	-
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	3	3

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10.2.3 FX swap

Daily average turnover in October 2016

	Home currency borrowing side	Home currency lending side
Residents	36.3%	36.3%
Central bank	-	-
Banks, local	-	-
Banks, foreign	-	-
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	-	-
Non-residents	63.7%	63.7%
Total	100.0%	100.0%
Total (in BN USD)	18	18

10.2.4 Other

Not reported

10.3 Market structure, by terms

10.3.1 Contract terms

Not reported

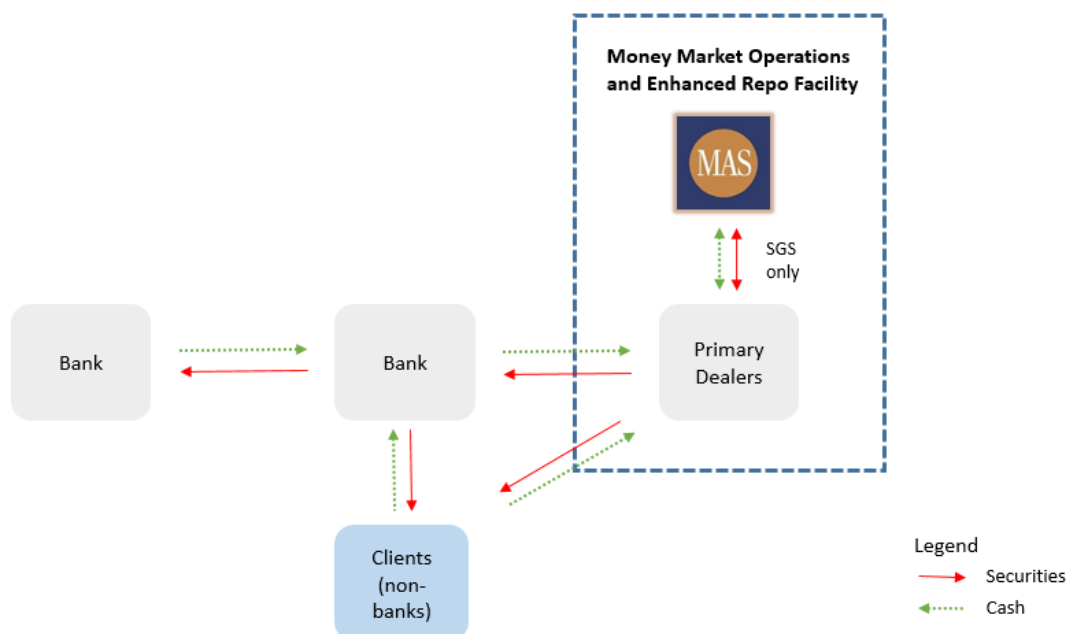
[Ref] Transaction terms reported in 2010 WGFM Report¹

Not reported

¹ Main maturity structure of banks' money market transactions.

10.4 Repo markets

10.4.1 Description of repo market



The stylised diagram above shows the major players in the Singapore repo market. These include MAS as the central bank, Singapore Government Securities (SGS) Primary Dealers which are banks appointed by MAS to be market-makers in SGS, other banks, and non-banks like insurance companies, which are typically providers of securities.

The vast majority of repo collateral is SGS given financial institutions' operational familiarity with handling SGS and the availability of SGS. The SGS market has grown steadily over the years, reflecting MAS' efforts to build a liquid SGS market to provide a robust government bond yield curve for the pricing of private debt securities. The outstanding amount of SGS has grown from S\$98.1 billion in 2014 to S\$117 billion as at September 2017. The average daily volume in the SGS repo market has increased from S\$3.4 billion in 2014 to S\$ 3.9 billion in September 2017.

MAS is an important counterparty in the repo market as it transacts in SGS repos as part of daily Money Market Operations (MMO) to manage banking system liquidity. In such MMO transactions, MAS provides SGS to Primary Dealers in return for cash¹. MAS has gradually increased the size of repos done at daily MMO to increase Primary Dealer's confidence in obtaining SGS and operational familiarity with repos. MAS also operates an Enhanced Repo Facility (ERF) which allows Primary Dealers to borrow specific SGS securities on an overnight basis from MAS on a bond-for-bond exchange basis to cover their short positions arising from their SGS market-making activities.

SGS Primary Dealers² play a critical role in the local bond market. These Primary Dealers are appointed by MAS and are required to make markets by providing liquidity to SGS outright markets by quoting effective two-way prices. In addition, Primary Dealers underwrite issuances at SGS bond and T-bill auctions and provide market feedback to MAS. Repo trades in SGS are

¹ Aside from daily MMO which tends to be liquidity-withdrawing, MAS operates the Intraday Liquidity Facility and the MAS Standing Facility which provide intraday or overnight SGD liquidity to the market via repos involving SGS, MAS bills and other collateral.

² There are 13 appointed Primary Dealers. The full list can be found at www.sgs.gov.sg/The-SGS-Market/Key-Participants.aspx

typically conducted over-the-counter or via brokers.

Beyond SGS, MAS has taken steps to develop the domestic corporate bond market. The Securities Repo Facility (SRF) was established to provide an additional avenue for market makers to source for SGD-denominated corporate bonds for short-covering. The SRF is intended to support participants' ability to make markets. End-investors in turn benefit from the certainty of being able to enter and exit their positions with minimal price slippage. Under the SRF, eligible counterparties are able to borrow high quality SGD corporate bonds from MAS' inventory via a 7-day term repo transaction. The terms of the repo transaction are governed by the counterparty's Global Master Repurchase Agreement ("GMRA") with MAS. The SRF was operationalised in May 2015 and has helped increase banks' operational familiarity with repo transactions using SGD corporate bonds.

Overall, the role of the repo market in funding remains modest despite the steps taken due to other market impediments. These include a structural liquidity surplus which has reduced the demand for collateralised borrowings and the operational ease of trading in FX swaps and uncollateralised transactions as compared to repos.

10.4.2 Market structure of repo market, by types of collaterals

Not reported

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10.5 Open market operation tools

10.5.1 Number of counterparties

	Mar 2017
Banks, local	3
Banks, foreign	10
Securities dealers	-
Local	-
Foreign	-
Others	-
Total	13
[Ref] Total number of banks	127

11 Thailand

11.1 Key players in money markets

11.1.1 Amount outstanding of bonds by types of issuers

Types of bond	Avg in 2016
Government bonds	38.9%
Maturity less than 1Y	4.1%
Central bank bonds	28.6%
Maturity less than 1Y	22.4%
Other public bonds	5.3%
Corporate bonds	27.2%
Maturity less than 1Y	3.2%
Other private bonds	-
Maturity less than 1Y	-
Total	100.0%
Total (in BN USD)	293

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11.2 Market structure, by types of entities

11.2.1 Uncollateralized call

Average amount outstanding in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	15.6%	-
Banks, local	59.6%	23.2%
Banks, foreign ¹	16.8%	34.9%
Securities dealers	-	-
Local	-	-
Foreign	-	-
Others	7.9%	41.9%
Non-residents	-	-
Total	100.0%	100.0%
Total (in BN USD)	3	3

11.2.2 Repo

Average amount outstanding in 2016

	Cash borrowing side	Cash lending side
Residents	100.0%	100.0%
Central bank	78.0%	0.0%
Banks, local	15.6%	66.2%
Banks, foreign ²	0.5%	10.3%
Securities dealers	0.0%	0.0%
Local	0.0%	0.0%
Foreign	0.0%	0.0%
Others	5.8%	23.4%
Non-residents	0.0%	-
Total	100.0%	100.0%
Total (in BN USD)	59	59

11.2.3 Other

Not reported

¹ In this report, subsidiaries of foreign banks are included in foreign banks.

² In this report, subsidiaries of foreign banks are included in foreign banks.

11.3 Market structure, by terms

11.3.1 Contract terms

Average amount outstanding in 2016

	Uncollateralized call		Repo		FX swap
Overnight	66.6%		38.0%		
1 week or less	}		}		}
1 week to 1 month		20.6%		60.0%	
Others		12.8%		2.1%	88.2%
Total		100.0%		100.0%	100.0%
Total (in BN USD)		3		59	87

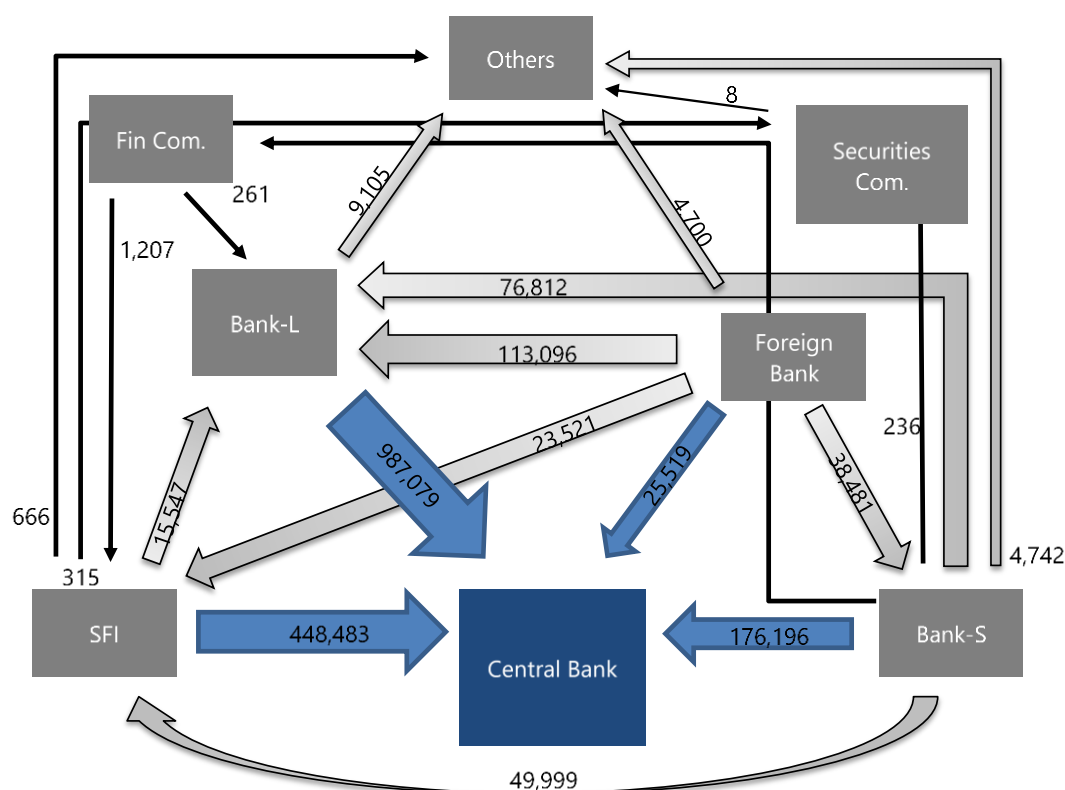
[Ref] Transaction terms reported in 2010 WGFM Report³

Major terms	2D – 1M
Share	41%

³ Main maturity structure of banks' money market transactions.

11.4 Repo markets

11.4.1 Description of repo market



Note:

1. This diagram shows net average outstanding repo transactions between various Types of financial institutions as at end of 2016. The net outstanding transactions between institutions of the same Types is not shown here.
2. Others include government agencies, insurance companies, cooperatives and corporates.

Excluding Bank of Thailand, main borrowers in repo market are Bilateral Repo Primary Dealers (BRP PDs), which include most of large banks and SFIs and some of foreign banks and small banks. Their purpose is to perform their role as a BRP PDs and to manage their liquidity. For main lenders who mostly are foreign banks, their purpose is to manage their liquidity. We sometimes observe repo participants using repo transaction for securities borrowing purpose.

Bank of Thailand plays a major role in repo operation via BRP PDs to absorb excess liquidity in the system as shown in the diagram as the blue arrows. The borrowing outstanding decreases from 59 bn USD to 13 bn USD (or about 78%) when Bank of Thailand is excluded. To elaborate more in details, under the current framework, Bank of Thailand conduct repo operations in 4 tenors; 1 day, 7 day, 14 day and 1 month. For 1 day and 7 day operation, Bank of Thailand uses special debt issuance called "Bank of Thailand debt securities" as a collateral, while 14 day and 1 month operation, Bank of Thailand uses "Bank of Thailand bond or Government bond" instead.

The special feature of "Bank of Thailand debt securities" is its non-transferable and unusable as a collateral with other counterparties except Bank of Thailand. These securities are initiated as a solution to overcome OMO collateral insufficiency since 2009. These securities should be treated carefully because of its differences when compare to Bank of Thailand bond which was originally introduced in 1987 for the purpose of market development. It is worth noting that Bank of Thailand bond can be used as collateral and is transferable in the repo market.

The uniqueness of the repo market is the non-bank participants such as Securities and Financial companies and their interactions with several groups of market participants. However, total repo size of these participants is still minimal.

11.4.2 Market structure of repo market, by types of collaterals

Amounts outstanding

	Avg in 2016
Government bonds	23.8%
Central bank bonds	15.2%
Other public bonds	61.0%
Private bonds	0.0%
Other bonds	-
Total	100.0%
Total (in BN USD)	59

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11.5 Open market operation tools

11.5.1 Number of counterparties

Types of entities	end-Dec 2016
Banks, local	7-20
Banks, foreign	1-11
Securities dealers	1
Local	0
Foreign	1
Others	7-10
Total	16-42
[Ref] Total number of banks	34