

Six Recent Reports On Financial Derivatives: A Critical Appraisal

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1. Introduction

This Paper critically reviews six recent reports on financial derivatives. All six reports responded to an increasingly vociferous public debate about the effects which these instruments may have on the overall stability of today's financial system. While this feature constitutes their biggest common denominator, there are substantial differences with regard to their approach and conclusions.

In preparing this paper, interviews were conducted with most of the editors and authors in Washington, London and Basle. Desk research was conducted at the Swiss Institute of Banking and Finance and at the Wharton School.

It is the following papers which will be appraised:

1. Recent Developments in International Interbank Relations, BIS, Basle (1992)
2. Derivatives: Report of an Internal Working Group, Bank of England (1993)
3. Derivatives: Practices and Principles, G-30, Washington (1993)
4. OTC Derivative Markets and their Regulation, CFTC, Washington (1993)
5. Financial Derivatives: Actions needed to Protect the Financial System, General Accounting Office, Washington (1994)
6. Risk Management Guidelines For Derivatives, BIS, Basle (1994)

Where necessary, some private sector publications will be cited and compared as some of them have had a profound impact on the public debate.

The paper is organized as follows. After a brief discussion of the nature and motives of the editors most of the paper is devoted to a comparison of the major arguments the reports bring forward. The paper concludes with some critical remarks.

2. The Editors

2.1. Bank of International Settlements, Basle

Little needs to be said about the Bank of International Settlements, located in Basle, Switzerland. Its traditional task is to foster international monetary cooperation and to monitor developments in international banking and capital markets as well as to consider issues relating to the functioning and stability of financial markets. In particular its Basle Committee on Banking Supervision coordinates international supervisory arrangements and sets minimum standards for the supervision of international banking groups. Hence the BIS has similar interests as most politically independent central banks. Its monitoring function makes it the natural editor for a study on derivatives. Published in 1992 the BIS Study can be said to be the first of its kind. As such it was also first in highlighting the strong growth of OTC-derivative markets as a cause for public concern.

2.2. Bank of England, London

The Bank of England has always pursued a policy of running a strong publications record on matters related to central banking issues. Despite the fact that this report was released a little earlier than the G-30 report, it never advanced to an influential contribution in the public debate. Probably this is due to two major weaknesses. Firstly, its conclusions are relatively vague by most standards. Secondly, it failed to include any estimation of the size and/or scope of derivative markets. In that it certainly missed something of urgent interest in the public debate.

2.3. Group of Thirty, Washington

The G-30 is a high profile Washington based think tank with publications ranging over a wide variety of topics. While its ideological orientation is not always very clearcut it has certainly been promoting the industry view in this case. This aspect is readily evidenced by a quick glance at the steering committee of its derivatives project which includes most of the chairmen of the biggest derivative dealer firms. The G-30 Report was probably the most widely discussed derivatives report. This may not only have to do with its high readability but also with its early date of publication which gave it a noticable first mover advantage.

2.4. Commodities and Futures Exchange Commission, Washington

The CFTC is part of the complex US-regulatory system whose responsibilities lie with the jurisdiction over all futures contracts. Its activities are focused on ensuring the financial stability of regulated Futures Commission Merchants but it has no power to regulate the growing business of OTC-derivatives. It should be pointed out that at the time this report was prepared, America experienced an intense debate about the reform of its regulatory system. One of the major themes in this debate was the future regulation of OTC-derivatives. This obviously caused some concern among members of the various regulatory bodies about their future role and resources within the US financial system. It seems fair to comment that this debate was a contributing factor in the CFTC's decision to prepare a comprehensive paper on the size and scope of US OTC-derivatives.

2.5. General Accounting Office, Washington

Being Congress' investigative arm the General Accounting Office (GAO) forms part of the Comptroller General of the US. Per request it provides Congress with research material and recommendations on topics of current political interest. Given the close vicinity and the political culture of the Washington political establishment it should come as no surprise that GAO is often considered Congress's voice. Hence the ideological bias of this report. This bias is about as prevalent as that in favour of the industry view of the G-30 report which is clearly its major counterpart.

3. Major Risk Categories Identified

Not surprisingly, there is substantial correspondance with regard to the identification of major categories of risks involved in the derivatives business. Yet some disagreement exists in the assessments of those risks. The following table summarizes very briefly the relative importance which the studies attach to the relevant risk categories from a systemic point of view. In drawing up this table, the risk categories were chosen to best reflect the major concern of these studies. They should be attributed with the following meanings:

Market Risk: The exposure to the possibility of financial loss resulting from unfavourable movements in market parameters, such as interest and currency rates as well as equity and commodity prices.

Settlement Risk: The exposure to the possibility of financial loss resulting from settlement failures which can cause widespread disruption of payment systems.

Credit Risk: The exposure to the possibility of financial loss resulting from a counterparty's failure to meet its financial obligations from a derivative contract.

Systemic Risk: The possibility that due to some unforeseen event the liquidity of a financial system suddenly dries up causing chain reactions such as counterparty defaults or asset price crashes and a breakdown of the financial system as a whole.

Legal Risk: The exposure to the possibility of financial loss resulting from legal uncertainties, such as an action by a court or by a regulatory or legislative body that could invalidate a financial contract or a netting agreement.

The studies' assessments about the relevance of these risk categories as a cause for public concern varies. Using a simple 1-5 scale it was attempted to provide a consistent cross comparison of the different attitudes.

	BIS 1992	BoE	CFTC	GAO	G-30	BIS
1994						
Market Risks	2	1	2	4	1	

Settlement Risks	3	3	3	2	2
Legal Risks	4	3-4	4	4	4
Credit Risks	3	2	3	5	1-2
Systemic Risks	4	2	3	5	2
General Comment Concerned with practical guidelines for managing Derivative It provides thoroughly formulated management proposals and contains public policy concerns. makes		The study contains mostly qualitative statements of market participan ts on which it briefly comments	The report remains very general. It rather reports others' opinions than gives an original assessment of the risk categories .	This study has the strongest conclusion s. It is thoroughly researched and highly readable. Similarly to the GAO study it is no well researched and an excellent reading.	The G-30 report clearly represents the industry view. It served as a basis for many other reports. Similarly to the GAO study it is no well researched and an excellent reading.

Table 1: 1 = Practically no cause for publi concern; 2 = Little cause for concern; 3 = Can cause concern for regulators and supervisors; 4 = Important cause for concern; 5 = Key concern for regulators and market participants. (Sources: Various reports)

While the table can only give a very stylized indication of how the reports deal with different risk categories, their general attitude should be clear. The GAO report is characterized by the highest degree of concern over the new risks which it suspects in derivative markets. According to its authors the key concerns that must be dealt with are the credit risks involved in derivatives and the increased linkages

among financial systems and financial intermediaries. These increased linkages heighten the potential for systemic risk. Also, it believes that the continuous management of the aggregate market risks that an institution with a strong exposure towards derivatives carries, can become too complex for some participants.

The strongest counterpart to this is the G-30 study. It elaborates eloquently that nowhere but in the field of derivatives has the management of market risks become as advanced and sophisticated. The report also considers the credit risks involved in this market to be of little concern because the average counterparty creditworthiness is clearly higher than in traditional loan markets. As to systemic risks it considers them to be even lessened through derivatives. This is because derivatives can improve the informational efficiency of prices which should lead to lower volatility.

In assessing these polar approaches no single position can be exclusively upheld. There are some highly relevant arguments in both studies which cannot easily be dismissed. It is unfortunate that no real middleground study exists. What comes perhaps closest to this is the CFTC study. Nevertheless it fails to deliver its own conclusions or recommendations and is instead a more descriptive report. But its great merit lies in presenting a lot of relatively unbiased information about global derivative markets.

Some questions would have been interesting to address but were mostly left out in all six reports. For instance the issue of a liquidity crisis in derivative markets is nowhere seriously discussed. Consequently recommendations about liquidity, market transparency or market architecture remain vague in all of the six reports. Payment Systems Risks were identified as such but received little further investigation. Furthermore the issue of leverage is never really touched. While this does not seem to be of similar importance as the liquidity issue or settlement issue it is still a major concern in the public debate.

Other important aspects were generally mentioned but rarely pursued. These include the industrial structure of the OTC derivative market, the lack of market and price transparency among market participants and the issue of systematic inefficiencies or externalities which could be associated with derivatives.

4. Nature, Size and Scope of the OTC Derivative Markets

Most of the reports try to give an impression of the size of the markets for derivatives. In this attempt the G-30 study certainly set the pace. However, its primary datasource was the ISDA-database (International Swaps and Derivatives Dealers Association). While this approach was also followed by the BIS it suffers from several shortcomings. One is that it counts only the measured activity by those ISDA members who fill out the questionnaire. Thus not only non-members are excluded but also those members who did not respond to the questionnaires. The extent to which ISDA underestimates the true size of the markets varies by currency. It probably captures most of the US market. But there are other currency segments where its coverage is much smaller.

Another widely quoted source of information is the replacement costs of interest and exchange rate contracts which are summarized in the filings of the Federal Reserve. It goes without saying that these numbers only give an indication of the level of activity in the US. This represents about half of the global OTC-derivatives business. However, due to their aggregation method they are also flawed in a different way. Their replacement costs are lumped together regardless of product type or other classification such as their counterparty. Nothing is thereby revealed about the different replacement costs of, say, interest rate swaps as compared with FRA's, or FX forwards as compared with currency swaps.

The data in the Fed filing are accompanied by data for notional amounts. These understate the true size of the derivative market because they exclude covered options. Furthermore they are subject to the same methodological shortcomings as was discussed before.

The overall size of the OTC derivative market as estimated by the reports under consideration can be summed up as follows:

(US\$	Interest	FX	Total	Equity &	Nonallocatab	
le			in bio)	Rate		Commodities
		GAO 1991	24 '708	10 '752	9 '537	678
3 '741		G-30 1992	3 '281	1 '200	1 '950	131
-		BoE 1991	4 '080	2 '750	700	-
-						

CFTC 1991	4'003	3'056	807	131
CFTC 1992	4'853	3'851	860	142
BIS 1992	4'080	2'750	700	-

Table 2: (Sources: Various reports)

How does GAO come up with such drastically different numbers? Primarily it is more comprehensive in terms of the products covered, eg it includes forwards and options. Especially interest rate and FX forwards represent a very large market segment which account for most of the difference. In addition, the study tried to avoid the limitations of the ISDA-database by relying more on the Swaps Monitor Database which does seem like the most comprehensive database on the derivative market activities.

An interesting attempt to break down notionals according to their maturity ranges and their creditworthiness is made in the CFTC study. The numbers it compares are inconsistent in that they mix information provided in the Swaps Monitor Database with the ISDA Database. However, given the apparent lack of better alternatives there is certainly some merit in this approach.

Practically all studies cite a high degree of market concentration but they differ in its assessment. While the G-30 report is confident that this market is in fact a quality cartel, the other studies are more concerned with the potential effects of the failure of one market participant. The estimated market shares of the top ten derivative dealers vary between the different studies from 50% (G-30) to 90% (GAO). The GAO picture is at least partially supported by the growing relative importance of credit exposures on derivatives as compared to loans. In addition the G-30 study, the CFTC study and the GAO report tried to give an impression of the counterparty credit ratings involved in these markets. Having relied to a large extent on the Swaps Monitor Database they all come up with similar estimates which look like the following table:

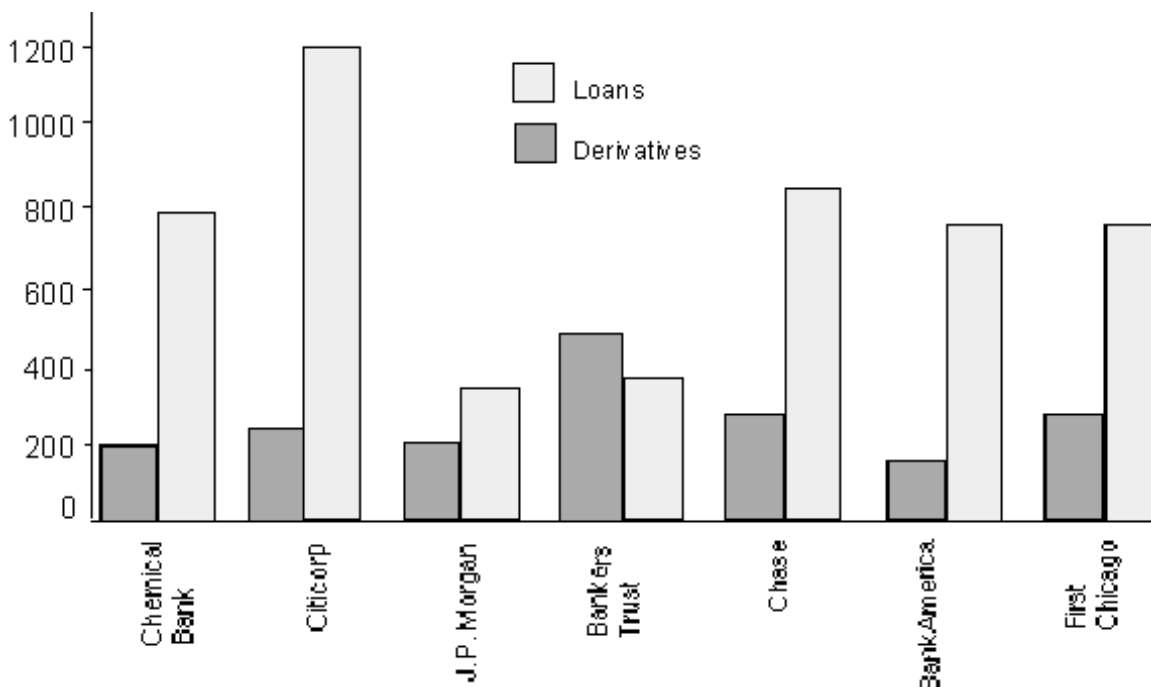


Figure 1: Credit exposures of derivatives and loans of U.S. banks as a percentage of equity, 1992. (Sources: Various annual reports)

Credit Rating	Number of Companies	Outstanding Notionals (Swaps)	Percent
AAA or Aaa	21	\$ 535	9.7
AA or Aa	34	1'747	31.7
A	78	2'023	36.7
BBB or Baa	38	1'066	19.4

Total investment grade	171	\$ 5 '371	97.5
Speculative	15	30	0.6
Unrated	14	106	1.9
Total noninvestment grade	29	\$ 136	2.5

Table 3: 1993 Credit ratings of 200 companies with more than \$ billion in swaps outstanding as of year-end 1991. (Source: GAO).

It is undisputed that the likelihood of default losses on investment grade credit exposure is low. A major credit rating agency found that the worst 1-year default rate for investment grade issuers was 1.1 percent for those firms that had Baa ratings within the prior years. The demand for top credit rating among OTC market participants has provided an incentive to create separately capitalized AAA-Vehicles. No consideration was given to explaining the approach of the major rating companies in scrutinizing derivative dealer firms. Also the fact that a good credit rating may be subject to quick depreciation in case of a financial crisis or a bank run is not discussed.

5. Regulatory Overview and Recommendations

All six studies expressed some concern about the current regulatory situation with regard to derivatives. But, as will be seen with the recommendations of the studies, the cause for concern is sometimes fundamentally different.

The CFTC report and the GAO report stand out for their comprehensiveness and rigorous structure. In fact, the CFTC regularly releases a publication which describes and compares regulatory features of derivative markets, products and financial intermediaries. In this respect both reports deserve to be considered benchmarks against which other studies should be measured.

One of the principal findings of the GAO study is the identification of major regulatory gaps in the US. It reckons that these may potentially exacerbate systemic risk in the financial system. GAO is concerned that in the US regulatory system "basic regulatory controls did not exist for many major US OTC-derivatives dealers". In particular it worries about the absence of examination requirements and capital requirements for securities firms affiliates and insurance firms affiliates. This is a relevant concern. Such firms not only account for more than 30% of OTC dealers' total volume, but also did their growth rate from 1990 to 1992 by far exceed that of banks.

Furthermore GAO's principal concerns with regulatory issues can be summed up as follows:

1. The institutional regulation - as opposed to a functional approach - of the US regulatory system complicates the regulatory oversight. An adequate reform is needed.
2. Regulators are not collecting sufficient information on credit risk and earnings to identify potential counterparty problems as they develop.
3. Existing bank capital requirements for derivatives currently do not address all risks.
4. Lack of best practice standards as well as legal uncertainties hamper regulators ability to evaluate banks capital adequacy.
5. Bank regulatory examinations do not adequately assess internal risk management controls.
6. Accounting principles for derivatives have not kept pace with business practice. - The report falls short of admitting that accounting principles will probably never fully keep up with derivatives business practices und hence doesn't discuss the consequences of this disclosure gap.

None of these or other concerns is uttered in the G-30 report. Instead, it restricts itself to four regulatory recommendations, urging regulators to:

1. recognize netting
2. remove legal and regulatory uncertainties
3. amend unfair tax treatments which put derivatives at a disadvantage
4. provide comprehensive and consistent guidance on accounting principles for derivatives.

Similarly the BoE report takes a more complacent view. It is more concerned about regulatory risks arising from non-anticipated effects of changes in the regulatory structure than it is with a perceived lack of regulation. Given the strong British self-regulatory traditions this hardly comes as a surprise. The Bank's recommendations to supervisors and regulators are consequently fairly general. While it does essentially urge regulators to ensure that derivatives dealers manage all major risk categories adequately, it does not prescribe any specific actions to be taken. Also the G-30 recommendations are materially supported in the report.

The BIS study (1992) has relatively little to say about the regulation of OTC derivatives. This is of course not to say that it doesn't have its own conceptions about the regulatory implications of the growing derivatives markets. Quite the opposite. The BIS is currently considering the benefits of much expanded disclosure requirements for major derivatives dealers. These proposals were published in another recent publication by the BIS (Publication of market risks). Furthermore it is evaluating adequate ways to ensure capital standards for off-balance-sheet products which may eventually allow for bilateral netting agreements.

In their 1992 report, the BIS gives particular weight to the potential benefits of netting agreements and calls for a further strengthening of the legal and institutional underpinnings of such schemes. Its regulatory recommendations broadly confirm those in the G-30 report.

The 1994-BIS-publication on the management of market risks contains no immediate recommendations for the regulation and supervision of the OTC-derivatives business. It is targeted at practitioners who wish to compare its management recommendations with their risk-management-practices. These guidelines are very thoroughly formulated and should serve as a benchmark for prudent risk management. They include proposals for appropriate oversight by boards of directors and senior management; an adequate risk management process involving the continuous measuring, monitoring and controlling of risk; accurate and reliable management informations systems; timely management reporting; and thorough audit and control procedures. The only public recommendation the report expresses is a mediate one: that regulators and securities supervisors place particular importance on the enforcement of the proposed risk-management practices.

The most comprehensive survey of the rules and regulations affecting derivative markets is compiled in the CFTC report. In particular the CFTC has published a paper which solely compares different regulatory features in different countries. Its "central conclusion is that while no fundamental changes in regulatory structure appear to be needed at this time to address issues presented by the growing use of OTC derivatives, greater coordination among federal financial regulators would help assure that federal oversight remains adequate". The report therefore recommends the establishment of an interagency council to consider common approaches to issues such as market information access, transparency, internal management controls, and the development of clearing facilities for OTC Derivatives.

Interestingly such an interagency council was eventually established in April 1994. Its primary function is to allow fast and sufficient information transmission in times of stress between the British SIB, the SEC and the CFTC. One crucial benchmark against which such information sharing agreements must of course be evaluated is the definition of the term 'times of stress'. Provided it forms part of a clear and enforceable contractual basis, then this agreement can prove to be a useful institution. However, the contractual definition of "times of stress" in this case is based on a mutual understanding that such a situation is occurring. It may be suspected that such a vague agreement will fail when it is most needed. Yet it is by no means clear how a more precise definition would have to be formulated and how practical it would be.

6. General Recommendations

As the following cross summary chart shows, there is widespread agreement about many recommendations. This may sound like a surprise given the studies' different editorial motives. Yet, a closer look easily explains why so many of the following recommendations are readily adoptable for most of the studies' authors. The reason is that most of the recommendations are so general that it is hard not to agree with them. Revealingly none of the six reports devotes any thoughts to the marginal costs of regulation. Yet the costs and trade-offs involved in many of recommendations such as a regulatory supervision of credit risks, or a centralised information database for OTC Derivatives can be substantial.

	Recommendations	BIS	BoE	CFTC	GAO	G-30
BIS						
	Market					1994
Risks						
* Establish consistent mark to market valuation		X	X	X	X	X
X over all derivatives and over all other financial instruments.						
* Perform frequent simulation against various		X	X	X	X	X
X scenarios						
* Establish independent and knowledgeable risk		X	X		X	X
X						

management

* Authorize only professionals to deal with X X

derivatives

* Set standards for independant internal and X X X

external

* Establish management information systems X

* Perform stress simulations X

Credit

Risks

* Assess credit risks using consisting methodology X X X X

* Introduce clearing facilities for OTC derivatives X

* Enforce capital standards for credit risks

* Enforce regulatory supervision of credit risks X

* Increase scope for netting X X X

Regulatory and

General

* Improve information access for regulators X X

* Establish centralised information database for X

the OTC Derivatives

Market

* Introduce regulation for safety and soundness of

major derivative

dealers

* Bring unregulated OTC derivative activities under

the purview of existing financial

regulation

* Remove legal uncertainties X X X X

* Introduce functional as opposed to institutional

regulation

* Accelerate work on hedge accounting and X X X X

disclosure

standards

* Pursue monetary and macroeconomic policy that

fosters the stability of the financial

system

* Improve legal preconditions for bilateral and X X

multilateral

netting

* Improve cooperation between central banks and

X
market
participants

7. Concluding Remarks

For two years the derivatives markets have lived in the shadow of various studies conducted on the new risks inherent in global derivative markets. By some counts the GAO report is the 14th study on derivatives since the then president of the New York Fed Gerald Corrigan started alarm bells ringing in 1992. This paper has summarized and commented upon the most widely recognized studies. As the public debate about the risks and benefits of derivative markets continues it was attempted to highlight the major arguments which are usually put forward in this. It was also shown that many of the recommendations which these studies come up with are so general that it is barely possible to dispute them.

Yet in practical terms both market participants and regulators have acknowledged the impact which specifically the G-30 recommendations have had on the management of derivative activities of banks. It is revealing that such publications can eventually exert the kind of market pressure with respect to industrywide "best practices" which is to some degree a highly efficient substitute for the regulatory market supervision.

Another benefit of these studies was a substantially improved mutual understanding between both regulators and market participants. Possibly this is their most important achievement because it will allow all parties to enhance their willingness and capacity to cooperate when such cooperation is most needed. This is particularly true if one recognizes the fact that it will never be possible to fully eliminate the risk of a systemic crisis merely by regulating some market activities. Instead the best way to reduce such systemic risks is exactly to improve the understanding of the other parties activities, so that serious problems (e.g. solvency problems) can be identified quickly and distinguished from minor problems (e.g. liquidity or technical problems).

Inevitably there is still room for progress. Most importantly more effort needs to be devoted to this mutual understanding between regulators and dealer firms. Because accounting practices and principles will always lag behind the developments of this business there is a need for more informal and yet effective relationships. Also there is an abundance of unexplored avenues for future research combining asset pricing, macroeconomic, microeconomic as well as monetary issues. Relevant issues which have not been discussed so far could include the following:

1. How much financial risk can a society bear?
2. What are the interactions between debt, derivatives and monetary policy?
3. How does the use of derivatives affect the behaviour its users? Are there behavioural risks?
4. Have derivative markets reallocated credit risks by crowding out bad risks from derivative markets to other financial markets?
5. What are the settlement risks involved in derivative markets and how can they be managed? It is striking that no academic studies have addressed these important issues so far. Yet the above topics would be well suited for academic work.