

Prewar Banking and Finance

- Formation of the Banking Sector
 - Central vs. National Banks
- End of the Samurai
 - Asset Pricing
- Technology Policy
 - Iwakura Mission
 - Education Reform

Banks and Money Supply: Theory

- Two ways to issue currency: National Banks and Central Banks
 - In the US today (as in Japan) only the Central Bank can issue currency
- National Banks can issue currency (as in US and Japan in 1870's)
 - National bank collects deposits and owner capital in the form of specie and paper currency
 - Keeps some on reserve and lends the rest out
 - Borrowers obtain national bank notes which are legal tender.
 - Backed by National Bank's reserves.
- In Central Bank system only Central Bank can issue currency.
 - This currency is backed by specie (if on gold standard) or not backed as in fiat money

Banks and Money Supply: Example

- What are the implications of a 10% reserve requirement

	Assets		Liabilities
	Loans	Reserves	Deposits
1 st National Bank	90	10	100
2 nd National Bank	81	9	90
3 rd National Bank	72.9	8.1	81
And so on...			
Total	900	100	1000

Banks and Money Supply in Words

- Suppose banks keep 10% of deposits on reserve.
- If the 1st National Bank has 100 yen in deposits, then there will be $100 * (1/0.1) = 1000$ yen in circulation
- The money multiplier is one over the reserve ratio. It tells you how much currency is generated by 1 yen of deposits.

Developing a Monetary System

- 1872 National Banking Act
 - Used following scheme
 - 60% cash holdings had to be given to Gov't in inconvertible paper currency in exchange for government bonds paying 6%
 - 40% in specie
 - Bank could issue *convertible* notes up to amount of government bonds they held
 - Effective Reserve requirement was 0.40
- This system basically failed because reserve requirement was too high

Another Problem: How to end Feudalism?

- 1870 eliminated han and created prefectures
 - Bought off feudal lords
- But what to do with 400,000 samurai and their families?
 - 6% of Japanese population
 - 30% of gov't budget

The Answer: Samurai Bankers!

- 1873
 - began universal conscription so didn't need Samurai
 - Not popular with samurai who called it a “blood tax”
 - 1873 Gave samurai an option of converting their stipends into 1/2 cash and 1/2 bonds equal in value to 6 years of stipend.
- 1875 Switched all stipends to nominal values (not rice)
- 1876 Forbad wearing of swords
- 1876 Decided to end stipends with Kinroku Kosai (Cash Stipend Bonds)

Aside: How Does One Price a Bond?

- Example: if interest rate is 10% then you are indifferent between receiving 100 yen or a bond yielding 10 yen forever
 - If you put 100 yen in the bank you would receive 10 yen forever
- Imagine a bond that pays D forever. If the interest rate is r , then the *net present value* of the bond, i.e. the price of the bond, is

$$P = NPV = \sum_{t=1}^{\infty} \frac{1}{(1+r)^t} D = D / r$$

What Were Kinroku Kosai?

- Bonds were priced at 5-14 times the nominal stipend value
- Not redeemable for 5 years and then some randomly redeemable each year for 30 years
- 5% yield
 - Bond rate should have been around 12%

Where Did the Samurai Go?

- Tried to employ them, how?
 - Gov't: 80% of bureaucrats were samurai
 - Set up firms
 - Mitsui (Shibusawa Eiichi), Fuyo (Yasuda Zenjiro), Mitsubishi (Iwasaki Yataro)
 - Samurai received government loans
 - Fostered the creation of “samurai” banks
 - ¥175 mln yen in bonds to 310,000 people
 - Japanese GNP was around ¥800 mln
 - Formed 153 banks
 - DKB, eighteenth bank, seventy-seven bank
 - Even so many went bankrupt

Government amended the National Bank Act in 1876

- Initial bank plan not popular because reserve ratios
 - Reserve requirements on all national banks were dropped to 20%. Banks could use government bonds instead of gold as reserves.
 - Allowed Banks issue *nonconvertible* notes of up to 80% of their capital
- Samurai could pool Kinroku Kosai bonds and lend out 80%.
 - Could lend this money to themselves
- About half of capital for new banks came from samurai
 - 15th National Bank involved capital from 480 Daimyo and Court officials.
 - Made many bad loans
- 1879 stopped giving out new charters
- Formed 153 banks by 1879, ¥34 mil in capital

Rise of Banking System

Date	Number of National Banks	Assets (millions of yen)	Bank Notes (millions of yen)
1872	0		
1873	2	3	0.9
1874	4	3.5	0.8
1875	4	3.5	0.2
1876	5	2.5	1.7
1877	26	23.0	13.0
1878	95	33.3	24.5
1879	153	40.6	34.0

Impact on Money Supply and Prices

	Gov't Paper Money	National Bank Notes	Total	Specie and Convertible to Total	WPI
1876	105	2	107	40	
1877	106	13	119	35	100
1878	139	26	166	26	108
1879	130	34	164	26	130
1880	124	34	159	23	148

Effect

- Value of bonds fell enormously
 - Removed financial strain on government
- Didn't create financial warriors
- Raised relative position of merchants
- The issuance of Kinroku kosai lead, in part, to the Satsuma rebellion in 1877
 - Satsuma felt betrayed by Meiji reforms
 - Government won but cost of fighting was met by printing money (Y27 mln) and letting banks issue money
 - Prices more than doubled between 1876 and 1881
 - Inflation at 20% per year
 - Badly hurt Samurai, which benefited government
 - New government problem was that land was not reevaluated

Summary

- By 1878 the government had fulfilled 3 objectives
 - Simplified the Japanese currency
 - Created a market for government bonds
 - Created national banks and a banking system

Technology Policy

- Believed in the idea of “Fukoku Kyohei:” (Wealthy Nation/Strong Military)
 - Promote the introduction of Western thought
 - Revamp education system
 - Develop industries
 - Land tax reform
 - Build up army (universal conscription)

Iwakura Mission (1871)

- Objectives
 - Convince West that Japan was unlike rest of Asia
 - Went in western clothes
 - Argued for repeal of unequal treaties
 - Wanted to study source of western wealth and power
 - Factory production
 - Science, engineering, economics
 - Mass transportation
 - Management

Impacts of Iwakura Mission

- Came to believe in the importance of merchants
- Rejected western idea that religion and individualism were key to growth. Saw keys as
 - Hard work, planning, and organization and management skills
- Translated loads of texts and brought them back to Japan
- Became committed to education for both sexes

Education in Tokugawa Japan

- Saw a large growth in han schools, from 11 in 1735 to 210 by 1844
- Growth in publishers and libraries (numbered in hundreds)
- Thousands of books were in print at any time
- Although Japanese had access to moveable type technology, they chose to use wood blocks.
- Overall literacy levels reached 40-50% of all males (15% females) making Japan one of the most literate societies in the world at that time.

Assimilation of Foreign Technology

- Education As Key to Success
 - Samurai were studying modern sciences
 - Well established system for using education as the basis for success
- Rise of Japanese school system
 - With Japan so far behind the west, education was seen as a mechanism for absorbing established ideas. Not new ones
 - Wanted to generate nationalism--dorms were somewhat military in nature
 - In 1891, 26% of labor force had primary school education, by 1935 98% did
- Established Universities
 - In 1868 Fukuzawa Yukichi was teaching Political Economy at Keio, which he founded

Subsidized Import of Foreign Technology

- Establishment of libraries
- Subsidized study abroad
- Imported many scholars from US and Europe and sent students abroad
 - Began employing enormous numbers of foreign instructors
 - At least 3000 foreigners of all types in government service during early Meiji
 - Total of 8000 foreigners in Japan in public and private positions
 - Expenditures on foreign salaries was \$1.8 mln
 - 1/3 of U. Of Tokyo budget was foreign workers
 - 1/2 of ministry of education budget
 - 2/3 of public works budget

Subsidized Import of Foreign Technology

- Establishment of libraries
 - In 1865 Established Bansho Torishirabejo
- Subsidized study abroad
 - Bakufu recognized the importance of western learning
 - In 1862 sent people to Holland to study economics
 - Soon were very familiar with Smith, Ricardo, Malthus, Mill
 - Particularly attracted to the idea that developing countries should practice free trade at early stages.

Institutional Borrowing

Source	Organization	Year
Britain	Navy	1869
	Telegraph System	1869
	Postal System	1872
	Postal Savings System	1875
	Commercial Banks	1882
France	Army	1869
	Primary School System	1872
	Police	1874
	Judicial System	1872
	Industrial Banks	
US	Primary School System*	1879
	National Bank System	1872
Germany	Army*	1878
Belgium	Bank of Japan*	1882

Changes in the Role of Women

- Major Advances
 - Foreigners strongly criticized the status of women in Japan
 - In 1872, the first public elementary schools for women were founded
 - Ban on women entering holy places was lifted
 - In 1873 women were allowed to initiate divorce
 - Women allowed to legally head households
 - Suffragette movement gained prominence
 - In 1882, Secondary schools opened to women
 - Arrival of Christianity greatly improved educational opportunities for women
 - Many Christian women's colleges were opened