Research on the Effectiveness of Regulatory Systems in the Wake of the Financial Risis: Case of Goldman Sachs

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Abstract. In 2008, a global financial crisis broke out, leading to many companies' collapse and the market's disruption. The crisis began with subprime credit, and, due to the US government's regulatory problems, the housing bubble grew until the day it exploded. The market regulatory system did not regulate financial products sufficiently and did not have strong controls on leverage. In the financial crisis, many companies had high leverage ratios, which allowed them to reap enormous profits for a short period. After the financial crisis, excessive leverage triggered a domino effect. Many companies could not take on too much risk, and collapse became inevitable, such Lehman Brothers. When the regulatory system was introduced, the question of whether it was effective became a matter of consideration. This paper uses the comparative analysis method to analyse the financial situation of Goldman Sachs, which covers the period 2005 to 2011. The financial analysis's primary focus is revenue, leverage and share price. The analysis of the financial situation of Goldman Sachs shows that the post-financial crisis regulatory system was effective.

Keywords: Financial crisis · regulation · Goldman Sachs

1 Introduction

The financial crisis in 2007 swept through the world like a tsunami, with enormous repercussions for the whole world. Until today, the global financial crisis remains an easily debatable topic, and people do not want a repeat of the tragedy. The financial crisis started with subprime credit, but it is not limited to that. The lack of regulation has led to a small number of people using leverage to gather most of the assets [1]. When the bubble economy collapsed, A global domino effect triggered by debt occurred, leading to many companies' bankruptcy, such as Lehman Brothers. Many studies show that deregulation was a major cause of the crisis. In more detail, There is evidence that regulatory issues have triggered several financial crises in the past [2]. A chaotic order makes it more likely that the market will collapse, which is why studying regulation is crucial. Each country has a different response to the regulation of financial markets and has increased regulation in the aftermath of the crisis [3]. Over recent years, research has been conducted on market regulation, including critical proposals for the existing regulatory system, such

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as enhancing information disclosure and thus regulating the market order [4]. With the gradual improvement of the regulatory system, the effectiveness of the post-financial crisis regulatory system has become an important issue. Thus, an objective analysis of the post-regulated business's economic situation is necessary to obtain a realistic picture of the post-regulated market. In the following section, Goldman Sachs is used as an example to compare the company's financial situation before and after the financial crisis. All data relating to Goldman Sachs are taken from the company's website. An analysis of Goldman Sachs' finances gives an approximate picture of the actual situation before and after the financial crisis, where regulatory efforts were practical.

2 Backgroud: Financial Crisis and Regulation

In 2008, a global financial crisis erupted, a crisis that grew like a snowball on the top of a mountain. As far back as 2000, prices in the US property market rose as interest rates fell. Along with the increase in demand, subprime lending began to rise [5]. Subprime credit has a lower threshold than general borrowing [6]. Banks profit by working with investment banks to combine bonds into risk-free products. Because of the relaxed scrutiny of loans, when the price of a house is so high, the loan can no longer afford to buy it. With the increase in interest rates, people started to mortgage their homes. In the short term, the real estate bubble led to a financial crisis in the US, which stretched across the globe.

Investment banks, including Goldman Sachs, are facing a massive crisis due to the overlap of their businesses and the risks caused by their debts. During the crisis, Lehman Brothers also suffered from huge debts that led to its final collapse. From a regulatory perspective, the problems revealed by the crisis can be summarised as follows. The first is that the greed of many financial institutions, represented by the large US investment banks, led to the pursuit of immediate profit and the abandonment of the ability to resist risk. The second is the risk arising from the excessive innovation of financial products (products of subprime credit portfolios). Without adequate regulation, financial products will become less reliable. Put another way, before the financial crisis, people may have been overconfident in the market and overlooked the significant pitfalls of the market regulatory system. As an investment bank throughout the financial crisis, Goldman Sachs has an essential financial reference, which is why it was chosen as a case analysis.

3 A Brief Summary of Goldmen

Goldman Sachs Group, Inc, was founded in 1869, and it is a company that specialises in providing financial services. In the 2021 Goldman Sachs letter to shareholders, the firm achieved full-year revenues of $14.88 billion. In Goldman Sachs' 2007 letter to shareholders, there are references to the trauma suffered by the market. Goldman Sachs' response to the financial crisis was swift. The company's annual report for 2007 contains details of how it faced the crisis and the opportunities ahead. As one of the most influential investment banks worldwide, Goldman Sachs can be a good reference factor.

4 Goldman Sachs Financial Comparison

This part uses the comparative analysis method to compare the financial situation of Goldman Sachs before and after the financial crisis, and the preceding years involved are 2005 to 2011. The US's approach to the regulation of leverage led to companies' steady leverage expansion at the time [1]. In other words, the lack of regulation of debt control led to a loss of the ability of companies to cope with risk and triggered a domino effect that became an essential factor in the globalisation of the financial crisis. After the financial crisis, the US government introduced a series of policies to address market conditions. In 2010, the US government enacted the Dodd-Frank Act (DFA) to regulate the market and help it recover [7]. Balasubramnian and Cyreeb noted in their study that DFA could be beneficial in regulating the market [8]. In the next section, the financial situation over seven years is analysed in three parts: before the financial crisis (2005–2007); after the financial crisis (2007–2009), around the DFA (2009–2011).

4.1 Before the Financial Crisis

From 2005 until the financial crisis, Goldman Sachs' finances presented a positive picture. The year-on-year increase in net revenue shows that the business is on an upward trend. In direct proportion to the increase in income, the amount of debt is also increasing. During these three years, the company's leverage has remained above x20, which is very dangerous because the company will be exposed to significant risks. In Goldman Sachs' letter to shareholders, which contains much information about the financial crisis, one of the ways Goldman Sachs has responded to the crisis is by reducing leverage (Table 1).

The change in Goldman Sachs' share price over the three years showed an upward trend, rising by approximately every year. This was not surprising prior to the financial crisis, and Goldman Sachs had strong prospects at the time due to the rise in leverage and the type of business it was doing.

4.2 After Financial Crisis

The financial situation of Goldman Sachs was not the same as before due to the financial crisis. In 2008 revenues were significantly lower than in the past, with total net revenues at half the previous year's level. Goldman Sachs also saw a partial asset reduction of over $20,000 million in 2008. The impact of the financial crisis did not last too long, and Goldman Sachs experienced an improvement in its financial situation in 2009. Although not back to pre-crisis status, total net revenue alone is almost the same as in 2007.

Table 1. Goldman Sachs & Co. Finance 2005 to 2007

	2007	2006	2005
Total net Revenue (in millioms)	45,987	37,665	16,818
Leverage Ratio	26.2x	23.4x	25.2x
Book Value per common share	90.43	72.62	57.02

Table 2. Goldman Sachs & Co. Finance 2007 to 2009

	2009	2008	2007
Total net Revenue (in millioms)	45,173	22,222	45,987
Leverage Ratio	12.0x	13.7x	26.2x
Book Value per common share	117.48	98.68	90.43

Table 3. Goldman Sachs & Co. Finance 2009 to 2011

	2011	2010	2009
Total net Revenue (in millioms)	28,811	39,161	45,173
Leverage Ratio	13.1x	11.8x	12.0x
Book Value per common share	130.31	128.72	117.48

Following the financial crisis, Goldman Sachs' leverage ratio declined significantly, from x26.2 in 2007 to x12.0 in 2009.

The change in share price around the time of the financial crisis was less pronounced, especially from 2007 to 2008, but still showed an overall upward trend, with no significant decline in company value in the global economic downturn (Table 2).

4.3 Around the DFA

As one of the most influential acts in the wake of the financial crisis, the introduction of the DFA also marked an increase in market regulation. After the DFA was passed, Goldman Sachs' revenue situation deteriorated, with total net revenue declining but assets increasing. It is worth noting that the leverage ratio has remained at a low level over the three years.

In the aftermath of the financial crisis and until the regulatory system was gradually improved, Goldman Sachs' share price returned to its pre-crisis level of share price appreciation, reflecting a return to previous expectations for the firm (Table 3).

4.4 Put Together

Combining the seven years, Goldman Sachs had the highest revenue profile in 2007, and with the onset of the financial crisis, the firm's revenue declined significantly. High risk usually comes with a high reward [9]. When excessive leverage is present in a company's financial situation, the company is taking a high risk. The temptation to make high profits is vast, and, in the context of deregulation, the trend is to operate at high risk to reap huge profits. In the wake of the crisis, Goldman Sachs' leverage declined significantly, as did the size of its revenues. When fear and greed combine with free enterprise, it can lead to financial crises and the need to eliminate risk through legislation and regulation (Lo, 2009). Goldman Sachs' leverage ratio was essentially the same in the years following the financial crisis, with no annual increases that occurred prior to the crisis. The change in Goldman Sachs' financial situation indicates that market regulation has met with some success.

The share price situation of Goldman Sachs did not fall due to the financial crisis but showed some increase and an overall positive trend. The change in share price was not significant before and after the financial crisis. However, there was a relatively significant increase in share price before the financial crisis and after the improvement of market regulation. The combination of the share price and financial situation suggests that Goldman Sachs has restructured its finances more rationally with the support of the regulatory system. The increase in market capitalisation despite the decline in revenue indicates that Goldman Sachs has become more promising and that investors are willing to invest in the firm. The share price also reflects, to some extent, the effectiveness of market regulation.

5 Discussion

As a black swan event facing the world, the impact of the financial crisis has been enormous. The internal regulation of companies and the relaxation of lending regimes were essential drivers of the financial crisis and the domino effect. The financial situation of Goldman Sachs changed significantly around the time of the crisis, most notably in terms of debt and income. The decline in revenues can be attributed to two factors. The first was a decline in loan income due to increased control over subprime credit. The second was reduced funds available for projects due to reduced leverage, which affected revenues. In either case, regulation has become more robust. Increased lending control could prevent a crisis like this and protect the market's stability. The control of leverage reduces the risk of a crisis and avoids the domino effect to a certain extent. From a global market perspective, the US regulatory system influences the regulatory regimes of various countries. For example, the Dodd-Frank Act provides the framework for global financial regulation [10]. The share price of Goldman Sachs has been on an upward trend for seven years, as the financial crisis slowed down and increased the rate of increase after the financial crisis. The reasons for this are the rise in regulation and the support for the market, which has created confidence in Goldman Sachs. A better regulatory regime has given Goldman Sachs greater resilience to risk. The change in Goldman Sachs' share price is also a reflection of the effectiveness of the regulatory regime. More than ten years have passed since 2008, and there has been no crisis as severe as the 2008 financial crisis in the last ten years, thus proving the success of the regulatory system.

6 Conclusion

The financial crisis triggered by subprime credit has had severe consequences globally. In a decade-long study, a lack of regulation was blamed for the occurrence of the financial crisis [11]. In this crisis, business failures became more common, affecting almost every economically relevant individual [12]. Because of the lending business involved and their leverage, investment banks are exposed to significant risks. The collapse of Lehman Brothers also illustrates the plight of investment banks in the financial crisis. Goldman Sachs is undoubtedly one of the world's largest in terms of influence and physical size. This study analyses the effectiveness of regulation by examining the financial situation of Goldman Sachs over seven years, using Goldman Sachs as an example. In the three years before the financial crisis (2005 to 2007), Goldman Sachs' revenue increased as leverage increased; in the four years after the financial crisis (2008 to 2011), Goldman Sachs' revenue decreased as leverage decreased. The leverage ratio after the financial crisis is much smaller than the leverage ratio before the financial crisis. In general, the decline in leverage and revenue can be divided into two scenarios. Operations are controlled, and leverage ratios receive control. In either case, this indicates an increase in regulation and the effectiveness of that regulation. Amidst the changes in the regulatory regime, the Goldman Sachs share price has also changed. Prior to 2007, Goldman Sachs' share price increased steadily in a similar trend each year due to deregulation. After 2008, affected by the financial crisis, Goldman Sachs saw a temporary reduction in share price growth but soon returned to its initial state. The changes in Goldman Sachs can reflect the effectiveness of regulatory changes in the market, both in terms of the firm's financial position and market value. Due to the sheer size of the financial markets and the unpredictability of the future, there is no room for laxity in the control of regulation and the need to revise the regulatory regime to avoid a new global crisis.

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