The subject of this article is the case of Enron and its interrelations with the financial markets. The purpose of this article is to produce a review of scientific research, conducted on the Enron case, and with its help to analyse the case from the distance of almost two decades. This article provides an analysis on the role financial instruments played in the downfall of Enron, the broader market effects resulting from the rise and fall of Enron and recommendations of risk mitigation techniques that could have been applied to minimize Enron’s risk profile. The work is exploratory in nature and is based on an extensive review of earlier relevant studies on the various aspects of the Enron case and its interrelation with financial markets. The conducted analysis of the recent research publications has shown that financial instruments and the lack of legislation and accounting standards, regulating the involved transactions, played a crucial role in Enron’s downfall.

**Keywords:** Enron, financial markets, bankruptcy, risk mitigation, SPE, off-balance sheet arrangements, prepaid commodity swaps, collusion, accounting scandal, SOX.

**Introduction**

J. W. Markham (2015), in his book “A financial history of the United States: From Enron-era scandals to the subprime crisis (2004–2006); From the subprime crisis to the Great Recession (2006–2009)” describes the last decade of the 20th century as an era of high expectations, when the market stocks constantly increased in value. Answering the investors’ expectations, the market indices rocketed: for instance, The Dow Jones Industrial Average quadrupled, reaching a height of 11,722 on January 14, 2000. That was the time of rise for a US energy company, called Enron, which went beyond a traditional role of an energy provider. The company established an electronic trading platform Enron Online, engaged in broadband services, and invested in many other projects worldwide. Enron constantly reported high profits, and as a result, its stock price tripled within two years. Although not all of Enron’s projects were profitable, the company could skillfully hide the losses, finding the pitfalls in the accounting rules. In 2001, the manipulations with the financial statements were discovered, and Enron’s stock then plummeted from $90.56 in August 2000 to $0.26 in November 2001. On December 2, 2001 Enron declared bankruptcy, which became the largest in American history at that moment.

As Enron collapsed, the economists all over the world produced a great amount of research, identifying issues and providing solutions and recommendations to prevent similar situations to happen. However, in the beginning of the 21st century, we witnessed many more bankruptcies of such giants as WorldCom, Tyco, HealthSouth, Global Crossing, Adelphia, Parmelat, and, of course, Lehman Brothers. That indicates the need to analyse the case from new perspectives and rethink the remedies of financial market instability.

The purpose of this article is to produce a review of scientific research, conducted on the Enron case within the last 5 years, and from the distance of almost two decades to answer the following questions:

1. What role did financial instruments play in the downfall of Enron?
2. What were the broader-market effects resulting from the rise and fall of Enron?
3. What risk mitigation techniques could have been applied to minimize Enron’s risk profile?

The remainder of this paper is organised as follows. Section 2 presents the methodology. Section 3 describes the role financial instruments played in the downfall of Enron. Section 4 discovers broader market effects resulting from the rise and fall of Enron. Section 5 presents the risk mitigation techniques that could have been applied to minimize Enron’s risk profile. The last section summarizes the findings and states the conclusion.

**Methodology**

The analysis is exploratory in nature and is based on an extensive review of earlier relevant studies on the various aspects of the Enron case and its interrelation with financial markets. The basis of the analysis is a collection of articles, published in credible scientific journals within the last 5 years.

**The role of financial instruments in the downfall of Enron**

Equity owners can earn in two ways: by the distribution of dividends and by the stock price appreciation. The stock price increases when a company consistently shows profits on its financial statements. Listed companies like Enron tend to provide part of the stock to their executive management, so that they are personally interested in increasing the price of their equity. In order to improve the looks of Enron’s performance on the financial statements, Enron’s executive management committed three major violations under Generally Accepted Accounting Principles (GAAP) to hide losses and debt (Lemus, 2014):

1. Off-balance sheet arrangements by creating special purpose entities (SPEs) and colluding with
JP Morgan Chase and Citigroup banks, which helped report loans as cash flow from operations for the period 1992–2001 (B. Aven, 2015).

2. The use of the mark-to-market method as a trading model, allowed by The Securities and Exchange Commission in the absence of accounting standards for prepaid commodity swaps (B. Aven, 2015).

3. Manipulations with derivatives, which is hiding the losses in the derivative section (loans were presented in the form of prepaid commodity swaps) (Lemus, 2014).

A. R. Abdel-Khalik (2016) exemplifies the role of the financial instruments in the fraud scheme with the Enron-Delta-Citi Prepaid Commodity Swaps. Delta Energy, Citigroup’s SPE, entered into an agreement with Enron to pay $249.5 million dollars for a promise to deliver energy at a variable price. Later on, Delta Energy sold this contract to Citigroup for $249.5 million dollars. Finally, Enron settles the obligation by paying $255.6 million to Citigroup in sixth months. Thus, a loan of $249.5 million dollars with $6.1 million interest was camouflaged into a commodity swap.

Such and other types of fraudulent transactions became possible due to a number of factors:

1. Gas and electricity market deregulation under the pressure of free market advocates and vague rules of mark-to-market method paved the way for creative accounting.

2. Absence of accounting standards for prepaid commodity swaps. Although the Financial Accounting Standards Board (FASB) issued an accounting standard for derivative instruments and hedging activities in July 1998, the Derivatives Implementation Group issued a proper implementation statement only in July 2003.

3. The state of the financial market in the 1990’s was such, that there were no quoted market prices or other current market transactions, involving energy futures, so Enron could estimate as high gains as it wanted without appealing to any external source (A. R. Abdel-Khalik, 2016).

4. Corruption (ties with President Bush family) and informational advantages.

5. Aggressive "pump and dump" culture in the company low corporate ethics, pressure to produce new ideas to show the profits, including questionable, risky measures.

6. Massive public relations campaigns played on the feelings of those people, who were ignorant of how financial markets work.

We consider the role of financial instruments in the downfall of Enron to be central, as all the above mentioned deeds, be it the manipulations with accounting standards, collusion, corrupt practices, breaches of law or ethical norms, were undertaken in pursuit of one goal – to boost the stock price further.

Broader market effects resulting from the rise and fall of Enron

The research of Cahan and Zhang (2006) found that the Enron bankruptcy affected other market players, and in particular, the clients of Arthur Andersen – Enron’s audit firm: their stock prices reacted negatively in the end of 2001 and beginning of 2002. That indicates the investors’ confidence in Big 4 services got shaken – the stock, associated with the fraudulent auditor, was instantly perceived as riskier. The scandal incurred a series of other major scandals in the corporate world (WorldCom, Tyco, HealthSouth, Global Crossing, Adelphia, etc.), which questioned the entire corporate governance structure. J. Markham (2015) notes about numerous government reforms on a wave of populist anger over excessive compensation to executives. The Corporate Fraud Task Force caught up and the Justice Department aggressively prosecuted hundreds of executives involved in accounting scandals.

All the factors, mentioned in the previous section, indicated the need for a significant transformation in the corporate legislation and the corporate culture to restore the confidence of the investor on the financial market. In attempt to prevent future instances of fraudulent behaviour, in 2002, the US Congress introduced the Sarbanes-Oxley Act (SOX), enforcing the responsibility for internal controls on the management and auditors with 11 chapters, intended to reshape the accounting system. Under this Act, the Public Company Accounting Oversight Board (PCAOB) was created to supervise the audit firms (Azibi, 2017). However, A. R. Abdel-Khalik (2016) is sceptical about the ability of SOX alone to prevent the corruption at the levels of the CEO and CFO. In July 2003, the accounting standards related to prepaid commodity swaps were finally introduced. The preventive measures were taken all over the world, not just in the USA. For instance, in France, a High Committee of Accounting was established by the financial security act of 2003. The Committee is a French equivalent of the US PCAOB (Azibi, 2017).

Now, after almost two decades, we can judge on the effects of the above mentioned reforms. According to J. Markham (2015), the reform turned out to be costly and could not fight creative accounting, fraud and unethical business practices. Moreover, it became one of the reasons why the USA lost its dominance in the global financial services. M. Connell (2017), while marking the positive role of SOX in guiding companies "towards transparency and honesty", discusses its negative side effects. For instance, in attempt to avoid the compliance with SOX, many companies opted not to go public, while others chose to be established outside of the USA. In addition, M. Connell mentions high audit fees the public US companies should bear due to the strict requirements of SOX.

Risk mitigation techniques that could have been applied to minimize Enron’s risk profile

From the two previous sections, we can derive that the stock prices drastically fluctuate with the perception of the market investors of the risk levels of a particular stock and of the stock market in general. Thus, we believe the risk profile of Enron or any other company...
could be minimized by arming the investors with the tools that could prove the reliability of the available data. Such tools include, but are not limited to:

1. Up-to-date accounting standards. We strongly believe that the US GAAP as a system, requiring merely technical compliance, outlived itself. The diversity of accounting standards, available in the US GAAP, also adds to the uncertainty. Thus, we recommend the USA to adopt IFRS standards, which reflect the economic substance of transactions.

2. Up-to-date legislation, regulating the functioning of financial markets. As the scandals continued to play on in the newspapers even after the introduction of SOX, we can conclude that the current regulating measures are not effective enough. Moreover, as the financial markets became truly global, a new international legislation is required.

3. Quantitative system of early detection of fraud. J. MacCarthy’s research (2017) shows that Altman Z-score and Beneish M-model, used simultaneously, could have detected fraud of the Enron Corporation early on and is able to help investors identify fraudulent financial statements.

4. Qualitative system of early detection of fraud. Auditors and audit firms should insure their independence. The upper limit of audit fees should be established. Corporations should insure frequent rotation of audit service providers.

5. Compulsory disclosure of corporate ethical values. Along with the financial statements, corporations should publish their statements on promoting ethical values on all company levels throughout the reporting period.

If the above-mentioned tools had been available to investors in the 1990’s, the world would not have faced the adverse effects of corporate giants’ bankruptcies.

**Conclusion**

The conducted analysis of the recent research publications on the case of Enron has shown that financial instruments and the lack of legislation and accounting standards, regulating the involved transactions, played a crucial role in Enron’s downfall. The case of Enron affected the financial markets worldwide and triggered the introduction of new regulating institutions. However, the undertaken measures were not effective, and that is why we proposed a number of measures that could decrease the market risk in the future.

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РОЛЬ ФИНАНСОВЫХ РЫНКОВ В ДЕЛЕ «ЭНРОНА»

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Предметом данной статьи является дело «Энрона» и его взаимосвязь с финансовыми рынками. Цель данной статьи – подготовить обзор научных исследований, проведенных по делу «Энрона», и с его помощью проанализировать дело с расстояния в почти два десятилетия. В статье анализируются роль финансовых инструментов в падении «Энрона», более широкие эффекты рынка, влияющие на его рост и падение, а также даются рекомендации по методам смягчения рисков, которые могли быть применены для минимизации профиля рисков «Энрона». Работа носит исследовательский характер и основана на обширном обзоре более ранних актуальных исследований по различным аспектам дела «Энрона» и его взаимосвязи с финансовыми рынками. Проведенный анализ последних научных публикаций показал, что финансовые инструменты и отсутствие законодательства и стандартов бухгалтерского учета, регулирующих соответствующие транзакции, сыграли решающую роль в крушении «Энрона».

Ключевые слова: Энрон, финансовые рынки, банкротство, смягчение рисков, компания специального назначения, внебалансовые механизмы, предоплаченные товарные свопы, сговор, бухгалтерский скандал, закон Сарбейнса-Оксли.

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