

*Received: 23th May 2017*

## **FACTORS OF PROFITABILITY GROWTH AS A SUSTAINABILITY DRIVER IN THE BANKING SECTOR**

**Kamilya Mustafina**  
**Andrejs Limanskis**

### **ABSTRACT**

The Global Financial Crisis clearly demonstrated the dependence of the global economy on the banking sector's stability. Thus, the **main question** which arises is sustainability of the banking industry.

The **purpose** of this paper is to research the factors that ensure sustainable growth in the banking industry. The main reason why sustainability of banks is crucial to the economy is the decision-making process implemented by financial institutions, universal and investment banks in particular, in relation to attraction and distribution of investments among clients and provision of risk management services, for profit.

The **methodology** used in this paper was a literature review on sustainability of banks and comprehensive analysis of a representative bank in the form of Danske Bank from the point of view of the drivers of profitability and capitalization. Several factors which contribute to the ability to withstand the current turbulent business and economic conditions are: mergers and acquisitions, governance, and pursuit of innovation. The research was mainly conducted through the literature review. Both quantitative and qualitative methods were used to conduct the analysis. The **originality** lies in an analysis based on the financial statements of the bank for the last 3 years with a focus on the profitability and capitalization dynamics under sustainable growth factors. The fair price of the share will be derived based on the given data and analysed against the current market price.

**Keywords:** sustainability, banking, dividend discount model, Danske Bank, profitability growth

### **INTRODUCTION**

After the 2008 financial crisis, the financial system all over the world was unstable. In fact, the Global Financial Crisis clearly demonstrated the dependence of the world economy on the banking sector's stability. The relevance of this research is reflected in the fact that nowadays, financial institutions significantly contribute to the overall economy of a country as banks serve significant functions such as ensuring an efficient system of payments, and they play the role of intermediary between lenders and depositors. Thus, the main question that arises is the sustainability of banks and the factors along with the reasons that ensure the sustainability of the financial sector. Given the definition of the banking sector in its traditional meaning as a complex system of acting as an intermediary between lenders and borrowers, the institutions included in this definition are not only investment and commercial banks, but also leasing companies, finance institutions and so on. The contribution of this research is presented in a context of limited availability of the analysis of the effects of sustainability issues on banking's profitability. The financial sector serves 3 main functions: provision of credit, liquidity and risk management (Baily and Elliott, 2013). The banking sector is the main source of cash for businesses and households when making investments, as banks are the ultimate providers of loans and mortgages, whereas at the same time, the financial sector provides risk management

services through the usage of such financial instruments as derivatives. There is no clear classification of types of the banks, as many banks can offer several types of services simultaneously; however, the main types recognized are the following: commercial banking, investment banking, Islamic banking, offshore banks, universal banking, etc.

The aim of this research paper is to analyse the reasons and factors for sustainability in the banking sector as well as the drivers of profitability growth on the example of Danske Bank and to apply the Dividend Discount Model in evaluating the share price of Danske Bank in order to make recommendations for potential investors.

The following tasks will be completed for achievement of the aim:

1. Analysis of Danske Bank financial statements for the last 3 years will be conducted;
2. Certain profitability factors will be highlighted;
3. The necessary assumptions for application of the Dividend Discount Model (DDM) will be justified;
4. The theoretical fair price of the share will be calculated and compared with the real market price.

The hypothesis of the paper is mainly based on the comparison of the calculated theoretical value of the share with the real quoted market price and its deviation.

In order to write the research paper, both qualitative and quantitative methods were applied. The qualitative part is mainly based on the literature review, whereas the quantitative methods include the calculation of the theoretical value of the share price, design of the graph and analysis of the financial statements of Danske Bank by calculating the absolute/relative changes between the consequent periods and relevant ratios. The paper is designed in the following way: Section 1 provides a general analysis of the sustainability factors in the banking sector based on the analysis of the literature, whereas Section 2 specifically concentrates on Danske Bank as a representative and applies the theoretical model from Section 1. Throughout the paper, all necessary definitions and explanations will be provided.

## ANALYSIS OF SUSTAINABILITY FACTORS

To start with, the sustainability concept should be defined. Hiojtink (2005, p.7), in her paper, summarizes the following definitions of the sustainability concept: 'Creating long-term shareholder value by embracing opportunities and managing risks derived from economic, environmental and social development' and 'Evaluating business from a triple bottom line perspective, incorporating economic, environmental and social value issues into decision-making'. Overall, the main idea of sustainability revolves around 3 main dimensions: economic, environmental and social. The sustainability of organizations is closely connected with their core functions. As regards banks, the core function of which is the provision of financial services, several important factors which contribute to the ability to withstand the current turbulent business and economic conditions are: mergers and acquisitions, the regulation and contagion effect, and disruptive technologies. These factors directly affect profitability in banks' income statements, either positively or negatively. In fact, the process of introducing and integrating new technologies or being in compliance with regulatory measures is costly, whereas in the long term the indirect benefits in terms of customer loyalty and reduced costs, which is actually hard to directly attribute to the

abovementioned factors, can be enjoyed by institutions. For instance, the effectiveness of risk management cannot be measured: the losses from unethical behaviour can be measured and traced (in terms of lawsuit costs and related fines), whereas the most challenging part is to link the effect on revenues of employees' compliance with risk management policies and the contribution of trainings.

The challenging factor is to assess the risks associated with establishing a sustainably responsible organization in order to decide on the strategic moves to balance 3 factors: the size of the bank, ensuring transparency and at the same time being innovative. The tricky part is that the first thing which always suffers when an organization pursues a cost-cutting policy is corporate sustainability, as ethics and use of environmentally friendly materials/products are substituted with cheaper alternatives which bring short-term benefits at the cost of long-term ones.

### **Mergers and Acquisitions**

Over the past decade, the banking sector all over the world has been characterized by an increased number of mergers and acquisitions (M&A) processes which increase the market share of banks as a result of mergers of several banks (Hoskins and Labonte, 2015: p. 5). Size matters when it comes to the banking industry; however, it also imposes potential threats. M&A practices are one of the main reasons for banking sector sustainability and stability in terms of not only the provision of M&A services, but also being involved in the merger itself. Nevertheless, there are two sides of the coin. Increased market share leads to risk diversification and economies of scale benefits while, at the same time, being involved in a merger is a costly process which results in an increased complexity of the processes (Accenture, 2012). M&A, particularly international mergers, also involve the cross-border activities performed, enabling entry into foreign markets (Deloitte, 2014).

In fact, the increased M&A activities can be explained by the number of bank failures after the Global Crisis. According to Ellison (2014), in the United States 150 banks stopped their operations, whereas approximately 140 banks were significantly weakened by the mortgage loans position in the assets side over the period of 2009-2010. The quantity of banks with capitalization of less than 100 mln. USD dropped over the period of 1984 to 2014, whereas the market share of banks with capitalization of over 10 bln. USD increased over the same period of time (Hoskins and Labonte, 2015: p. 5).

One of the main advantages of larger banks is benefits associated with costs based on lower fees and better efficiency in terms of economies of scale, whereas the main disadvantage is systematic risk. Another strength of larger banks is their ability to generate revenue from the provision of various types of financial services, including investment banking and securities trading. As a result of the financial crises, small or medium-sized banks either merged their activities with other banks or were 'swallowed' by larger banks, leading to a decreased number of banks in the financial world. Additionally, PWC (2012) emphasizes the fact that economic, social and governance factors affect the valuation of the acquiring company in a number of ways, both direct and indirect. The direct ways are basically savings and revenue growth, whereas indirect factors include brand recognition, customer loyalty and better risk management. The interesting fact is that according to research performed by the PWC team (2012), the majority of acquired companies with poor ESG (economic, social and governance) factors are expected to be sold at a discount,

---

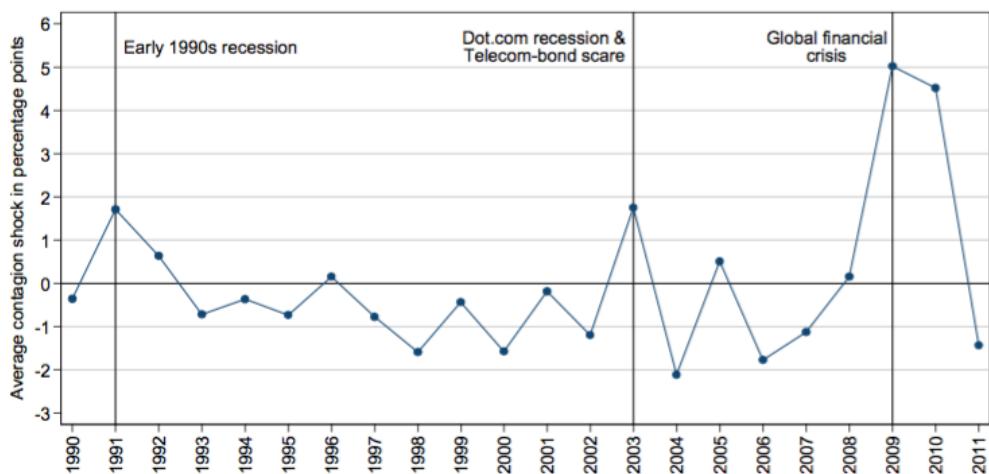
while acquirers are not willing to pay a premium for good ESG results as they assume that the performance is already reflected in the valuation numbers.

### **Governance**

Sustainability of the banking sector is closely related to regulatory measures which aim at ensuring banks' ability to withstand the changing economic and political environment and ensure the transparency of operations. In fact, the main distinguishing factor of the banking industry is the regulatory factor, which is banks' blessing and curse at the same time. Why? We all remember the 2008 crisis, which proved the neglectful attitude of financial institutions' employees towards society for the sake of their own profit. There are many disputes concerning the effectiveness of regulatory measures aimed at risk management practices, yet recent scandals such as the LIBOR and FOREX benchmark manipulation that occurred in 2013 clearly demonstrate that even though so many lessons were learnt, and actions were taken, fraud still exists in the financial world. The economic situation of entire countries is highly connected with the smoothness of banking systems' operations. That is why banks are among the heavily regulated institutions that have to follow various requirements. One of the main goals of policymakers is to protect consumers (which constitutes the social part of the sustainability concept) and to ensure a stable situation in financial markets (Labonte, 2015). In fact, bank size and regulatory measures are connected with each other as size determines the level of regulation of the financial institution (Deloitte, 2014). In addition, Deutsche Bank, in its sustainability concepts, promotes the following approach: risk management, opportunity and transparency (Borysova and Stobbe, 2015).

One thing that needs to be defined in this part of the paper is 'contagion', which can refer to the systematic risk of the spill-over effect of the shock of one bank on other banks (OECD, 2012). The global financial crisis was in fact characterized by strong contagion, as illustrated in Plate 2 (Ahrend and Goujard (2011) as cited by OECD (2012: p. 5)). The contagion effect is directly linked with resilience as it measures a bank's ability to withstand the failure of a connected bank. In fact, 3 main types of contagion are recognized, including 'direct financial connections, exposure to the common sources of risk and informational contagion' (Wyman, 2015). 'Direct financial connections' refer to the transactions between banks in the form of lending and borrowing, derivatives trading and so on. Under conditions of uncertainty in the market, 'information contagion' appears to be especially harmful due to the panic in the market and lack of reliable information (Wyman, 2015).

Bank crashes are basically linked to liquidity and insolvency problems when depositors simultaneously withdraw their deposits from banks and banks cannot fulfil all the requests. The main point is that this contagion affects banks not just domestically, but on the international level as well (which was actually proven by the 2008 crisis) (OECD, 2012).



**Plate 1.** Financial contagion over the period of 1990 to 2011 according to Ahrend and Goujard (2011) as cited by OECD (2012: p. 5)

Apart from this, after the 2008-2009 crisis, a number of policies were established to minimize the risks of insolvency, bank runs and contagion in order to promote stability in the financial sector (Wyman, 2015: p. 5). Plate 3 (Wyman, 2015: p. 5) summarizes the regulatory changes since the crisis; to reduce the risk of insolvency, Basel III was introduced along with stress-testing and modified leverage ratios, while to reduce the risk of runs, minimum liquidity ratios and funding ratios for banks to follow were set. As regards contagion, much of the effort was put into decreasing the counterparty risk and risk of default.

Financial stability policy lever	Regulatory changes
Reducing solvency risk	<ul style="list-style-type: none"> <li>Revised risk-based capital standards (e.g. Basel 2.5, Basel 3)</li> <li>Establishment of Comprehensive Capital Adequacy and Review (CCAR) stress testing exercise</li> <li>Modifications to the Supplementary Leverage Ratio (SLR) and adoption of a stricter enhanced SLR for larger banks</li> <li>Proposed introduction of TLAC and GSIB capital surcharges</li> </ul>
Reducing risk of runs	<ul style="list-style-type: none"> <li>Adoption of Liquidity Coverage Ratio (LCR) standards for minimum levels of cash and liquid assets</li> <li>Net Stable Funding Ratio (NSFR) standards (proposed by BCBS)</li> </ul>
Reducing risk of contagion	<ul style="list-style-type: none"> <li>Requirement to clear most swaps using a central counterparty</li> <li>Margin requirements for all uncleared swaps (proposed)</li> <li>Changes in tri-party repo market clearing to reduce intraday credit</li> <li>Single Counterparty Credit Limits (to be re-proposed)</li> <li>Introduction of the assumption in CCAR stress test for larger banks that each firm's largest counterparty defaults</li> <li>Increased capital surcharge for firms reliant on short-term wholesale funding (proposed)</li> <li>Publication of firm-level stress testing results</li> </ul>

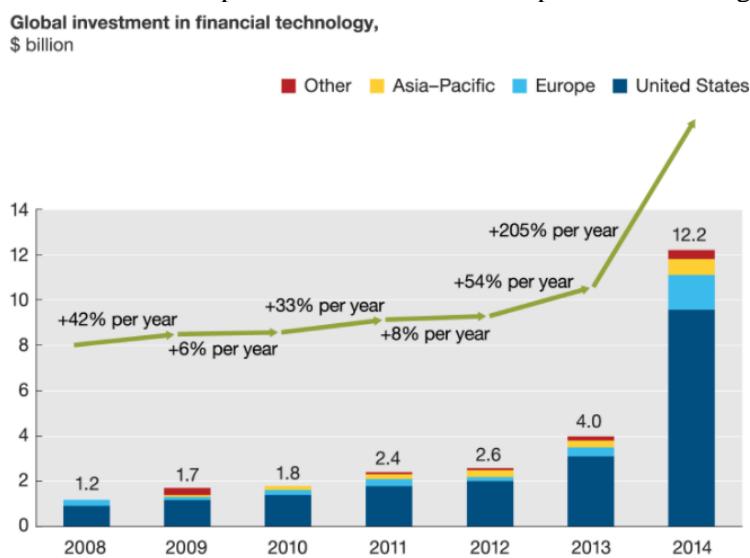
**Plate 2.** Post-crisis regulation requirements adopted mainly in the US (Wyman, 2015: p. 5)

To sum up, the regulations imposed on banks are in fact costly and actually have

significantly reduced banks' flexibility. Nevertheless, in the changing political environment, the future is ambiguous. For example, people expect deregulation in the banking industry due to Trump's campaign in the US (Spierdijk, Shaffer and Considine, 2016).

### Fintech companies as the stimulus for innovation in the banking industry

The changing economic and political environment is forcing banks toward continuous change and improvement. Currently, organizations are gradually starting to shift their focus to being innovative due to the increased competitiveness in the market. Introducing innovative products and services is the key factor in these social and economic conditions, which constitute two of the three main pillars of the sustainability concept. For banks, the stimulus for changing their traditionally established operations is the appearance of new entrants and strong competitors on the market in the form of fintech companies, which started to gain popularity several years ago. So, what is a fintech? Fintech companies are technology-driven companies that contribute to a more efficient and effective way of using IT (information technologies) in the provision of financial services. According to McKinsey (2016), fintechs are 'start-ups and other companies that use technology to conduct the fundamental functions provided by financial services, impacting how consumers store, save, borrow, invest, move, pay, and protect money'. Stephens (2016) states that over the last 5 years over 12 billion USD has been invested in fintech companies that demonstrated considerable growth. There is a lot of optimism regarding the future of fintech companies and this is clearly evidenced in the amount of investment, shown in Plate 4 (Dietz, Khanna and Olanrewaju et al., 2016: p. 1). Currently, the fintech companies that can be viewed as competitors for traditional banking systems are in fact forcing banks to become more open to innovations and adopt more technological advances.



Source: CB Insights; analysis of data provided by McKinsey Panorama (a McKinsey Solution)

McKinsey&Company

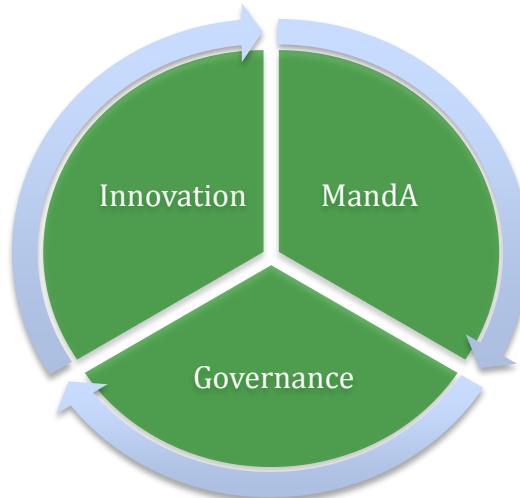
**Plate 3.** Global investment in financial technology in billions of USD over the period of 2008-2014  
(Dietz, Khanna and Olanrewaju et al., 2016: p. 1)

The era of physical provision of financial services by banks is coming to an end; now virtual experience is becoming increasingly valuable as it provides higher value for the customer in terms of time saved. Interests and preferences are shifting through the technological progress that allows fintech companies to offer comparatively better services for customers, considering their time and money. Fintech companies such as Apple and Google also use their brand loyalty to offer and promote their financial service provision. Their access to data through constructing a 'comprehensive data ecosystem' combined with innovative analytical technologies will allow these giants to offer better services which will be more customer-oriented (McKinsey, 2016). The potential opportunity for banks is their relative strength on the market, which will allow them to move towards technological efficiency in the near future.

It also appears that regulators treat fintechs positively, as recently the Office of the Comptroller of the Currency (OCC) (2016) announced a proposal to grant limited banking licenses to financial technological firms. Adrienne Harris, the Assistant to the President for Economic Policy in the USA, called fintechs 'the engine of transformation' due to the fact that technological progress may significantly affect the relevance of banks, whereas at the same time it is the main cause of moving towards the provision of financial services in a more efficient and effective manner. This is why introduction of disruptive technologies by banks to stay competitive and further growth in the market is just a matter of time.

### THEORETICAL FRAMEWORK

In light of Section 1, we suggest the following framework for factors driving banks' profitability based on the following dimensions: MandA, governance and innovation.



**Figure 1.** Framework for sustainability factors driving profitability growth

### CASE ANALYSIS

PwC has stated that 'sustainability issues have business implications for business' (PwC, 2012). Potential risks caused by sustainability issues include fines, litigations, reputation, scarce materials, and increased regulation. In fact, ethical behaviour and

involvement in sustainability programmes allow for improved reputation and customer loyalty, improved risk management, less regulation, operational efficiency, etc. According to the PwC report (2012), 14 companies that were involved in the 'Green Portfolio Program' ended up saving more than 365 mln. USD.

We decided to choose Danske Bank as a representative for analysis on the basis of the framework generated in Chapter 1. Danske Bank is a representative of universal banking in the Nordic region, founded in 1871 and listed on the Copenhagen Stock Exchange, with its headquarters in Copenhagen, Denmark (danskebank.com, 2017). In fact, it is difficult to measure the benefits of corporate sustainability on the profits of a bank; nevertheless, the positive dynamics on the example of Danske Bank are clearly evidenced in the dynamics of the market price. The first Corporate Responsibility Report produced by Danske Bank is dated 2010.



**Plate 4.** The share prices of Danske Bank from 7.04.2012-7.04.2017 (finance.yahoo.com, 2017)

Plate 4 demonstrates the increase in price for Danske Co over the last 5 years. The lowest point was in May 2012 with a closing price of less than 80, while a peak of approximately 243 was reached in March 2017 (yahoofinance.com).

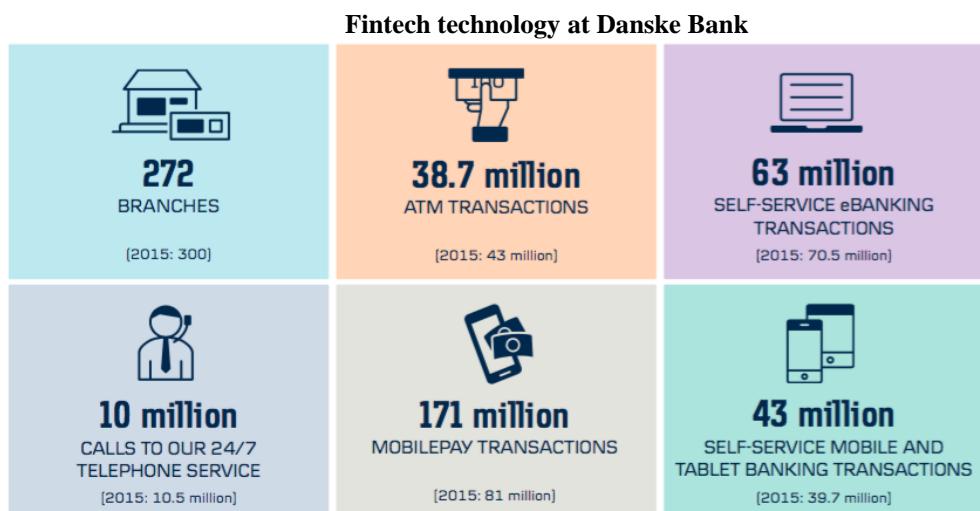
### About Danske Bank and its governance

We have read the official published reports on Danske Bank's corporate responsibility over the last 3 years. Corporate responsibility starts with setting the right vision, mission and strategic cores. The Wells Fargo ethical case of 'Eight is Great' clearly demonstrated the importance of setting the right motto in the banking industry. Danske Bank supports initiatives and adopts sustainable practices by claiming to stick to the following features: expertise, integrity, value creation, agility and collaboration (Plate 5).

<b>Vision</b>	To be recognised as the most trusted financial partner
<b>Strategic core</b>	We are a modern bank for people and businesses across the Nordics with deep financial competence and leading, innovative solutions
<b>Customer promise</b>	We help customers be financially confident and achieve their ambitions by making daily banking and important financial decisions easy
<b>Core values</b>	We deliver <b>expertise</b> - make knowledge relevant We act with <b>integrity</b> - be responsible We create <b>value</b> - make a difference We progress through <b>agility</b> - embrace change and be responsive We believe in <b>collaboration</b> - engage, listen and act

**Plate 5.** Vision, strategic core, customer promise and core values of Danske Bank (Danske Bank, 2016)

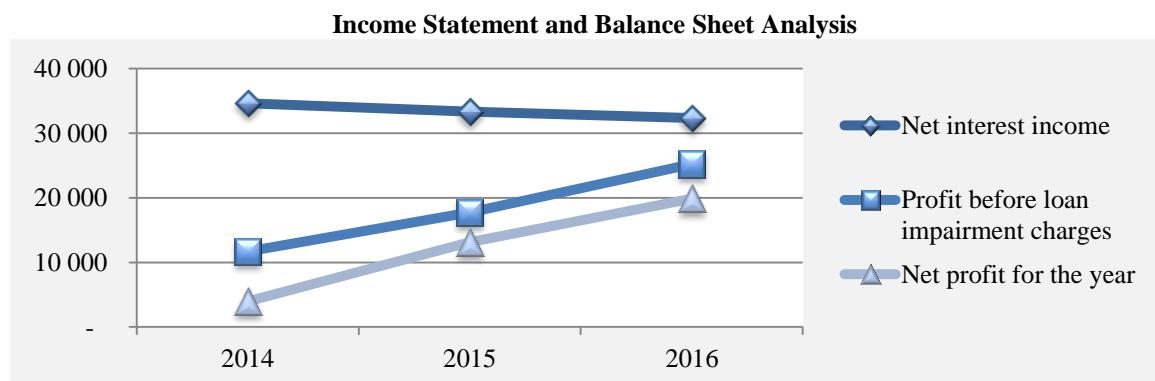
In its corporate sustainability report of 2016, Danske Bank emphasizes the following goals outlined by the UN that they intend to pursue: quality education and decent work and economic growth (Danske Bank, 2016). To achieve quality education, in 2017 they will provide their support to 10 thousand young people in order to improve financial knowledge, while to reach the second goal Danske Bank will support around 2 thousand start-up businesses and guide 800 thousand visitors (Danske Bank, 2016). According to the corporate responsibility report, in 2016 Danske Bank helped 7,408 representatives of the younger generation to improve their financial literacy by organizing such events as Money Week, the SMART money programme and Young Dreams workshops (Danske Bank, 2016). Also, according to Danske Bank's official website, Danske Group has been investing in green bonds since the year 2014 (danskebank.com, 2017). A green bond is a bond issued by organizations qualified on a federal level aimed at financing 'green projects' for the promotion of sustainable development (climatebonds.net, n.d.)



**Plate 6.** Danske Bank facts and figures in 2016 (Danske Bank, 2016)

Danske Bank also actively promotes one of the fintech technologies – a mobile payment system called ‘MobilePay’. Balocco et al. (2010) as cited by Oliveira et al. (2016) define m-payment as ‘a process in which at least one phase of the transaction is conducted using a mobile device (such as a mobile phone, smartphone, PDA, or any wireless enabled device) capable of securely processing a financial transaction over a mobile network, or via various wireless technologies (NFC, Bluetooth, RFID, etc.)’ (p. 405). The main idea behind mobile payment is that instead of using cash or cards, a person pays with a mobile phone, usually a smartphone; nevertheless, this specification can be extended to tablets, a PDA (personal digital assistant) or even laptops (Dennehy and Sammon, 2015). Some authors mistakenly claim that m-payments constitute mobile banking and vice-versa, as if the two terms describe the same thing; in fact, these are two different concepts that need to be clarified and distinguished from each other. It is true that in some circumstances mobile banking and mobile payments possess similar characteristics; nevertheless, these are two different systems. Even though it is possible to pay through mobile banking, m-payment is a more general term in this context and includes mobile banking services as well (Karnouskos and Fokus, 2009).

MobilePay enables Danske Bank to increase simplicity and accessibility in the provision of financial services. It also allows for donations to charity organizations. In the year 2016, there were more than 3 million users and 171 million transfers conducted via MobilePay in Denmark (Plate 6, Danske Bank, 2016).



**Figure 1.** Net interest income, profit before loan impairment charges, net profit (Excel, 2017)

Based on the income statement data over the period of 2014-2016, an Excel graph (Figure 1) was constructed. As can be observed, the bank’s net interest income gradually decreased, whereas net profit increased. Thus, it can be inferred that the bank’s net profit actually comes not from the core activities of commercial banking, lending and borrowing, but from investment banking activities such as trading and net premiums from insurance contracts, particularly the subsidiary Danica Pension, which positions itself as ‘the largest pensions provider in Denmark’ (Danica Pension official website, 2017). Moreover, absolute and relative changes between the two consequent years and the profitability ratios for each year were calculated based on the given income statement.

Table 1  
**Absolute and relative changes for 2014-2015 and 2015-2016**

(millions of DKK)	Absolute changes		Relative changes	
	2015-2016	2014-2015	2015-2016	2014-2015
Interest income	(1,265)	(6,068)	-2.1%	-9.1%
Interest expense	(261)	(4,794)	-0.9%	-14.8%
Net interest income	(1,004)	(1,274)	-3.0%	-3.7%
Fee income	317	981	2.0%	6.7%
Fee expenses	849	116	17.4%	2.4%
Net trading income	6,488	(2,946)	93.9%	-29.9%
Other income	1,222	238	25.5%	5.2%
Income from holdings in associates	450	491	91.6%	0.0%
Net premiums	3,327	728	15.6%	3.5%
Net insurance benefits	7,201	(2,556)	23.6%	-7.7%
Operating expenses	(138)	(857)	-0.6%	-3.3%
Impairment charges on goodwill and customer relations	(4,601)	(4,498)	-100.0%	-49.4%
Profit before loan impairment charges	7,488	6,014	42.3%	51.5%
Loan impairment charges	(107)	(3,779)	175.8%	-101.6%
Profit before tax	7,595	9,793	42.8%	122.9%
Tax	861	619	18.6%	15.4%
Net profit for the year	6,735	9,175	51.3%	232.4%

Table 2  
**Profitability ratios (Excel, 2017)**

	2016	2015	2014
Gross profit margin	54.23%	54.75%	51.69%
Profit before loan impairment margin	42.25%	29.07%	17.46%
Net profit margin	33.31%	21.55%	5.90%

The income statement shows that over the period of 2015-2016, the net trading income increased significantly, by almost 94% (by 6,488 mln. DKK), resulting in a higher net income, which increased by 6,735 mln. DKK in 2016. Nevertheless, 36% of the net trading income in 2016 was mainly due to the reclassified amount. The net trading income increased mainly due to the services provided to corporates and institutions, which was 61% and 70% of the total net trading income, excluding the reclassified amount, in 2016 and 2015 respectively. The net profit margin in relation to the interest income increased

significantly, from approximately 6% in 2014 to 33% in 2016, mainly due to the increase in the net trading income.

Table 3  
**Net trading income by business unit (notes to the financial statements, 2014-2016)**

(millions of DKK)	2016	2015	% of total	
			2016	2015
Personal Banking	562	517	6.53%	7.55%
Business Banking	568	606	6.60%	8.85%
Corporates and Institutions	5,263	4,799	61.15%	70.08%
Wealth Management	591	316	6.87%	4.61%
Northern Ireland	127	118	1.48%	1.72%
Other Activities	1,496	492	17.38%	7.18%
Hereof Group Treasury	1,634	276		
<b>Total</b>	<b>8,606</b>	<b>6,848</b>	<b>100.00%</b>	<b>100.00%</b>

The analysis of the balance sheet is mainly connected with the total assets. The significant changes to pay attention to are the loans provided to the credit institutions and central banks, which rose significantly in the last 2 years (2015-2016), represented by 141,620 mln. DKK, which is 136% larger than in 2015. This was the main reason for the increase in total assets during this period. The main reason for the decrease in total assets in 2014-2015 was the decrease in trading portfolio assets.

Table 4  
**Absolute and relative changes in 2014-2015 and 2015-2016 (Excel, 2017)**

(millions of DKK)	Absolute change		Relative change	
	2015- 2016	2014- 2015	2015- 2016	2014- 2015
Assets				
Cash in hand and demand deposits with central banks	(23,626)	42,961	-31%	127%
Due from credit institutions and central banks	141,620	(8,901)	136%	-8%
Trading portfolio assets	(37,340)	(195,494)	-7%	-26%
Investment securities	33	12,310	0%	4%
Loans at amortised cost	62,310	(13,645)	6%	-1%
Loans at fair value	24,343	51	3%	0%
Assets under pooled schemes and unit-linked investment contracts	7,955	11,745	9%	15%
Assets under insurance contracts	19,826	(2,878)	7%	-1%
Intangible assets	285	(4,748)	4%	-42%
Tax assets	(267)	7	-17%	0%
Other assets	(4,347)	(1,544)	-12%	-4%
<b>Total assets</b>	<b>190,792</b>	<b>(160,137)</b>	<b>6%</b>	<b>-5%</b>

## THEORETICAL FAIR VALUE USING GORDON'S GROWTH MODEL

The theoretical fair value of the Danske Bank share (Table 5) was calculated using the Gordon Growth Model (Dividend Discount Model) and the following assumptions were made:

1. The risk-free rate is equal to the 10-year government bond yield in Denmark=0.52%;
2. Annual market return was calculated using the SandP 500 monthly returns for the last year (over the period of 1.03.2016 to 1.02.2017) and is equal to 13.04%;
3. Beta is equal to 0.81, obtained from Reuters.com for Danske Bank.
4. Dividends in 2016 were equal to 9 DKK per share.

The growth rate was calculated with 3 different methods and in the end, the final estimated fair value was equal to the average price using 3 different growth rates under the Dividend Discount Model. The cost of equity for Danske Bank was measured using the CAPM formula with the assumptions stated above and is equal to 10.66%. The theoretical fair value was derived using the DDM as of 07.04.2017.

Table 5  
**Theoretical fair value of Danske Bank's share under the Dividend Discount Model  
(Excel, 2017)**

Summary of the results				
Growth rate	6.14%	6.47%	6.64%	Average
Theoretical fair value using the DDM	211.32	228.83	254.65	<b>231.60</b>

At the same time, analysts' forecasts for Danske Bank were obtained from the Financial Times Website (2017), as can be seen in Plate 8.



**Plate 8.** Danske Co share price forecast (ft.com, 2017)

Table 6

**Calculation of expected price according to analysts' forecasts (Excel, 2017)**

Current price	235.1
Expected return	6.69%
Average expected price	250.83

Based on the given data, the expected return and expected price of the share were calculated as 250.83 DKK (in Table 6) and compared with the theoretical fair value obtained.

Table 7

**Average price calculation (Excel, 2017)**

Description	Calculated average price	Analysts' forecasted price	Average
Price	231.60	250.83	<b>241.22</b>

As a result, the average expected price of 241.22 DKK per share was derived (Table 7). The market price on 7.04.2017 was 235.10 DKK (yahoofinance.com, 2017) and the difference between the calculated and real values was 6.12 DKK (241.22 DKK - 235.10 DKK). Thus, the recommendation as of 7.04.2017 was to buy the shares.

## CONCLUSION

Taking all these points into consideration, it can be inferred that the main reason why banks are a key to the economy's growth is the decision-making process implemented by financial institutions, universal and investment banks in particular, in relation to the distribution of investments among the population and institutions, which is directly linked, as proven by the crisis, with a stable and healthy economy, which in return provides a pillar for banks for further sustainable growth. The main drivers of banks' sustainability are mergers and acquisitions in terms of size, regulatory measures for ensuring transparency, and pursuit of innovation stimulated by fintech companies. As regards Danske Bank, the share price dramatically increased over the last 5 years from approximately 90DKK to nearly 235DKK. It is hard to evaluate how the commitment to sustainability development and corporate responsibility affects share price; nevertheless, positive dynamics in terms of share price can be observed clearly. Potential risks that are caused by sustainability issues include fines, litigations, reputation, scarce materials, and increased regulation. In fact, ethical behaviour and involvement in sustainability programmes allow for improved reputation and customer loyalty, improved risk management, less regulation, operational efficiency, etc. The PwC report (2012) states that 14 companies involved in the 'Green Portfolio Program' ended up saving more than 365 mln. USD. The main limitation of this paper is the analysis of the sample and the use of the Dividend Discount Model only to evaluate the share price. Even though this limitation may

apply, the paper is still valid. Additional methods of analysis can be applied to the object of research in the future.

## REFERENCES

1. Accenture. (2012). MandA Insights: Shifting Gears Podcast Transcript – Accenture. Available from: [https://www.accenture.com/t20150523T043423\\_\\_w\\_\\_us-en/\\_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries\\_6/Accenture-Manda-Insights-Shifting-Gears-Changing-Market-Banking-Transcript.pdf](https://www.accenture.com/t20150523T043423__w__us-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries_6/Accenture-Manda-Insights-Shifting-Gears-Changing-Market-Banking-Transcript.pdf). [Accessed on 16th April, 2017]
2. Bank of America Corporation. (2015). Annual Report 2015. Available from: [http://media.corporate-ir.net/media\\_files/IROL/71/71595/AR2015.pdf](http://media.corporate-ir.net/media_files/IROL/71/71595/AR2015.pdf). [Accessed on 8th April, 2017]
3. Baily, M.N and Elliott, D.J. (2013). The Role of Finance in the Economy: Implications for Structural Reform of the Financial Sector. The Brookings Institution. Available from: <https://www.brookings.edu/wp-content/uploads/2016/06/11-finance-role-in-economy-baily-elliott.pdf>. [Accessed on 8th April, 2017]
4. Borysova, V. and Stobbe, A. (2015). Sustainability at Deutsche Bank. Available from: [https://www.db.com/ir/en/download/Nomura\\_SRI\\_Conference\\_London\\_26\\_June\\_2014.pdf](https://www.db.com/ir/en/download/Nomura_SRI_Conference_London_26_June_2014.pdf). [Accessed on 10th April, 2017]
5. Citigroup. (2015). Annual Report 2015. Available from: [http://www.citigroup.com/citi/investor/quarterly/2016/ar15c\\_en.pdf](http://www.citigroup.com/citi/investor/quarterly/2016/ar15c_en.pdf). [Accessed on 8th April, 2017]
6. China Development Institute (CDI). (2016). The Global Financial Centres Index 20. CDI. Available from: [http://www.longfinance.net/images/gfci/20/GFCI20\\_26Sep2016.pdf](http://www.longfinance.net/images/gfci/20/GFCI20_26Sep2016.pdf). [Accessed on 8th April, 2017]
7. Danske Bank. (2016). Corporate Responsibility Report. Danske Bank. Available from: [https://danskebank.com/en-uk/CSR/Documents/CR\\_Report\\_2016.pdf](https://danskebank.com/en-uk/CSR/Documents/CR_Report_2016.pdf). Accessed on 20<sup>th</sup> April, 2017
8. Deloitte. (2014). Top 10 Issues for Banking MandA in 2014. Searching for growth and scale. Available from: <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/mergers-acquisitions/us-ma-top-issues-for-banking-in-2014-021215.pdf>. [Accessed on 15th April, 2017]
9. Dietz, M., Khanna, S., Olanrewaju, T. and Rajgopal, K. (2016). Cutting through the noise around financial technology. McKinsey. Available from: <http://www.mckinsey.com/industries/financial-services/our-insights/cutting-through-the-noise-around-financial-technology>. [Accessed on 8th April, 2017]
10. Ellison, D. (2014). Banking on the Growing Strength of the Financial System. Financials. Available from: [https://hennessyfunds.com/resources/docs/press/Financials\\_Whitepaper\\_6.15.pdf](https://hennessyfunds.com/resources/docs/press/Financials_Whitepaper_6.15.pdf). [Accessed on 8th April, 2017]
11. Goldman Sachs Group, Inc. (2015). Annual Report 2015. Available from: <http://www.goldmansachs.com/investor-relations/financials/current/annual-reports/2015-annual-report/annual-report-2015.pdf>. [Accessed on 8th April, 2017]

---

12. Goodhart, C. and Schoenmaker, D. (2016). The Global Investment Banks are now all Becoming American: Does that Matter for Europeans? Oxford University Press, 2, 163–181 doi: 10.1093/jfr/fjw012
13. Hoskins, S.M and Labonte, M. (2015). An Analysis of the Regulatory Burden on Small Banks. Congressional Research Service. Available from: <https://fas.org/sgp/crs/misc/R43999.pdf> [Accessed on 8th April, 2017]
14. Karmakar, S. and Mok, J. (2013). Bank capital and lending: an analysis of commercial banks in the United States. Banco de Portugal. Available from: <https://www.bportugal.pt/sites/default/files/anexos/papers/wp201318.pdf>. [Accessed on 8th April, 2017]
15. Labonte, M. (2016). Monetary Policy and the Federal Reserve: Current Policy and Conditions. Congressional Research Service. Available from: <https://fas.org/sgp/crs/misc/RL30354.pdf> [Accessed on 8th April, 2017]
16. Mauer, J. (2013). Banking Act of 1933, commonly called Glass-Steagall. Federal Reserve History. Available from: <http://www.federalreservehistory.org/Events/DetailView/25>. [Accessed on 9th April, 2017]
17. Moldenhauer, N. (2013). System Analysis of the Banking Systems of the USA and the EU. Journal of US-China Public Administration, Vol. 10, No. 10, 1018-1027. Available from: <http://www.davidpublishing.com/davidpublishing/Upfile/2/14/2014/2014021409211308.pdf>. [Accessed on 8th April, 2017]
18. OECD. (2012). Financial Contagion in the Era of Globalised Banking?. OECD Economics Department Policy Notes, No. 14, June. Available from: <https://www.oecd.org/eco/monetary/50556019.pdf> [Accessed on 8th April, 2017]
19. PWC. (2012). The integration of environmental, social and governance issues in mergers and acquisitions transactions. Available from: <https://www.pwc.com/gx/en/sustainability/publications/assets/pwc-the-integration-of-environmental-social-and-governance-issues-in-mergers-and-acquisitions-transactions.pdf>. Accessed on 15th April, 2017]
20. Stephens, B. (2016). The need for speed. 2016 Banking Industry Outlook Survey. KPMG. Available from: <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/04/banking-industry-outlook-survey.pdf>. [Accessed on 9th April, 2017]
21. Wells Fargo. (2015). Annual Report 2015. Available from: <https://www08.wellsfargomedia.com/assets/pdf/about/investor-relations/annual-reports/2015-annual-report.pdf>. [Accessed on 8th April, 2017]
22. Wyman, O. (2015). Post-Crisis Changes in the Stability of the US Banking System. Oliver Wyman, Inc. Available from: [http://www.oliverwyman.com/content/dam/oliver-wyman/global/en/2015/mar/Post\\_Crisis\\_Changes\\_in\\_the\\_Stability\\_of\\_the\\_US\\_Banking\\_System\\_Final\\_1.pdf](http://www.oliverwyman.com/content/dam/oliver-wyman/global/en/2015/mar/Post_Crisis_Changes_in_the_Stability_of_the_US_Banking_System_Final_1.pdf). [Accessed on 8th April, 2017]
23. Yahoofinance.com. (2017). Danske Co share prices. Available from: [yahoofinance.com](http://yahoofinance.com). [Accessed on 8th April, 2017]