# Pandemic impacts on corporate performance in various sectors in the United States of America

Author: Yeyu Sun University of Twente P.O. Box 217, 7500AE Enschede The Netherlands

# ABSTRACT

In 2020, the spread of COVID-19 had huge impacts on society, working from home, studying at home, wearing masks, and social distancing had become common phenomenon. However, the development of different kinds of vaccines brings the chance of eliminating or reducing the effects of COVID-19. The United States of America has made great progress for vaccination. By the time of 20th of May 2021, data shows that in America, 279,4 million doses have been registered, about 83,54 doses are administered per 100 people (Mathieu et al., 2021). Hence, America is chosen to investigate the effect of pandemic on different industries. The research question is: How did pandemic affect corporate performance in various sectors in the United States of America? The impact of pandemic on four different sectors will be investigated, namely retail sector, wholesale sector, sector of travel, personal and leisure, as well as biotechnology and life sciences sector.

**Graduation Committee members:** 

Dr. X. Huang Dr. E. Svetlova Dr. R. Gutsche

**Keywords** Pandemic, COVID-19, impact, sectors, corporate performance This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

# 1. INTRODUCTION

2020 was a special and rough year for everyone. The breakout of Covid-19 changed the way that people used to live and had huge impacts on the economy. Countries all over the world made efforts to stop the spread of COVID-19 by posting various of restrictions on travel and in-person commercial activities (Guan et al., 2020). Large number of people start to work from home. There are also people who lose their job due to the breakout of Coronavirus. Shops, cinemas, and restaurants are closed. Some industries and companies suffered from losing customers and profit, whilst others performed well with increasing profit compared to previous years. For example, over 80% of participants of a survey which explores the impact of COVID-19 on manufacturing business in the United Kingdom anticipated that there will be a decline in turnover over two quarters (Nicola et al., 2020). Another prediction from the perspective of the chemical industry is that the global production will be reduced by 1.2% (Nicola et al., 2020). Other industries such as catering and tourism also show significant decreases in demand, for example, according to Guan et al. (2020), in a six-month scenario, tourism in Jamaica decreased by 56.3%, which leads to the reduction of the beverages and tobacco products from the United States of America. In addition, numbers of companies in the United States of America suffered from pandemic and filed bankruptcy in 2020, such as Gold's Gym, Borden Dairy, high-end retailer Brooks Brothers, CMX Cinemas, hospital operator NMC Healthcare, and oil driller Noble Corp (Tucker, 2020).

Similar events had happened before. For instance, in 2002, a new disease appeared, which was called the severe acute respiratory syndrome, or SARS (Cherry & Krogstad, 2004). The outbreak of SARS had huge impacts on Asian countries, at least 12 million USD SARS were lost since the influence of SARS on tourism and retail sales. In addition, the GDP in China decreased about 1% due to SARS according to estimation (Qiu et al., 2018). Qiu et al. (2018) also mentioned that the manufacturing sector, transport sector and business sector in China were seriously affected by the outbreak of SARS. In 2009, the outbreak of H1N1 and the effects of financial crisis impacted tourism, retail sales and industrial production in China as well (Barua, 2020).

According to the timeline of COVID-19 (AJMC Staff, 2021), on the third of February 2020, The United States of America declared a public health emergency for the outbreak of COVID-19, 11th of March, World health organization declared COVID-19 a pandemic, and two days later, Trump made an announcement for declaring COVID-19 a national emergency. On the 16th of September, the administration of Trump released

# € CC-BY-NC

the distribution plan of COVID-19 vaccine ("A Timeline of COVID-19 Developments in 2020", 2021).

The theme of this research paper is related to corporate performance under pandemic. In order to investigate the influence that pandemic brings to different sectors in the United States of America, the research question is: How did pandemic affect various sectors in America?

COVID-19 can damage lungs and other organs such as heart and brain, which can increase the risk of long-term health problems ("COVID-19 (coronavirus): Long-term effects", 2021). Thus, the spread of COVID-19 and pandemic indicate the importance of developing vaccines and other medicine, which can be done by the companies and people who work in the sector of biotechnology. It is believed that vaccines can prevent people from being infected or who have COVID-19 from getting seriously ill ("Benefits of Getting a COVID-19 Vaccine", 2021).

The United States of America is one of the primary markets for business service, in which companies provide services to businesses such as hiring personnel and office administration ("Business Services Sector Industry Profile from First Research", n.d.). Companies in the business service sector are highly impacted by the uncertainties brought by the Coronavirus (Raaijmakers, 2020).

Industries of textiles, clothing, leather and footwear also suffer from the impact of COVID-19. Factors such as the reduction of salary, closure of retail stores and quarantine measures have negative effects on the demand of consumers ("COVID-19 and the textiles, clothing, leather and footwear industries", 2020). However, there is some evidence that shows that during the pandemic, more people shop online, which may also boost the transport and freight sectors to some extent.

Compared with 2019, consumers spent 44% more online with retailers in the U.S. in 2020, which is \$861,12 billion (Ali, 2021). Meanwhile, it is expected that there is a decline of the global wholesale market from \$48761,1 billion in 2019 to \$48477,8 billion in 2020 ("Global Wholesale Market Report 2020-30: COVID-19 Impact and Recovery - ResearchAndMarkets.com", 2020). It is also assumed that the regulations of staying at home and limiting outdoor activities boost the media and broadcasting sector.

The research will focus on the performance of companies across different sectors and the impact of pandemic on these sectors. Four sectors will be selected for the purpose of analyzing the effect of pandemic on them, namely retail sector, wholesale sector, travel, personal and leisure sector as well as sector of biotechnology and life sciences. Data will be gathered from Orbis.

## 2. CONCEPTUAL FRAMEWORK

To assess the financial performance of numbers of companies in different industries, several performance indicators can be chosen. There are numbers of benchmarks or indicators can be used. For example, working capital, calculated as the current assets minus the current liabilities, can measure the liquidity of operating business. Another benchmark that can be used to measure the performance of companies is profitability (Suardana et al., 2017). Profitability is one of the vital dimensions of firms' performance (Bottazzi, Secchi, & Tamagni, 2008). The return on asset, an imperative ratio of profitability, which can be used to measure how well the company can manage its usable resources and assets to obtain profits. Amounts of study use return on assets to measure the performance of companies, for example, a study of investigating the performance difference in related and unrelated diversified firms conducted by Bettis (1981), and study about impact of corporate governance on listed firm performance in Saudi stock exchange conducted by Buallay, Hamdan and Aureigat (2017). It is also imperative to mention that some studies of historical pandemics indicate that low returns on assets can be associated with the impact of pandemics (Donthu & Gustafsson, 2020). According to the research conducted by Sorana Vatavu, return on assets is influenced by debt ratio, tangibility and size (Vatavu, 2015). Shen et al. also demonstrated a model of net profit margin on total assets, which has size, growth rate of operating income and revenue as independent variables.

Four hypotheses are formulated for different sectors.

Null Hypothesis 1: In general, the pandemic has no positive impacts on the performance of companies in the biotechnology and life sciences sector in America.

Null Hypothesis 2: In general, the pandemic has no positive impacts on the performance of companies in the retail sector in America.

Null Hypothesis 3: In general, the pandemic has no negative impacts on the performance of companies in the wholesale sector in America.

Null Hypothesis 4: In general, the pandemic has no negative impacts on the performance of companies in the travel, personal and leisure sector in America.

### 3. METHODOLOGY AND DATA

A quantitative approach will be used for the research. Data from 2016 to 2020 will be retrieved from Orbis.

In the database of Orbis, there are information for 287,046 companies in America. The screening process consists of selecting companies in the United States of America, all companies should have known value of total assets, return on assets using net income, fixed assets, current ratio and total revenues from 2016-2020. After conducting the screening process of companies, there are 2,919 companies with available data across various industries. In total, there are 374 companies across selected four sectors. A multiple regression model will be used to analyze those data.

The following model will be used to assess performance of 374 companies across four different industries:

$$ROAit = \beta_0 + \beta_1 TANGit + \beta_2 SIZEit + \beta_3 CURRENTit + \beta_4 REVit + \beta_5 PANDEMIC + \varepsilon it$$

#### **Table 1. Variables definitions**

Variables	Descriptions					
ROA	Return on assets					
TANG	Tangibility, calculated as fixed assets divided by total assets					
SIZE	Logarithm of total assets					
CURRENT	Current ratio					
REV	Logarithm of total revenue					
PANDEMIC	Dummy variable, equals to 1 for year 2020, otherwise equals to 0.					

Sub-group analysis will be conducted for different sectors, and the coefficient of Pandemic, which is  $\beta 5$  in those sectors will be investigated. The dummy variable PANDEMIC is defined as 1 when data are collected in 2020, which is mainly the period of pandemic, otherwise it equals 0, the coefficient,  $\beta 5$ , is used to estimate the impact of pandemic on firm performance in different sectors. The variable PANDEMIC is used based on the model developed by Shen et al., who defined a dummy variable named Period to represent the outbreak time. The variable Period equals to 1 after the outbreak, otherwise equals to 0.

The other independent variables are selected based on the models used by Shen et al. and Sorana Vatavu. Independent variables size and revenue are selected based on the model developed by Shen et al.. The model developed by Sorana Vatavu used tangibility and liquidity as independent variable, liquidity is calculated as current assets divided by short-term debt, which cannot be found in the database of Orbis. Hence, to find another independent variable as a substitute, current ratio is selected based on the research conducted by EHIEDU (2014), which indicates that current ratio is correlated with profitability.

# 4. EMPIRICAL RESULTS

# 4.1 Descriptive Statistics

Count

After excluding companies with the value of total revenue or total assets equal to zero, in total, there are 326 companies that can be used for analysis. There are 46 companies in the Biotechnology and Life Sciences sector, 96 companies in the retail sector, 104 companies in the sector of travel, personal and leisure, and 80 companies in the wholesale sector.

#### Table 2. Number of companies across sectors

BvD sectors \* Year Crosstabulation

			Year					
		2016	2017	2018	2019	2020	Total	
BvD sectors	Biotechnology and Life Sciences	46	46	46	46	46	230	
	Retail	96	96	96	96	96	480	
	Travel, Personal & Leisure	104	104	104	104	104	520	
	Wholesale	80	80	80	80	80	400	
Total		326	326	326	326	326	1630	

There is a significant gap between the minimum and maximum value of total revenue in all sectors. Companies in the Biotechnology and Life Sciences sector have the largest standard deviation for the value of ROA, which is 26,99. In addition, the sector of Biotechnology and Life Sciences also has 6.01 as the value of the standard deviation of current ratio. The standard deviation of tangibility of all four sectors are relatively low, the largest value among them is 0,25, which is the standard deviation of tangibility of the Biotechnology and life sciences sector. A company in the Wholesale sector has the lowest value of ROA, which is -92,13, a company in this sector also has the largest value of size, which is 7,65.

#### Table 3. Descriptive statistics

							Feb 24400	8								
		Biotechnolog	y and Life Scie	****	Retail			Travel, Personal & Leisure			Wholesale					
	Mean	Minimum	Waximum	Standard Deviation	Mean	Minimum	Maximum	Standard Deviation	Nean	Minimum	Nzimum	Standard Deviation	Mean	Minimum	Maximum	Standard Deviation
ROA	-21.35	-89.74	49.52	25.93	3.09	-85.76	61.99	12.97	2.36	-61.90	38.72	9.10	1.68	-92.13	37.21	11.10
Tetal assets th/USD	022540	10748	8053305	1504611	12328336	11701	321195300	36129561	5032645	2058	52426000	7879702	4391195	1909	44274830	6166136
SKZE	5.44	4.03	6.91	.63	6.40	4.07	8.51	.75	6.13	3.59	7.72	.85	6.24	3.29	7.65	.69
Fixed assets th/USD	427086	272	6325294	1057359	7885552	2748	188462010	24452739	4221544	2207	46383600	6689772	2101163	1203	15399300	2858872
CURRENT	6.77	.36	43.55	6.01	1.62	.36	13.64	1.12	1.28	.06	6.92	.97	2.24	.27	2.21	1.20
Total Revenues th/USD	424525	43	5767000	1038421	21448128	236	559151020	65259806	2919836	193	26509600	4557959	9954273	29	189883926	24670326
REV	4.55	1.63	6.76	1.13	6.59	2.37	8.75	.82	5.93	2.29	7.42	.85	6.44	1.47	8.29	.80
TANO	.29	.00	.05	.25	.54	.05	.34	.19	.82	.05	1.00	.14	.48	.04	.97	.21

# 4.2 Regression results

Linear Regression analysis are conducted by using SPSS. The coefficient of predictor PANDEMIC is used for the purpose of investigating the impact of pandemic to various companies in four selected sectors in America, namely Biotechnology and Life Sciences sector, Retail sector, Wholesale sector and the sector of Travel, Personal and Leisure. Hence, this section will mainly discuss the results of the coefficient of the independent variable PANDEMIC and the significance level of it.

#### 4.2.1 Result of Biotechnology and Life Sciences sector

There are 46 companies in the Biotechnology and Life Sciences sector, data of variables, excluding PANDEMIC, range from year 2016 to 2020. The coefficient of variable PANDEMIC is 0,148, with the significant value of 0,961.

#### Table 4. Regression result of Biotechnology and Life Sciences sector from SPSS

Coefficients<sup>a,b</sup>

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-79.758	11.107		-7.181	.000
	TANG	25.420	6.287	.231	4.043	.000
	SIZE	-9.085	2.694	212	-3.372	.001
	CURRENT	1.342	.242	.299	5.553	.000
	REV	20.073	1.636	.839	12.273	.000
	PANDEMIC	.148	3.016	.002	.049	.961

a. Dependent Variable: ROA

b. Selecting only cases for which BvD sectors = Biotechnology and Life Sciences

#### 4.2.2 Result of Retail sector

The number of companies that are selected in the Retail sector is 96, data of variables excluding PANDEMIC range from year 2016 to 2020. The coefficient of predictors PANDEMIC is -2,393, the significance value of it is 0,083.

#### Table 5. Regression result of Retail sector from SPSS

#### Coefficients<sup>a,b</sup>

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-37.579	5.548		-6.774	.000
	TANG	-2.046	3.543	030	577	.564
	SIZE	-2.809	2.529	163	-1.111	.267
	CURRENT	.599	.671	.052	.893	.372
	REV	8.997	2.390	.569	3.764	.000
	PANDEMIC	-2.393	1.376	074	-1.739	.083

a. Dependent Variable: ROA

b. Selecting only cases for which BvD sectors = Retail

4.2.3 Result of Travel, Personal and Leisure sector The sector of Travel, Personal and Leisure consists of 104 companies. Data of variables excluding PANDEMIC range from year 2016 to 2020. The coefficient of predictors PANDEMIC is -6,804, the significance value of it is 0,000.

#### Table 6. Regression result of Travel, Personal & Leisure sector from SPSS

Coefficients<sup>a,b</sup>

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-16.652	4.094		-4.068	.000
	TANG	1.367	3.230	.021	.423	.672
	SIZE	-5.105	1.118	479	-4.567	.000
	CURRENT	1.976	.452	.211	4.375	.000
	REV	8.105	1.142	.756	7.095	.000
	PANDEMIC	-6.804	.891	299	-7.637	.000
- D		LL. DOA				

a. Dependent Variable: ROA

b. Selecting only cases for which ByD sectors = Travel. Personal & Leisure

#### 4.2.4 Result of Wholesale sector

There are 80 companies in the Wholesale sector, data of variables excluding PANDEMIC range from year 2016 to 2020. The coefficient of independent variable PANDEMIC is -3,561 with 0,004 as its significance level.

### Table 7. Regression result of Wholesale sector from SPSS Coefficients<sup>a,b</sup>

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-38.721	5.044		-7.676	.000
	TANG	1.113	3.136	.021	.355	.723
	SIZE	-2.618	2.028	162	-1.291	.197
	CURRENT	2.643	.467	.285	5.659	.000
	REV	7.921	1.746	.571	4.538	.000
	PANDEMIC	-3.561	1.229	128	-2.897	.004
a. D	ependent Varia	ble: ROA				

b. Selecting only cases for which BvD sectors = Wholesale

## 5. CONCLUSION

To investigate the impacts of pandemic in selected four sectors, it is imperative to interpret the significance level of predictor PANDEMIC from table 4, 5, 6 and 7. Setting the confidence interval to 95%, according to the results generated by SPSS, the significance levels of PANDEMIC for the sector of Biotechnology and Life Sciences and Retail sector are 0,961 and 0,083 respectively, which are larger than 0,05. Hence, the null hypothesis 1 and the null hypothesis 2 should not be rejected, which indicates that:

In general, the pandemic has no positive impacts on the 1 performance of companies in the biotechnology and life sciences sector in America.

2. In general, the pandemic has no positive impacts on the performance of companies in the retail sector in America.

Based on the analysis results generated by SPSS, the significance levels of predictor PANDEMIC for Wholesale sector and the sector of Travel, Personal and Leisure are 0,004 and 0,000 respectively, suggesting that null hypothesis 3 and null hypothesis 4 should both be rejected. Therefore, the conclusions for the Wholesale sector and the Travel, Personal and Leisure sector are:

- 1. In general, the pandemic has negative impacts on the performance of companies in the Wholesale sector in America.
- 2. In general, the pandemic has negative impacts on the performance of companies in the Travel, Personal and Leisure sector in America.

In summary, pandemic has no positive effects on all selected four sectors.

However, table 5, 6, and 7 indicate that there is not significant change in ROA due to the tangibility of companies in Retail sector, Wholesale sector and the sector of Travel, Personal and Leisure. The regression result of Retail sector also manifests that current ratio and size, which is the logarithm of total assets do not have significant effects on ROA. It is assumed that the occurrence of high significant level is caused by the data gathered from Orbis for selected sectors are not comprehensive enough. Data without missing value from year 2016 to 2020 are restricted, which limits the choice of independent variables. The sample size of companies in each sector is also limited. Consequently, the results of analysis have their limitations.

Therefore, for the future study of the impacts of pandemic on corporate performance, it is suggested to use multiple approaches to have a more comprehensive analysis of firms' performance. There are several methods that can be used. For example, in the research from McGuire, Sundgren, and Schneeweis (1988), the financial performance of firms was measured in terms of accounting based, stock-market based and in terms of risk. Risk-adjusted return and total return were used for market performance, sales growth and operating income growth were used for assessing the accounting-based performance in addition to ROA. Accounting-based measures of risk such as operating leverage and the standard deviation of operating income were selected. Besides, beta, which is a measure of systematic risk and standard deviation of total return were used for the purpose of measuring market risk (McGuire et al., 1988).

# 6. ACKNOWLEDGMENTS

I would like to express my appreciation to Dr. X. Huang and Dr. E. Svetlova, who provided constructive suggestions and help for my thesis.

I would also like to express my gratitude to my parents, who are always supportive of me.

Special thanks to ACM SIGCHI for providing the template.

Finally, I wish to thank my friends Chen, Gao, and Hu, for encouraging me throughout my study.

# 7. REFERENCES

 Ali, F. (2021). Ecommerce trends amid coronavirus pandemic in charts. Retrieved from https://www.digitalcommerce360.com/2021/02/ 15/ecommerce-during-coronavirus-pandemic-incharts/

- A Timeline of COVID-19 Developments in 2020. (2021.) Retrieved from https://www.ajmc.com/view/a-timeline-of-covid19developments-in-2020
- Barua, A. (2020). Economic impact of epidemics and pandemics in Asia since 2000. Retrieved from https://www2.deloitte.com/content/dam/insights/us/ar ticles/63584\_Economic-effects-of-pastepidemics/DI\_Economic-effects-of-pastepidemics.pdf
- Benefits of Getting a COVID-19 Vaccine. (2021). Retrieved from https://www.cdc.gov/coronavirus/2019ncov/vaccines/vaccine-benefits.html
- Bettis, R. A. (1981). Performance differences in related and unrelated diversified firms. *Strategic Management Journal*, 2(4), 379–393.
- Bottazzi, G., Secchi, A., & Tamagni, F. (2008). Productivity, profitability and financial performance. *Industrial and Corporate Change*, *17*(4), 711–751. https://doi.org/10.1093/icc/dtn027
- Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate governance and firm performance: evidence from saudi arabia. *Australasian Accounting*, *Business and Finance Journal*, *11*(1), 78–98. https://doi.org/10.14453/aabfj.v11i1.6
- 8. Business Services Sector Industry Profile from First Research. (2021). Retrieved from https://www.firstresearch.com/industryresearch/Business-Services-Sector.html
- Cherry, J. D., & Krogstad, P. (2004). SARS: the first pandemic of the 21st century. Pediatric research, 56(1), 1–5. https://doi.org/10.1203/01.PDR.0000129184.87042.F C
- COVID-19 and the textiles, clothing, leather and footwear industries. (2020). Retrieved from https://www.ilo.org/sector/Resources/publicatio ns/WCMS\_741344/lang--en/index.htm
- COVID-19 (coronavirus): Long-term effects. (2021). Retrieved from https://www.mayoclinic.org/diseasesconditions/coronavirus/in-depth/coronavirus-longterm-effects/art-20490351
- Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of business research*, 117, 284–289. https://doi.org/10.1016/j.jbusres.2020.06.008

- EHIEDU, V. C. (2014). The Impact of Liquidity on Profitability of Some Selected Companies: The Financial Statement Analysis (FSA) Approach | Chukwunweike | Research Journal of Finance and Accounting. Retrieved from https://www.iiste.org/Journals/index.php/RJFA/article /view/11414
- Global Wholesale Market Report 2020-30: COVID-19 Impact and Recovery - ResearchAndMarkets.com. (2020). Retrieved from https://apnews.com/pressrelease/business-wire/manufacturing-and-miningshipments-inventories-and-orders-wholesale-trademanufacturing-sector-performance-business-retailand-wholesale-sector-performance-43414f44b3d24af1a66144f39ae9dfeb
- Guan, D., Wang, D., Hallegatte, S. *et al.* Global supply-chain effects of COVID-19 control measures. *Nat Hum Behav* 4, 577–587 (2020). https://doi.org/10.1038/s41562-020-0896-8
- McGuire, J. B., Sundgren, A., & Schneeweis, T. (1988). CORPORATE SOCIAL RESPONSIBILITY AND FIRM FINANCIAL PERFORMANCE. *Academy of Management Journal*, 31(4), 854–872. https://doi.org/10.2307/256342
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International journal of surgery (London, England)*, 78, 185–193. https://doi.org/10.1016/j.ijsu.2020.04.018
- 18. Qiu, W., Chu, C., Mao, A., & Wu, J. (2018, June 28).

The Impacts on Health, Society, and Economy of SARS and H7N9 Outbreaks in China: A Case Comparison Study. Retrieved from https://www.hindawi.com/journals/jeph/2018/271018 5/

- Raaijmakers, A. (2020). The pandemic impact on Global Business Services. Retrieved from https://home.kpmg/nl/nl/home/insights/2020/04/ the-pandemic-impact-on-global-businessservices.html#
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The Impact of the COVID-19 Pandemic on Firm Performance. *Emerging Markets Finance and Trade*, 56(10), 2213–2230. https://doi.org/10.1080/1540496x.2020.178586
- Suardana, I. B. R., *et al.* (2018). Influential Factors towards Return On Assets and Profit Change. *International Journal of Social Sciences and Humanities (IJSSH)*. Published. https://doi.org/10.29332/ijssh.v2n1.100.
- Tucker, H. (2020). Coronavirus Bankruptcy Tracker: These Major Companies Are Failing Amid The Shutdown. Retrieved from https://www.forbes.com/sites/hanktucker/2020/05/03/ coronavirus-bankruptcy-tracker-these-majorcompanies-are-failing-amid-theshutdown/#5649f95d3425
- Sorana, V. (2015). Determinants of Return on Assets in Romania: A Principal Component Analysis. *Timisoara Journal of Economics and Business*, 8(s1), 32–47. https://doi.org/10.1515/tjeb-2015-0003