24th October 1988

To : Dr. Baer

Copy: Dr. Bisignano
Mr. Kneeshaw
Dr. Borio

From: P. Van den Bergh

Re : Preliminary draft of a note on the origin and history of the Federal Reserve System.

Please find attached a very preliminary version of a note on the origin and history of the Federal Reserve System with particular attention to the issue of Fed "independence". The work carried out is meant to facilitate and clarify the discussion on the possibility to use the Federal Reserve System as a model for future central monetary authority in Europe. Comments and suggestions will be gratefully accepted.

to evaluate the ~~two that~~ process which has affected 1) the degree of centralization of decision-making and execution of policy & 2) the degree of independence of the system.

23rd October 1988

preliminary draft

The Federal Reserve System: origins and development

P. Van den Bergh

The following note contains a short analysis of the origins and development of the Federal Reserve System. The aim is not to give a complete historical description of the whole structure of the System or of all its functions but to focus on the essential elements which permit to evaluate the development of the System's "independence". Some very tentative conclusions are attached.

A. The period before the creation of the Federal Reserve System

1. At the time of the Declaration of Independence the growth of the north American economy was financed mainly by capital inflows from Europe (Londen). Paper currency had been issued freely by the various independent States who used it to finance their war-expenses. The resulting financial instability explains the clause in the 1778 Constitution forbidding the issue of paper money by the States or by Congress.

2. In 1791 a "Bank of the United States" was founded on the model of the Bank of England to perform the functions of a central bank. By accepting "notes" (?) only from those banks which would honour payment of them against gold it introduced a certain dicipline into the system. This, however, displeased the Southern and Western States (mainly agricultural states) and as a result its charter was not renewed in 1810. The inflation following the 1812-1814 war led to the creation of the Second Bank of the United States in 1816 with a charter of 20 years. This second central bank repeatedly came under fire both from the more "orthodox" Eastern bankers as well as from the

younger states which wanted cheap credit to finance their expansion. Its charter was not renewed in 1936.

3. For the rest of the 19th century the US financial system functioned without a central bank. Some stability was introduced by the National Bank Act of 1863 which created a system of national banks which received a monopoly right to issue money. Since their note issue was limited to 90 % of the value of their portfolio of Federal Government bonds (the total value of which was also limited by law) their notes attracted a certain confidence. However, the system lacked a lender of last resort which at times amplified financial fragility. Another often voiced complaint was that the total amount of currency in circulation was not "elastic" enough to satisfy seasonal movements in the demand for it (this was a typical complaint from the agricultural sector).

4. Some authors characterise the financial system in the period 1863-1913 as the "grand compromise" with the Eastern banks adhering to a certain orthodoxy under the gold-standard system and the banks in the Southern and Western states engaging themselves regularly in speculative financing of, for instance, land development or railways. The major financial crises which occured during this period (1873,1893,1907) reinforced the call for the creation of a central bank. After the financial crisis of 1907-1908 a consensus developped that such an institution was needed to improve the country's payments system, to provide for seasonal currency needs and to support the soundness of banking as a lender of last resort. The idea was also to design a decentralised structure for this central bank based on the existing national banks. In 1913 the Federal Reserve Act was passed by Congress. The following sections provide a survey of the creation and the development of the Federal Reserve System.

B. The creation of the Federal Reserve System[1].

5. One major concern of the drafters of the Federal Reserve Act was to limit the concentration of power in the hands of either the national banks

---

1. The following sections draw heavily from Johnston (1982). Many assertions need to be checked carefully against other material collected.

(especially the large Eastern banks) or the government. In terms of the political debate of that time the fears were that the new organisation might be part of "growing socialism" or might be dominated by the "private Money Trust". Therefore the authors conceived of a decentralised central banking system based on a combination of private and public interests. The decentralised and private part of the Federal Reserve System (FRS) comprised twelve regional Federal Reserve Banks whose capital was suscribed by the private member banks located in the respective Reserve district each Bank was to serve (basically the former national banks?)[2]. These member banks elected six out of nine directors of their Reserve Bank. The other three directors of each Bank, including the Governor (as the presidents were then called) were to be appointed by the Federal Reserve Board, the centralised and public body of the System. The seven members of this Board included ex officio both the Secretary of the Treasury as Chairman and the Comptroller of the Currency and five members appointed by the President with the consent of the Senate[3]. To help insulate the Board from political influence the Act provided for long (initially 10 years) and staggered terms for the five presidentially appointed members). The Board would finance its activities by assessing the (private) Reserve Banks for coverage of its expenses. The Board was located in Washington (the political capital of the country).

6. Paragraph on construction of Reserve Districts ... How were Districts chosen? Why was the System not based on the political structure of the Federation (i.e. the various States) ... What was the state of financial and economic integration of the various Districts?

7. The issue of "independence" was not addressed directly in the Federal Reserve Act or in supporting House and Senate Reports. However, the issue of the System's financial independence was raised indirectly in 1914 in the debate on who should audit the Board's accounts. The Attorney General decided that since the Board was basically financed from public funds it would be

---

2. Member banks would be required to hold deposit (reserve) balances with their respective Reserve Bank but the reserve requirement ratio was fixed by the Act itself and could not be changed by the Reserve Banks or the Board.

3. From these five presidentially appointed members one was designated Governor and on Vice-Governor. Annex 1 lists the Board's membership as of 1st January 1918.

subject to audit by the Treasury. (The Act mandated the transfer of one-half of the Banks' net income to the Treasury. The other half could be added to the surplus of the Banks up to a limit of 40% of their paid in capital; once that ceiling was reached 90% of net income was due to the Treasury.)

8. The FRS's "independence" partly derived from the Act's iteration of the System's goals and partly from the assignment of the powers and authority to achieve these goals to the Federal Reserve Banks rather than to the Board. The basic goals of the FRS as set out in the Federal Reserve Act were to provide for (i) an elastic currency ,i.e. one whose volume would not be tied to the security and backing of bonds held by national banks but by a (minimum) gold reserve equal to one-third of newly issued and outstanding Federal Reserve notes[4] (ii) a source of financial stability via its lending to commercial banks and its ability to supervise the banks (iii) a more effective payment system. The reason why the first two goals were defined in such a vague way had to do with the fact that System policy (the term monetary policy was then not used) was to be guided by the then recognised principles of the gold standard and real bills doctrine[5].

9. The principal duties of the Federal Reserve Board were: to examine the accounts and affairs of each Federal Reserve Bank; to review and determine discount rates set by the banks (the word determine was highly ambiguous and led to intense Board-Banks disputes); to appoint three directors on each Reserve Bank's Board, inluding its Governor; set rules under which the Banks could conduct market operations; and levy annual assessments on the banks to cover the Board's expenses. On the other hand, it was the function of the Reserve Banks to administer the discount window and to establish rates of discount to be charged subject to "review and

---

4. To the extent that the gold backing exceed the minimum required, the System obtained some discretion to expand (or contract) currency in circulation.

5. The working of the gold standard implied that the total money supply would over time match the demand for money (gold flows would set in motion the necessary mechanisms for correcting situations of excess supply or demand for money). According to the real bills doctrine the regional banks would discount only so-called "self-liquidiating" short-term commercial loans and would thereby create exactly the amount of money required for local use.

determination" by the Federal Reserve Board. Individual Banks were to fix their discount rate with a view of "accomodating commerce and business". Individual Banks could also conduct purchases and sales of notes, bills, bankers' acceptances, drafts arising out of commercial transactions and government obligations. These operations were initially undertaken by the Reserve Banks to provide them with a source of earnings from which to finance their expenses. As a matter of fact, neither the provision of rediscount facilities or the other Bank operations were at that time seen to provide an active tool of economic (monetary) policy.

10. It was the intent of the Federal Reserve Act's authors that Federal Reserve Board members would not be subject to control from the Executive branch of the Government, notwithstanding the ex officio membership of the Secretary of the Treasury - as Board Chairman - and of the Comptroller of the Currency and the presidential appointment of the other Board members. Not only did the Act require the Board to make a full written report every year of its operations to the Speaker of the House of Representatives for the information of the Congress but the House Report on the Act also stipulated that through this reporting a direct relationship between the Board and the Congress would be established. Congress also retained some influence on the functioning of the Federal Reserve System: it could,for instance, set ceilings on the level of Governors' (Bank Presidents) salaries.

C. The early years of the Federal Reserve System's operations

11. The outbreak of the First World War shortly after the founding of the Federal Reserve System meant that Fed officials at both the Board and the Reserve Banks received little time to reflect on the System's role and policies. For one, the primary objective of the System quickly became the accomodation and facilitation of Treasury financing requirements. The Secretary of the Treasury transferred some fiscal agency functions of the Treasury to the Federal Reserve Banks and urged that the Reserve Banks adjust their discount rates to the rates on Treasury securities to help finance the war effort[6]. At the same time, the discretionary powers of the System

---

6. The Reserve Banks established preferential discount rates on advances to (Footnote Continued)

expanded rapidly when the US left the gold standard during the war (it would only briefly be restored during the 20s).

12. The first years of the System's existence were characterised by heated disputes between the Treasury on the one hand and the other Board members and/or the Reserve Banks on the other. For instance, the Secretary of the Treasury opposed efforts by several Board members to reduce the number of Reserve Banks by making four money-losing Banks branches of other Banks. He also advocated subjecting the Federal Reserve Board to the congressional appropriation proces in order to eliminate the Board's financial dependence on the Reserve Banks and increasing to eight the number of Board appointed directors of the Banks.

13. The major issue which cropped up soon after the end of the war concerned the authority to set the discount rate. It reflected the ambiguity which the original Reserve Act had left with respect to the ultimate responsibility for overall System policy. The Board's authority was strenghtened somewhat by a ruling of the Attorney General in 1919 that it did have ultimate authority over Reserve Banks' discount rates but confrontations between the Board, the Treasury and the Reserve Banks continued during the 20s[7]. However, as long as the context remained one in which it was thought that adherence to the rules of the gold standard and the rediscounting of "real bills" would automatically stabilise the monetary system, System policy did not attract all that much political attention.

14. It was only slowly - and partly by accident - that officials at both the Reserve Banks and the Board came to realise the implications of their

---

(Footnote Continued)
member banks secured by government securities at rates usually well below the coupon rates on current government issues. In 1917 the Treasury Secretary also pressured the Reserve Banks into extending the Treasury two tax loans at below market rates. (When the other Board members objected to this, he threatened to take over all the Reserve Bank's funds under the Wartime Overman Act.)

7. The "classic" confrontation occured in 1927 when the Reserve Bank of Chicago refused to accept the Board's request that its discount rate be lowered from 4 to 3.5%. Ater a 5-4 vote the Board then announced that in the exercise of its power of "review and determination", it was fixing the Chicago Reserve Bank's discount rate at 3.5% on all classes of paper of all maturities. The Governor of the Chicago Fed shortly resigned and the Reserve Banks and the Treasury continued to question the legality of this action.

actions on the economy. In 1922 the Conference of Reserve Bank Governors organised a committee - without Board representation - to centralise and coordinate purchases and sales of Government securities through the New York Federal Reserve Bank. They had discovered that purchases of securities by individual Reserve Banks as well as lending through the discount window were in fact exerting significant effects on market interest rates and on economic activity. (More analysis required. Why did this suddenly become apparent? Were financial markets becoming more integrated? Was the weight of the New York markets so important? Was independent use of discount policy and market operations by each Reserve Bank impossible?) As a result, using the reserve position of member banks and the call loan rate as indicators, a policy developed to coordinate window lending and market operations to offset "seasonal" swings in economic activity[8]. It is interesting to note that the Reserve Banks' effort to coordinate their operations through the Conference was laying the groundwork for the future centralisation of power within the System.

15. Indeed, quite soon afterwards - in 1923 - the Board brought the Reserve Banks' "Open Market Investment Committee" under its supervision by arguing that the Federal Reserve Act had given it supervisory authority over the Reserve Banks' market operations. Henceforth formal approval had to be given by the Board to the Committee's policy recommendations. At the same time, however, the Treasury frequently by-passed the Board to deal directly with the Reserve Banks (especially the New York Fed) in their capacities as Treasury fiscal agents. As a result of the perceived confusion surrounding the design of System policy which had come to the fore before and during the 1929 "crash" a significant step in the direction of greater centralisation was effected in 1930. The Open Market Investment Committee was replaced by an "Open Market Policy Conference" in wich each Reserve Bank and all Board members were represented and which convened on call of the Board Chairman (the Secretary of the Treasury). Policies and plans recommended by the

---

8. In Annex II a graph is reproduced showing the timing of purchases and sales of Government securities by the Federal Reserve Banks as well as changes in discount rates in relation to the index of industrial production (the graph wrongly depicts it in terms of percentage changes in the index). The graph is taken from Willis (1936).

Conference were still subject to formal approval by the Board while implementation remained with the Reserve Banks - basically the New York Bank.

D. The 1930's: increased independence and centralisation

15. The debacle which followed the 1929 crash and the internal disputes at the Federal Reserve System led to an extensive investigation by Congress on the role and functioning of the System[9]. After two years of hearings and debates the Senate Committee on Banking and Currency in 1933 came to the conclusion that the System needed to be restructured and specifically recommended an "increase of independence of the Federal Reserve Board". The Banking Acts of 1933 and 1935 set out to do so. The 1933 (Glass-Steagall) Act - best known for its provision that required the separation of commercial and investment banking - formalised the Open Market Policy Conference which was to meet at least four times a year at the Board. Institutionalising existing practice it further stipulated that open market operations would be conducted "with a view to accomodating commerce and business and with regard to their bearings on the credit situation". Reserve Banks retained some independent influence on the operation of System policy by the provision that while no Reserve Bank could engage in open market transactions except in accordance with Board regulations an individual Bank could still opt not to participate. The Act also increased the terms of the presidentially elected Board members to 12 years and institutionalised the System's financial independence by declaring the Board assesements on the Reserve Banks not to be Government funds: the Board's budget was therefore no longer to be audited by the Government Accounting Office.

17. The design of the structure of the Federal Reserve System as it is known today basically dates back to the 1935 Act. Several provisions of the 1935 Banking Act further increased the independence of the Board both vis-a-vis the Treasury and the Reserve Banks. Both the Treasury Secretary and the Comptroller of the Currency were removed from ex officio membership of the Board, which was itself renamed Board of Governors. The new Board was reshaped to consist of seven members, now called Governors, whose

---

9. An extract of the Senate Committee on Banking and Currency's Report is given in Annex III.It is taken from Johnston (1982).

presidential appointment still had to be confirmed by the Senate but who were to serve for 14 year (staggered) terms. The President was also to designate the Chairman and the Vice Chairman of the Board both of whom would serve a four year term. The regional structure of the System was left in place but the Chairmen of the individual Reserve Banks' Board of Directors were downgraded to "Presidents". More significantly, however, the replacement of the Open Market Policy Conference by a newly defined Federal Open Market Committee deprived the Federal Reserve Banks of substantially most of their power to influence System policy. Indeed, the FOMC was structured to consist of all seven Board members plus (only) five representatives of the Reserve Banks. Individual Reserve Banks were to be serve on a rotating basis except for the Federal Reserve Bank of New York which was accorded permanent membership. Member Banks could no longer decline to engage in open market operations. Furthermore, the 1935 Banking Act also gave the Board explicit authority to approve and disapprove the appointment of Federal Reserve Bank Presidents and required Reserve Banks to set their discount rates, subject to Board review and determination, every 14 days, or as often as the Board deemed necessary.

18. To summarise, it can be said that the Act abandonned the original concept of Federal Reserve System independence based on a geographical decentralisation of decision making and an important influence from the private sector for a more clearly defined political independence of a more centralised government institution. With effective power and authority now lodged with the Board[10], it is not surprising that the System's independence came to depend on the skill with which the Board formulated and implemented its policy. It also enhanced the role of the Board Chairman who was to become the System's principal spokesman and representative. The Board was, however, required to keep a complete record of actions and votes taken by it and the FOMC on all questions of policy "and the reasons underlying such actions". The Board's Annual Report would give a full account of the actions taken.

19. At the request of some Board and staff members an effort was made to include in the 1935 Act somewhat more specific guidelines for the System's policy. This reflected the better insights into the effects of the System's

---

10. The Board was also given additional authority, for instance to vary reserve requirement ratios within the range set by the Act.

policy on financial and economic conditions which the experience of the previous 20 years (and the development of economic theory) provided. However, as a result of the disputes about what specific objectives the System should set itself the Act did not include any new policy guideline. Nevertheless it raised Congressional awareness of the potential for legislating policy mandates for the Federal Reserve System.

E. The Federal Reserve-Treasury Accord and the Employment Act

20. During the second World War the Federal Reserve's policy again consisted in helping the government to finance its war expenses. It did this by pegging the interest rates on government securities by purchasing them whenever necessary to keep their price from fluctuating beyond a very limited range[11]. However, this support policy was not reversed immediately after the war had ended but continued for another five years. It was only in 1951 that an Accord was reached between the Federal Reserve System and the Treasury to end the pegging policy. As a result the System (Board) regained its independence in formulating "monetary" policy, a term which was by now regularly used in academic as well as in policy circles[12]. At the same time, the discretionary powers of the Federal Reserve to set monetary policy would from then on regularly come under attack both from private (academic) and the public sector (the Administration and Congressmen).

---

11. The benchmark for interest rates on long-term government bonds was 2.5% while bill rates were supported at rates of around 0.25-0.40%. At the same time the Treasury - apart from considerably raising income tax rates - issued so-called defense bonds with a yield of about 3.5%.

12. After the Accord the Federal Reserve set itself the some rules for the conduct of its open market operations. These consisted of (i) confining open market operations to the short end of the government securities market - a policy known as "bills only" (ii) not supporting any particular pattern of prices and yields and (iii) intervention in the securities market solely with the intent to achieve the objectives of monetary and credit policies, mainly bank reserve positions. At the end of the fifties the "bills only" was abandonned and in the 1960s the System attempted to influence directly the term structure of interest rates. Through "operation twist" it was tried to keep long term interest rates down (to stimulate the economy) while at the same time resisting downward pressure on short-term interest rates (to support the dollar in the foreign exchange market).

21. During the war political awareness of the potential influence of government economic policies on economic and financial developments had hightened. This led to the Full Employment Act of 1946 which formalised basic economic goals for the nation. The Act declared it to be the "continuing policy" of the Federal Government to "promote maximum employment, production and purchasing power". To attain this the Government was to "coordinate ... all its plans, functions and resources". However, the Act, which amongst others required the President to set out the economic goals of his Administration in his annual Economic Report to Congress, did not mention either the Fed or monetary policy specifically. Though admitting that the 1946 Act also applied to the Federal Reserve System, the Chairmen of the Board in official testimonies and speeches would continue to argue in favour of discretionary (i.e. independent) monetary policy.

F. Moves to restructure the Fed since 1950

22. During the last thirty years various efforts were made by a number of congressmen to restructure the Fed or to amplify or to refine the goals which had been set in the 1946 Employment Act. Partly because the debate on how exactly to define appropriate monetary policy remained so controversial but also because Congress was reluctant to give up its ultimate control over the Fed (it can amend or change the Reserve Act) many proposals did not receive enough political support. However, a number initiatives taken by the Congress did have significant influence on the functioning of the System and on its "independence". To highlight the recurring debates with respect to the role of the Fed and its position within the government structure a brief survey of the major controversies and of congressional actions may be useful.

23. The recommendations of the Commision on Money and Credit (was this a Congress initiative? composed of Congressmen? ...) in 1961 have continued to shape various congressional proposals aimed at modifying the Fed's independence. The Commission's recommendations included, amongst others, a reduction of the Board from seven to five members and a shortening of their terms to ten years, the removal of the Reserve Bank Presidents from the FOMC and letting the terms of the Chairman and the Vice Chairman coincide with that of the President. Considerations were also taken into account to giving the Board sole authority over the discount rate, retiring Federal Reserve

Bank stock and replacing it with some form of certificate of membership and requiring all insured commercial banks to become members of the System.

24. Though Congress during the sixties and seventies regularly increased the Fed's responsibilities in the field of consumer protection[13], various congressional proposals were made to relieve the Fed of its supervisory and regulatory functions and to let it concentrate instead on the conduct of monetary policy. Given the complexity of the supervisory structure in the United States most proposals in this field have not resulted in concrete political decisions.

25. Various attempts were made during the sixties and early seventies to subject the Fed to audit by the Government Accounting Office not least because the rapid expansion of the Fed's responsibilities had boosted its expenditures. In 1978 the Federal Banking Agency Audit Act was passed which provided for GAO audit of the Fed with the exception, however, of its transactions conducted on behalf of foreign governments and central banks and of deliberations and actions on monetary policy matters[14]. GAO access to bank examination reports was also limited. At about the same time (1976) the Congress passed the Government Sunshine Act with the purpose of opening the business meetings of Federal Agencies to the public. This Act also applied to the Federal Reserve System. (What was concrete result? publishing FOMC deliberations?)

26. With the aim of making the Fed more "accountable" the Congress in 1977 passed the Federal Reserve Reform Act. One of the most important provisions of the Act called on the the Fed to pursue policies consistent with the 1946 Employment Act. At the same time the Board was called upon to report semi-annually to the House and Senate Banking Committees on its monetary policy goals and targets for the next twelve months. The Fed was also asked to maintain long term growth in the monetary aggregates to foster increased production, maximum employment, stable prices and moderate long

---

13. Including, for instance, the Truth in Lending Act, the Consumer Credit Protection Act and the Fair Housing Act (1968); the Fair Credit Reporting Act (1971); the Real Estate Settlement Procedure Act (1974); the Equal Credit Opportunity Act and the Home Mortgage Disclosures Act (1975).

14. Including discount window operations, reserves operations (open market operations?) and FOMC operations.

term interest rates.[15] The Act also broadened the qualifications of the Reserve Bank directors nominated by the member banks and required Senate confirmation of the Chairman and the Vice Chairman of the Board in these specific positions (not just as Governors per se). Other proposals raised during the discussion but which did not receive enough support included one to have the Reserve Bank Presidents also appointed by the President on confirmation of the Senate.

27. The Full Employment and Balanced Growth Act of 1978, known as the Humphrey-Hawkins Act, amended the Employment Act of 1946 by setting out a very ambitious and fully spelled out economic program. The Act also extended the procedures by which the Fed was to report to Congress. It stipulated that the System submit to the House and Senate Banking Committees, no later than February 20 and July 20 (i) a review of recent economic developments, (ii) the FOMC's plans regarding the range of growth or diminution of (specific?) monetary aggregates during the calendar year, (iii) their relationship to the short-term economic goals of the President as stated in his Economic Report. The July 20 report was also to include a similar statement with respect to the aggregates during the following year. However, the potential resulting constraint on monetary policy was relaxed by the provision that allowed the Fed to decide independently on any changes in or deviation from its objectives as long at it explained the reasons for doing so in subsequent reports and consultations.

28. The Depository Institutions Deregulations and Monetary Control Act of 1980 considerably reshaped the environment in which the Fed operates. The basic aim of the Act was to liberalise the financial system in the United States, for instance by providing for the phasing-out of ceilings on bank deposit and achieving a more level playing field for depository institutions. Partly on proposal from the Fed[16] the Act also introduced universal reserve requirements on all deposits at all commercial - member and non-member - banks and on transactions accounts at thrifts, opended access to all banks

---

15. The latter two provisions reaffirmed those of the House Concurrent Resolution 133 of 1975.

16. During the seventies the reduced interest by commercial banks in membership of the Federal Reserve System had contributed to weakening the relationship between bank reserves which only member banks were required hold and monetary aggregates.

(and thrifts?) to the System's payments-related services and provided for explicit pricing of these services. Other important measures? Impact of the Act? Improved monetary control?

G. The role of the Federal Reserve System in external monetary relations

- the Fed and international monetary cooperation (including its role in US official foreign exchange market intervention ...)
- the Fed and central bank swap arrangements

H. Conclusion: what can we learn from the evolution of the Federal Reserve System?

- originally Fed independence was not very strong (Treasury dominance of Board and conflicting views on policy of individual Reserve Banks)
- original distribution of powers between Board and Federal Reserve Banks was ambiguous and led to strong disputes
- early experience showed need for more independence and centralisation
- the debate on the role of FRS policy in the context of general government policies is an ongoing process (The Federal Reserve Act can be amended or changed by Congress which can also give policy mandates to the Fed)
- the Federal Reserve's independence in international monetary cooperation is limited (?)

I. Conclusion reached after a first and brief review of the origins and history of the Federal Reserve System.

Our investigations do not always support the views of various European authors and commentators on the functioning and independence of the Federal Reserve System. It must be obvious from the analysis above that we find it particularly difficult to agree with Prof. Thygesen when he states that: ... one can take the FRS as a model for a European central bank. ... The regional Reserve Banks continue to have significant power. The Board only disposes of minimal power with respect to the execution of policy. ... The Board has a coordinating and advisory function but leaves a large margin for manoeuvre to

the System (freely translated from his interview with Wirtschaftswoche on 19th of August 1988).

References

Friedman, M. and Schwartz, A.: A Monetary History of the United States, 1867-1960, National Bureau of Economic Research, 1963

Johnston, V.B.: The Origin and Evolution of the Concept of Fed "Independence" - 1913-1982, Federal Reserve Bank of San Francisco, 1982, mimeo

Cargill, Th.: Money, the Financial System, and Monetary Policy, Prentice-Hall, Englewood Cliffs, N.J., 1979

Groseclose, E.: America's Money Machine, The Story of the Federal Reserve, Arlington House Publishers, Westport, Connecticut, 1980

Woolley, J.: Monetary Politics, The Federal Reserve and the Politics of Monetary Policy, Cambridge University Press, 1984

Timberlake, R.: The Origins of Central Banking in the United States, Harvard University Press, 1978

Clifford, A.J.: The Independence of the Federal Reservwe System, University of Pennsylvania Press, Philadelphia, 1965

Willis, H.P.: The Federal Reserve System, Legislation, Organisation and Operation, The Ronald Press Company, New York, 1923

Willis, H.P.: The Theory and Practice of Central Banking, With Special Reference to American Experience 1913-1935, Harper & Brothers Publishers, New York and London, 1936

Willis, H.P. and Steiner, W.: Federal Reserve Banking Practice, D. Appleton and Company, New York - London, 1926

Bach, G.L.: Federal Reserve Policy-Making, Alfred A. Knopf, New York, 1950

Melton, W.: Inside the Fed, Making Monetary Policy, Dow Jone-Irwin, Illinois, 1985

Caesar, R.: Der Handlungsspielraum von Notenbanken, Theoretische Analyse und Internationaler Vergeich, Nomos Verlaggesellschaft, Baden-Baden, 1981

Congressional Budget Office, Congress of the United States, The Budgetary Status of the Federal Reserve System, Washington, 1985

Federal Reserve Board, various Annual Reports and Bulletins

Annex I

FEDERAL RESERVE BOARD. (Jan. 1918)

EX OFFICIO MEMBERS.

WILLIAM G. McADOO,
Secretary of the Treasury, Chairman.

JOHN SKELTON WILLIAMS,
Comptroller of the Currency.

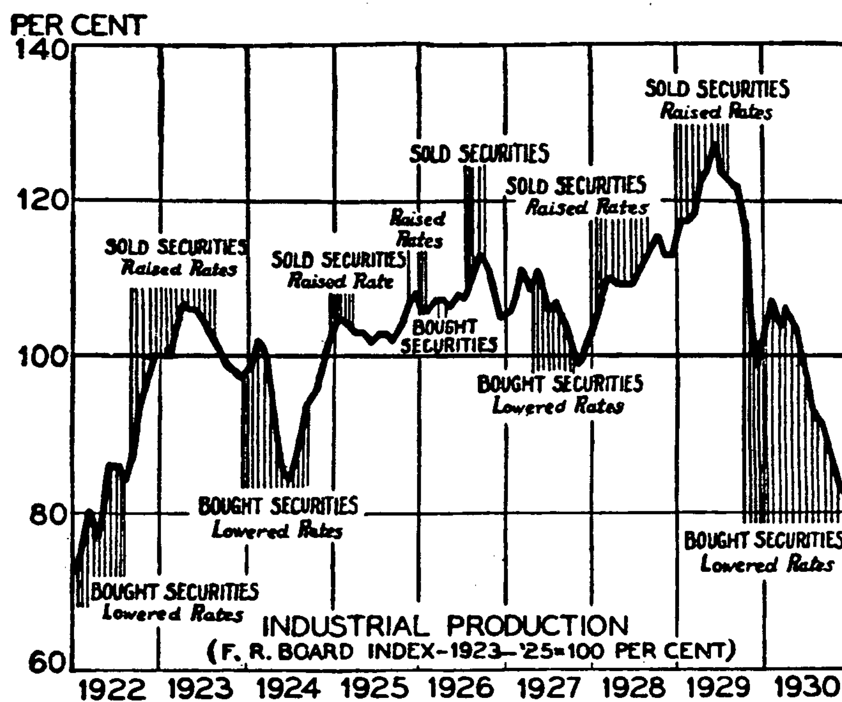
W. P. G. HARDING, *Governor.*
PAUL M. WARBURG, *Vice Governor.*
FREDERIC A. DELANO.
ADOLPH C. MILLER.
CHARLES S. HAMLIN.

H. PARKER WILLIS, *Secretary.*
SHERMAN ALLEN, *Assistant Secretary and Fiscal Agent.*

M. C. ELLIOTT, *Counsel.*

Annex II

DIAGRAM II. RESERVE POLICIES AND FINANCIAL CONDITIONS



Timing of purchases and sales of Government securities and discount rate changes compared with changes in the volume of industrial production

Annex III

"The Federal Reserve has been seriously impaired of recent years and has wandered far away from its original function. This is the result of many complex conditions (including) the uncertainty of policy in the manner of exercising plainly authorized control by the central supervisory authority at Washington, and the tendency to submit rather timidly to considerations of immediate expediency. Among the Reserve Banks themselves there has been a decidedly dangerous drift toward the conversion of the System into a medium for transacting financial rather than commercial business. Further ... understandings or agreements with foreign central and other banks, and the attempt to carry out plans and measures of a hazardous nature relating to discount rates, *and problems of technique*, have had unfortunate results"23/. (italics added)