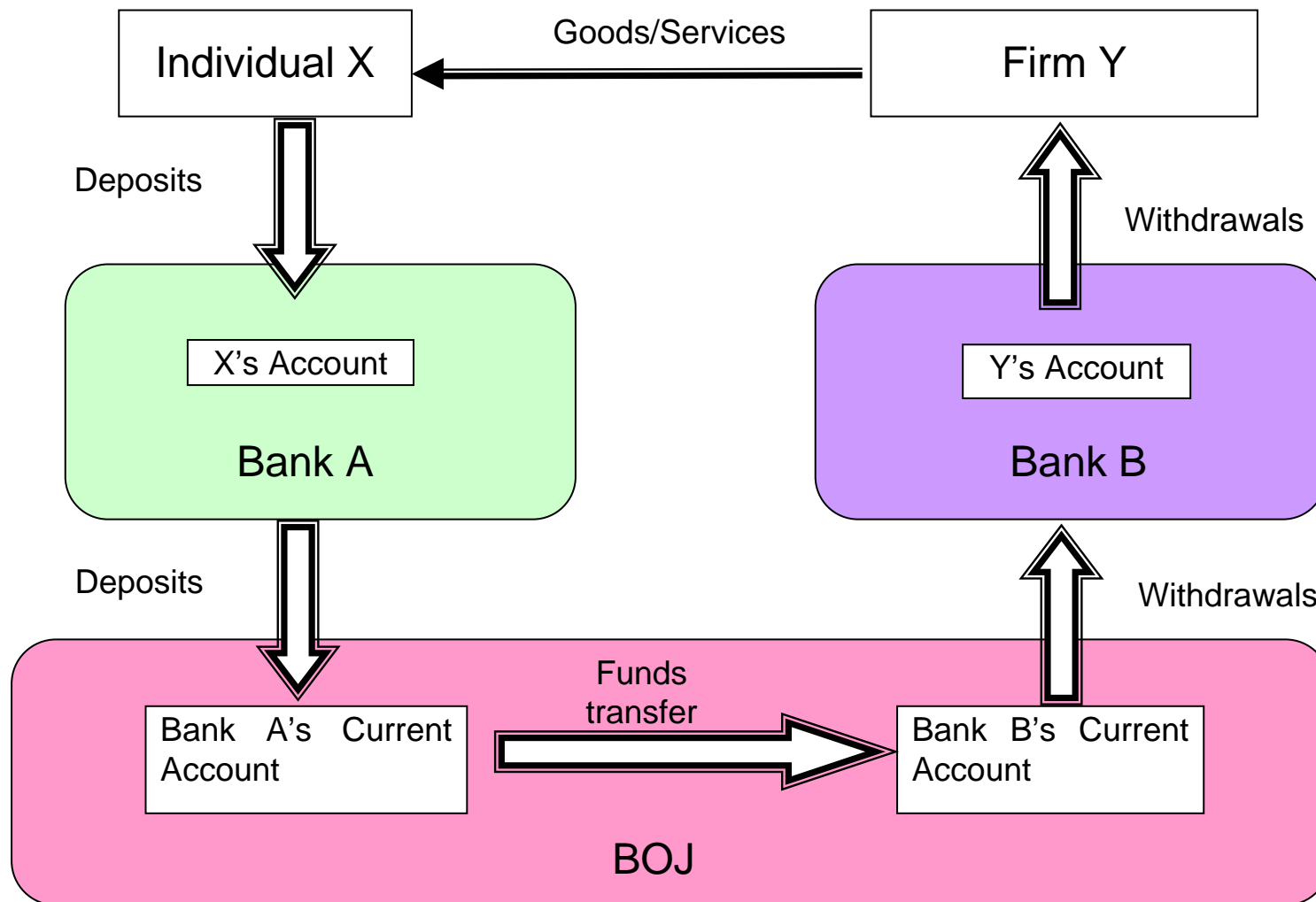


Technological Innovation and Central Banks

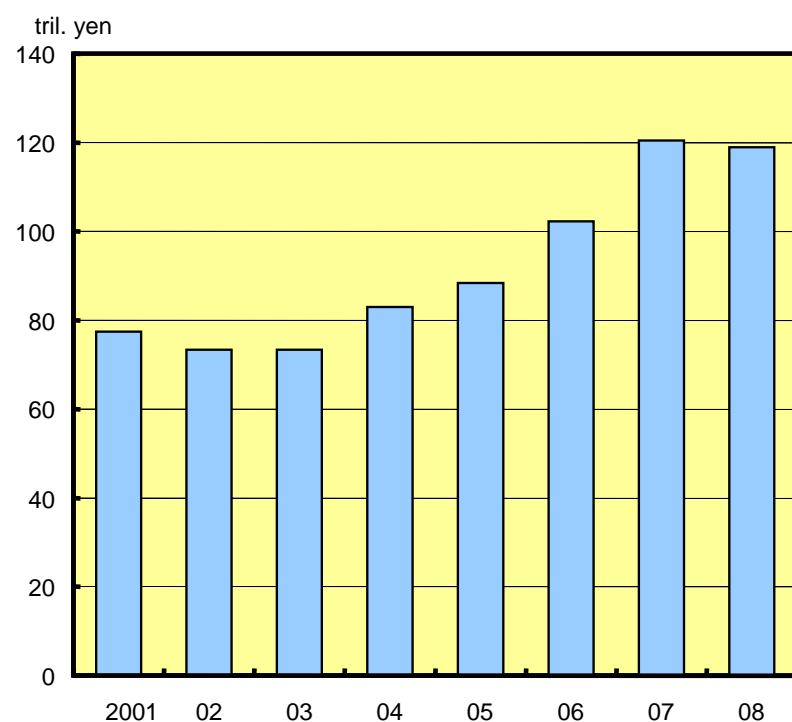
Charts

September 2, 2008

Settlement via Bank of Japan (BOJ) Current Accounts

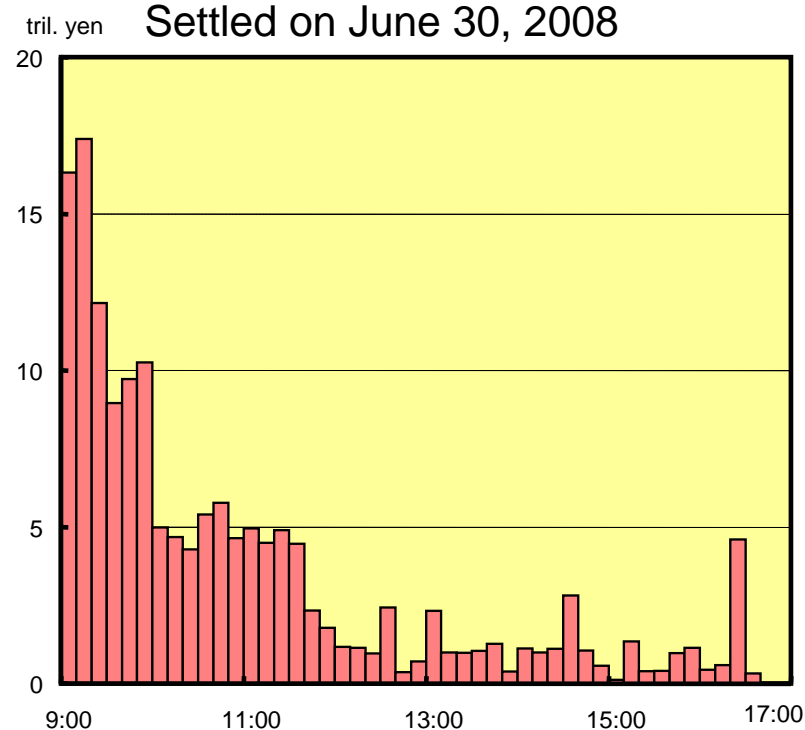
Value Settled via BOJ Current Accounts

Average Daily Value Settled



Note: Data for 2008 are the average for the January-July 2008 period.

Distribution of Value Settled on June 30, 2008

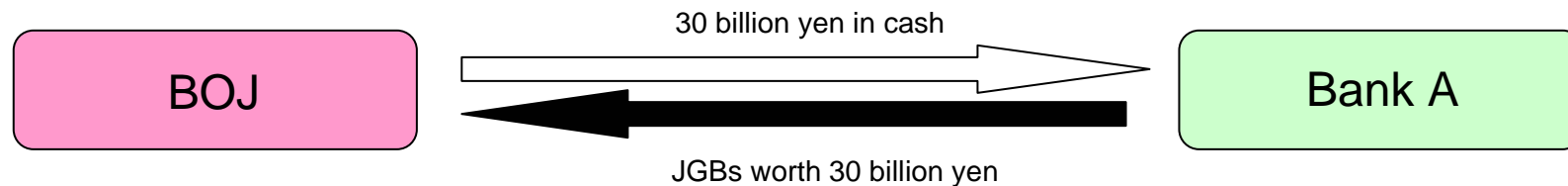


Note: Value settled in each ten-minute period.

Chart 3

Funds-Supplying Operation by the BOJ

Supply of 30 billion yen by the BOJ through outright purchase of Japanese government bonds (JGBs)



BOJ's balance sheet

(Assets)	(Liabilities)
bil. yen	
JGBs 0 → 30	BOJ current account 0 → 30

Bank A's balance sheet

(Assets)	(Liabilities)
bil. yen	
BOJ current account 0 → 30	
JGBs 30 → 0	

Withdrawal of 10 billion yen by Bank A from BOJ current account after the operation

BOJ's balance sheet

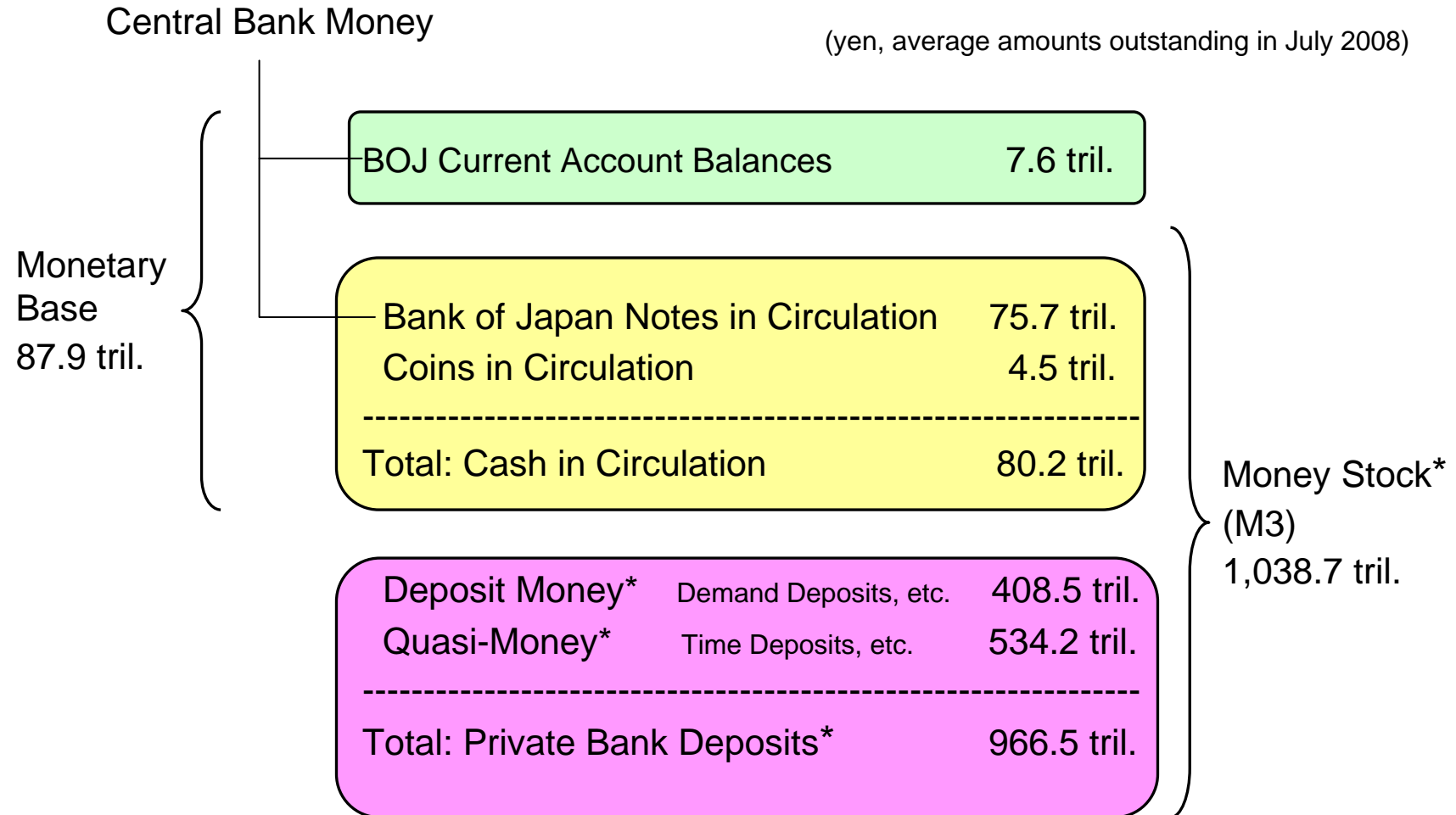
(Assets)	(Liabilities)
bil. yen	
JGBs 30	Banknotes 0 → 10
	BOJ current account 30 → 20

Bank A's balance sheet

(Assets)	(Liabilities)
bil. yen	
Banknotes 0 → 10	
BOJ current account 30 → 20	
JGBs 0	

Chart 4

Classification of “Money”



Nominal GDP of Japan in fiscal 2007: 515 tril. yen

* Deposits of financial institutions and the central government are not included.

Security Features of the Bank of Japan Notes

Chart 5

Security Features of 10,000 Yen Note

Luminescent ink

The Governor's seal on the front side and some parts of the background pattern fluoresce under ultraviolet light.



Intaglio printing

Raised printing is used for some features of the note.



Hologram

When the banknote is tilted, the color and pattern of the design change.



Latent image

When the banknote is viewed from a certain angle, the number "10000" appears on the bottom left of the front side, and the word "Nippon" on the top right of the back side.



Pearl ink

When viewed from different angles, a semi-transparent pattern printed with pink pearl ink appears in the blank areas of the left and right margins of the front of the note.

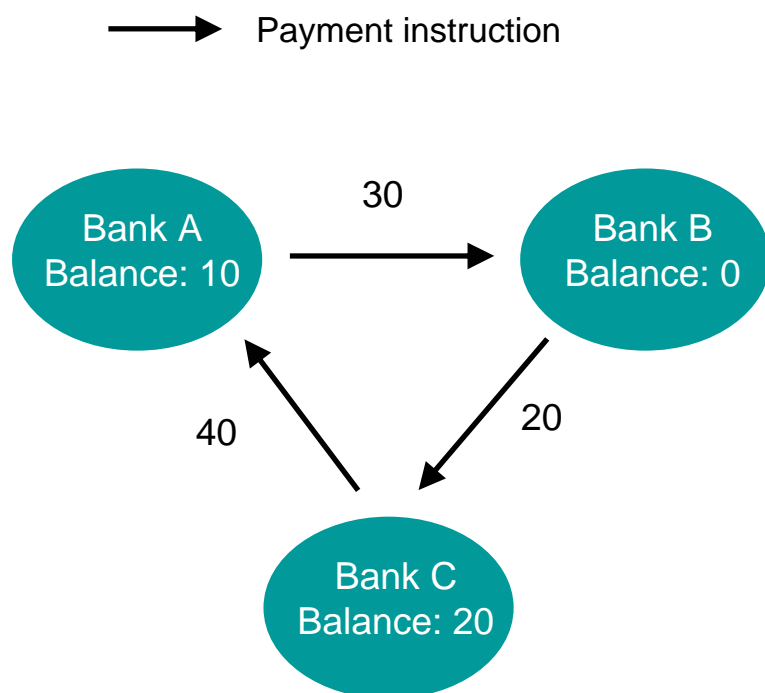


Watermark-bar-pattern

When the banknote is held up to the light, three vertical watermark bars become visible. This feature is more difficult to reproduce with personal computers or color copiers than the traditional watermark.



Gridlock in the BOJ-NET RTGS System



Current BOJ-NET RTGS System

- In order to send a payment instruction, each bank needs to have a sufficient balance in its BOJ current account.
- All three banks in this example do not have sufficient balances.
- If each bank waits for the other to pay first, gridlock occurs, and none of the payment instructions will be settled.

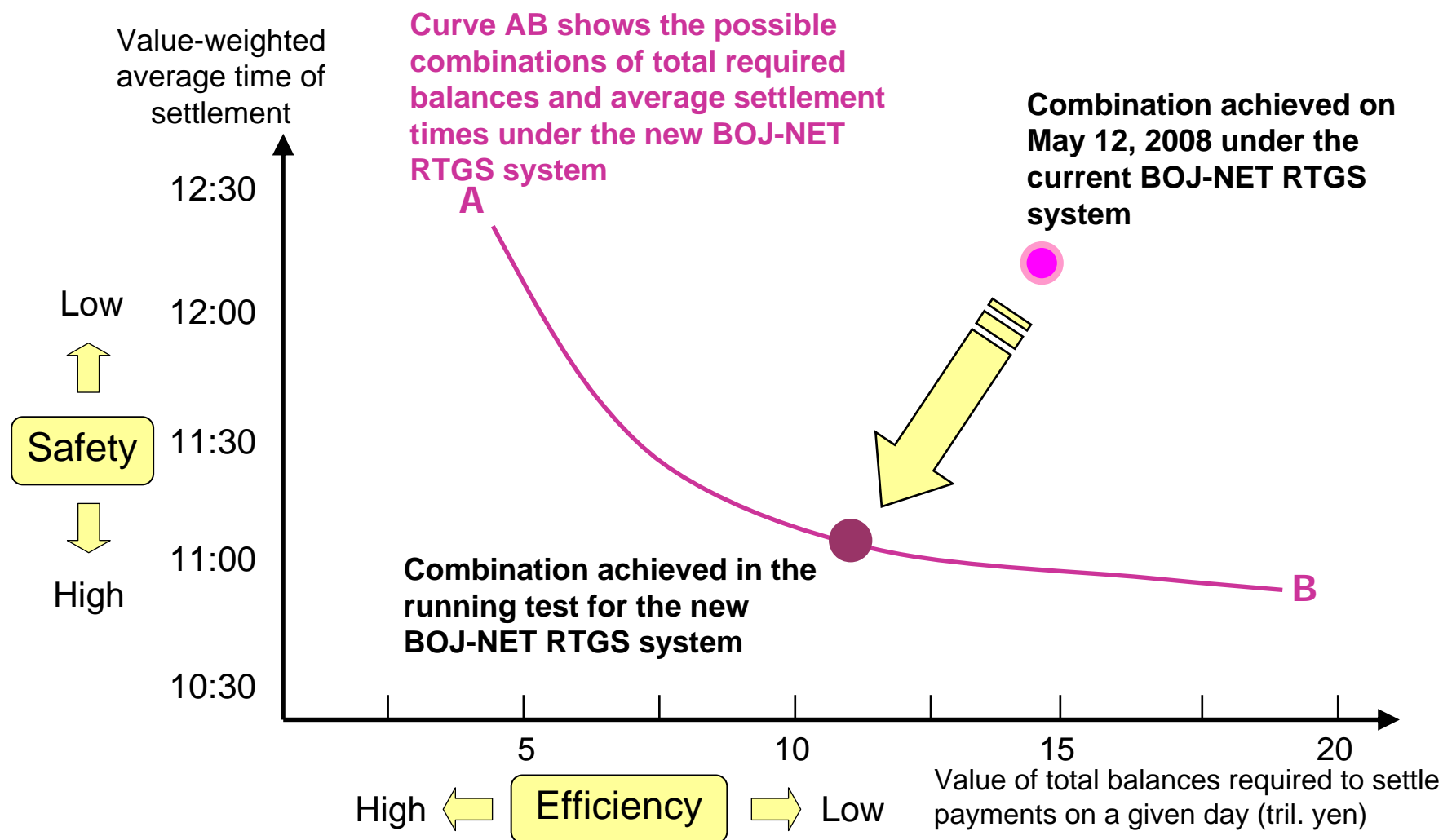


New BOJ-NET RTGS System

- If a bank does not have a sufficient balance in its BOJ current account, the payment instruction will be stored in a centralized queue.
- The system will identify sets of payment instructions in the queue that can be settled when taking into account incoming payments as a source of liquidity, and will settle them simultaneously.
- Gridlock will not occur in this example, because payment instructions will be settled simultaneously.

Chart 7

Safety and Efficiency Achieved under the New BOJ-NET RTGS System



Note: Under the new BOJ-NET RTGS system, payments that are currently cleared in the Foreign Exchange Yen Clearing System and settled at 14:30 on a net basis in the current BOJ-NET RTGS system will be settled on a gross basis.

Chart 8

Securitization of Mortgages

