

The Impact of Sanctioning Russia on Stock Price: Case from McDonald's Suspension and Business Retreat

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Abstract. Since the outbreak of the Russia-Ukraine conflict, an array of countries, international organizations, and business entities have declared their political stances in favor of Ukraine. Many have imposed certain sanctions against Russia to intimidate its further military operation. But such conduct deflected from its initial virtues, leading to a lose-lose situation. Based on event study methodology, this paper applies CAPM to the analysis of the effects of sanctioning on stock prices of listed companies, taking McDonald's as an example. The statistical results reveal that the mild sanction, temporary business suspension, did not disturb the stock return significantly. On the other hand, the radical sanction, the complete business withdrawal from Russia, negatively affected McDonald's stock performance. Since international relationships between major countries remain murky, business owners and individuals engaging in global trades ought to recognize the insidious effects of the imposition of sanctions, and be cautious about the timing and expected public responses to their proclamations to get well-prepared to confront ensuing challenges.

Keywords: Sanction; Russia-Ukraine Conflict; Stock Price; McDonald.

1. Introduction

At the end of February 2022, when Russian president Vladimir Putin announced the special military operation in the eastern part of Ukraine, the Russia-Ukraine conflict erupted, with thousands of critics and celebrities from different industries lambasting Russia for its incursion. The West expediently launched economic sanctions against Russia, which significantly influenced the Russian economy.

Meanwhile, many international corporations in various fields have imposed similar sanctions on Russia in support of the people in Ukraine. To declare their political stance, either those companies have published complete withdrawals, or part of their businesses are in suspension amid the Russia-Ukraine conflict. On March 8, 2022, McDonald's announced that it would suspend all 850 of its restaurants in Russia on March 14, and on May 16, it pronounced a business retreat from Russia. But S. Hedlund (2019) has drawn a trenchant conclusion that the only way to rapprochement between Russia and Ukraine is through military deterrence or political negotiation. The sanctions regime seemingly acts like a prevarication mechanism to disguise their cowardice of direct punishment [1].

Moreover, the consequential economic predicaments these corporations encounter are not usually considered as though such reflection will mar their virtuous intentions to pose sanctions. On the other hand, companies are susceptible to being boycotted by customers in other countries if they remain silent on the crisis. Their use of the proclamation of suspension or withdrawal as objections to certain political or commercial issues aims to invigorate their skittish investors, becoming more frequent.

Hitherto numerous scholars have put their emphasis on the insidious effects of sanctioning on a certain industry. For instance, CCG (2022) reported the possible impacts on the energy and food market, the global supply chain, and the world financial markets. However, the research on the effects of imposing company sanctions is still blank. Such a study is worthwhile, given that international relationships between major sovereigns remain murky. This article is concerned with the impacts of the imposition of sanctions on stock prices, taking McDonald's as an example. By understanding the development and studying subsequent incidents, corporation executives can identify the challenges and uncertainties in sanctioning from an objective perspective. Analyzing trends in the fluctuation of McDonald's stock price provides an initial assessment of the effects of public acclamation. Based on its operating status after a complete withdrawal from Russia, this paper attempts to propose

managerial strategies for McDonald's and list some future suggestions for companies facing a similar dilemma.

2. Theoretical background and hypotheses development

This study examined the literature related to stock market and CAPM (Capital Asset Pricing Model) to develop the theoretical background. In the following section, this study discuss each construct and develop hypotheses on how they are related.

Deng's study (2015) indicates that public opinion will be instantaneously reflected in listed companies' stock prices, based on Efficient Market Hypothesis (EMH), but such disturbance only lasts for a short period [2]. Also, behavioral economists argue that the stock market is subjected to irrational investors' emotion-driven conduct, which results in a departure from its expected trend [2]. Antecedent studies established that negative media reports have a short-term adverse effect on stock price, and the Chinese temperance movement significantly negatively impacts MT's (a Chinese renowned alcohol brand) stock price [3, 4].

Previous research shows that CAPM has been widely used for empirical studies since the 1970s. The model's inherent constraints notwithstanding-such as the CAPM only can be effective under an array of assumptions, all the risks in the market need to be considered in its calculation. Its impotence to protect investors from a whole market recession- the CAPM is logically correct and helps simplify the uncertainty analysis, concentrating on the discussion of ramifications of suspension and withdrawal [5]. Therefore, this paper intends to apply CAPM to studying McDonald's stock price. The event study methodology is an empirical study used to establish the relationship between the market reaction and an unexpected incident. This methodology was first proposed by Dolley (1933), then improved and introduced into the financial field by Ball (1968) and Fama (1969). When an accident occurs, or temporary information is disclosed, economists can use this method to study the abnormal volatility in stock prices [6]. McDonald's is a leading food service retailer, with more than 38,000 restaurants worldwide, listed on NYSE. The latter customers are sensitive to adverse reports of food quality and humanitarian issues and can easily switch to other competing brands, KFC, and Burger King, at low cost. Public opinion plays a vital role in McDonald's operational success. Due to the development of the Internet and media, the adverse effects of the disclosure are intensified, which means that they will eventually be manifested in McDonald's performance. Thus, this paper uses event study methodology, taking the case of McDonald's, to study the impact of its sanctions against Russia on its stock price.

This study argue that the announcement of suspension can trigger a flurry of investment activity by investors. Based on the above analysis, the hypotheses of this article are proposed:

H1: The announcement of suspension does have an impact on McDonald's stock price.

After the temporary suspension in Russia, investors waiting for McDonald's further arrangement lost their patience when noticing other American companies proclaimed their eternal removal from Russia. McDonald's announcement of withdrawal reassured these investors. Thereby, the second hypothesis can be drawn:

H2: The proclamation of withdrawal from Russia impacts McDonald's stock price.

3. Research Methodology

3.1 Data collection and Measures

This article takes McDonald's stock price from February 1, 2022, to July 5, 2022, as study samples. S&P 500 index these days is applied as market return. The Wind database provides all the data.

This research defined the events of imposition of sanctions as when McDonald's announced its provisional suspension on March 8, 2022, and its official withdrawal at May 16, 2022 in public. To diminish the contamination of other political and commercial convulsions, this study selects a 5-day event window beginning two days preceding each event and ending two days after each event. Such

simplification is conducive to the calculation, and the results remain valid [7]. On the other hand, the estimation window needs to be selected scrupulously. According to Peterson's research, they choose estimation windows before the events are acceptable in most situations. When structural changes in subjects' assets occur, employing periods after events as estimation windows are effective in acquiring unbiased results [8]. Differing in severity and degrees at which the Russia-Ukraine conflict influenced, those two measures should be matched to different estimation periods: the 30-day estimation window for the mild sanction is comprised of 5 pre-event days and 25 post-event days to take the volatility caused by the breakout of the military operation in Ukraine into account; the period of 30 days after the proclamation of withdrawal is used as the estimation window of the radical sanction, in that it signals a considerable change in McDonald's operating assets. Table 1 shows the events, corresponding event windows, and estimation windows used in this research.

Table 1. The events, estimation windows, and event windows three

Event	Occurrence date	Event window	Estimation window
Temporary suspension	t1= 08/03/2022	E1=[t1-2, t1+2]	T1=[t1-7, t1-4] $\cup$ [t1+4, t1+29]
Complete withdrawal	t2= 16/05/2022	E2=[t2-2, t2+2]	T2=[t2+4, t2+33]

Based on CAPM, the statistical model of a stock's return can be easily calculated using equation 1.

$$R_T = \alpha + \beta R_{mT} + \varepsilon_T, T \in \{T_1, T_2\} \quad (1)$$

Where R_T and R_{mT} represent the estimation period-T returns on McDonald's shareholdings and the market portfolio, respectively, and ε_T is the zero mean disturbance term with a variance of σ^2 . Alpha and β are the parameters of linear regression.

The abnormal return is the subtraction of a stock's actual and normal returns. See equation 2.

$$AR_E = R_E - E(R_E | X_E), E \in \{E_1, E_2\} \quad (2)$$

Where AR_E , R_E and $E(R_E | X_E)$ represent the abnormal return, actual return, and normal return respectively for the event period E. The normal return used in this research is the expected return without the event's occurrence. The most widely used normal return model is a market return function. See equation 3.

$$E(R_E | X_E) = \hat{\alpha} + \hat{\beta} R_{mE}, E \in \{E_1, E_2\} \quad (3)$$

A cumulative abnormal return is the sum of abnormal returns during an event window. The following is the calculation of equation 4:

$$CAR_E = \sum AR_E, E \in \{E_1, E_2\} \quad (4)$$

Those calculation models refer to the literatures of MacKinlay A C.(1997) and Huang (2018) [6, 8]. In these models, this article decouples the sanctions of McDonald's into two distinct events, predicting that both of them disturbed its performance on the stock market, that is, hypothesis H1 and H2. In addition, to verify these hypotheses, the significant difference in McDonald's cumulative abnormal return needs to be examined through a T-test. If $CAR_E \neq 0$, and significantly, those sanctions, indeed, have an impact on McDonald's performance on the stock market; if $CAR_E = 0$ significantly, such suspension, or withdrawal, either does not influence McDonald's performance noticeably or is reflected in the stock market.

3.2 Analyses and results

Table 2 shows the results of the regression and t-test of each event. Each regression model is effective in demonstrating that there exists a significant linear correlation between market return and McDonald's stock return. More specifically, system risks in the suspension period regression help explain 43.1% of the volatility in the actual return of McDonald's stock. In contrast, they account for 35.2% of the fluctuation in actual return. The CAR during the suspension period is -5.55% but fails to pass the T-test, meaning hypothesis 1 proves unfounded. It is noteworthy that during the withdrawal period, the CAR arrives at -7.34% and passes the T-test at a 0.05 significant level; nevertheless, the negative t value indicates that McDonald's suffered from a downgrade in its assessment, rather than relishing the public acclamation that behavioral economics suggests in former studies. Hypothesis 2 is in part, correct, but it needs to be scrutinized meticulously.

Table 2. Computation for the two events: suspension and withdrawal

Event	CAR	T value	Regression model	
			Adjusted R square	F value
Suspension	-5.55%	-1.78%	0.431	22.227***
Withdrawal	-7.34%	-3.00%**	0.352	16.783***

(**: $p < 0.05$; ***: $p < 0.01$)

4. Discussion

The discrepancies between the research results and the hypotheses of this article are noticeable, and there are potential explanations. Firstly, as McDonald's declared its incipient contingency on the Russia-Ukraine issue as an inevitable concession due to the difficulties of operation, techniques, and logistics, investors were willing to accept this temporary shutdown and found themselves confused by the situation of the warfare. The cumulative abnormal return for the suspension policy is not significantly distinct from zero, meaning McDonald's shareholders held a relatively neutral attitude to the suspension. Moreover, McDonald's ability to tackle emergencies, such as staying positive to confront the pandemic crisis and operating during the economic recession, contributes to a good reputation with the communities and its investors, leading to an insignificant cumulative abnormal return [9].

Second, it has been authenticated that the radical sanction of business retreats impacts stock prices. Nevertheless, the study shows that such a sanction affects the stock return negatively. The shareholders presented rationality in response to McDonald's political statement. Although most western people support people in Ukraine, the qualm of remarkable loss in McDonald's long-term operating asset outweighed the public acclamation. As of the end of 2021, McDonald's owned 847 company-operated restaurants in Russia, which took up approximately 84% of its international company-operated system and contributed to 9% of McDonald's total revenue with 108 restaurants in Ukraine.

Figure 1 shows the constituents of McDonald's total annual revenue from 2018 to 2021. It can be found that there exists a trend that the proportion of Company-operated revenue is slightly dwindling towards a more balanced composition in its financial performance, though a temporary slump in 2020 due to the impact of COVID-19.

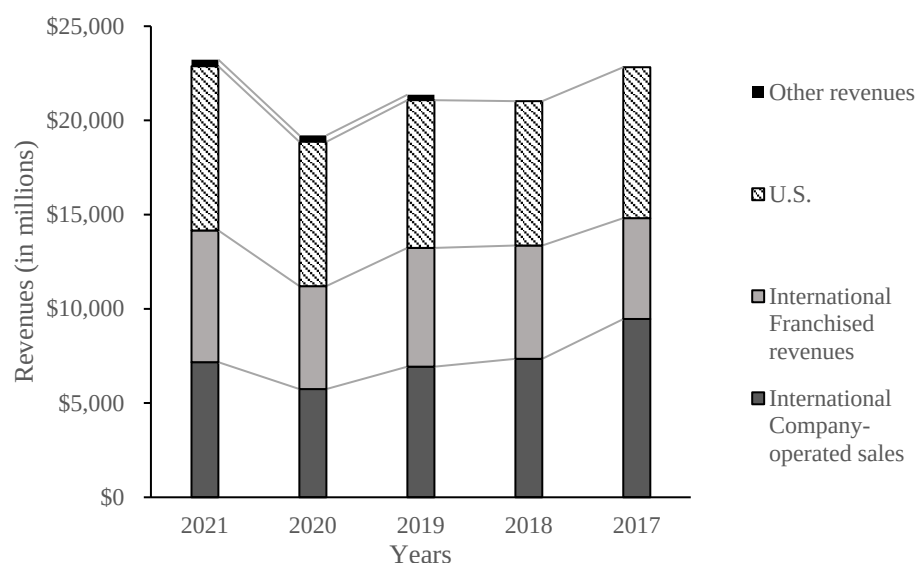


Fig. 1 McDonald's annual revenues from different departments from 2017 to 2021 (Source: McDonald's financial statements)

Figure 2 also gives additional evidence of this trend. The total number of Company-operated restaurants is decreasing. The anomalous increment in openings is primarily ascribed to the recovery from the impact of COVID-19, while the number of franchised restaurants is ascending. However, the high percentage of restaurants in Russia fades MacDonal'd's attempts at structural adjustment. With the Company-operated segment accounting for up to 53% of its total revenue, the upheaval in one of its main contributors renders the adverse effect of McDonald's proclamation far from negligible.

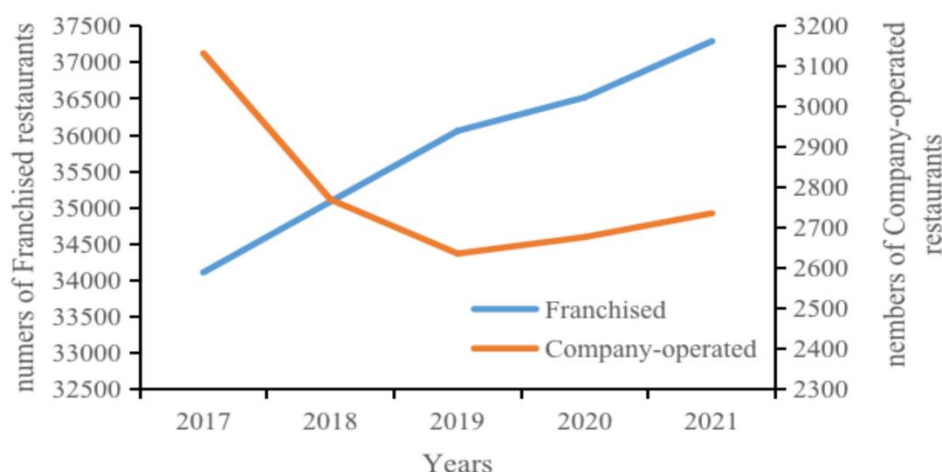


Fig. 2 The numbers of two types of McDonald's restaurants from 2017 to 2021 (Source: McDonald's financial statements)

An alternative explanation is that public reactions have the property of diminishing marginal utility for such sanctions. Public responses to these sanctions announcements demonstrate a tendency towards growing lethargy, resulting in a situation where only the most proactive company gains its attention, with the public acclaiming for its spirit of humanity while reckoning the sanctions of the least responsive one as reluctant concessions. Before MacDonal'd announced further measures, there

were already 148 influential global entities insisting on their political stance in favor of Ukraine, which declared a formal withdrawal from Russia. See table 3 for details.

Table 3. The distribution of different types of sanctions among regions before March 18, 2022(Source: WEIJIN Research's report on the Russia-Ukraine issue)

Region	Types of sanctions		
	Complete withdrawal	Temporary suspension	Proscription of investment
U.S.	73	77	38
UK	28	12	7
German	4	11	8
France	3	12	8
Japan	0	15	1
others	17	1	11
International organization	23	47	0
Total	148	175	73

Which indicates that on average, 7 international corporations, including organizations, proclaimed their uncompromising attitude towards punishing Russia every day after the breakout of the Ukraine conflict. In this case, McDonald's further steps rarely encouraged the public and its investors, but McDonald's dilatory decision-making process became an insidious factor. Noticing an array of giants of all trades announcing their further measures against Russia, Yale professor Jeffrey Sonnenfeld and his research team compiled a spreadsheet of companies staying in Russia. They implied that they ought to clarify their stance and take further steps in business sanctions (Source: A Yale professor's list of companies staying in Russia has put the business world on notice from the inquirer (<http://www.inquirer.com/>)). Meanwhile, New York state comptroller Thomas DiNapoli wrote a public letter to Chris Kempczinski, the CEO of McDonald's, in which he urged McDonald's to curtail or discontinue operations in Russia for the sake of eschewing investment risks associated with the Russian market and promoting reconciliation between Russia and Ukraine (Source: office of the state comptroller (<http://www.osc.state.ny.us/>)). Additionally, McDonald's is obligated to pay its 62,000 Company-operated staffs in Russia even if suspending its operation, which presumably cost \$50 million per month. The blurring future progression of warfare escalated such a situation. Moreover, mass media and the agitated public play important roles in fomenting seditious topics, #BoycottMcDonalds on Twitter worldwide. It is indisputable that McDonald's got bogged down in a dilemma of whether or not to withdraw from Russia. Clearly, McDonald's preferred a gain of \$1.3 billion from selling its asset in Russia and a potential decline in performance over the monstrous opportunity cost of staying in Russia.

The differences between the A-share market in China and the American stock market are also vital factors to be reckoned with. First, A-share comprises individual investors whose transactions take up 80% of the total daily turnover in the market. In contrast, only 11% of daily transactions are attributed to individual investors in the American stock market. This discrete distribution determines the characteristics of fickleness. Secondly, the shortage of new listings due to the approval mechanism and the blank of a rigorous delisting system have incurred irrational behaviors in the A-share market, such as overrating low-performance companies and being confounded by disinformation and capital manipulations. Data from Bloomberg shows 1,269 new listings in the A-share market from 2016 to 2020. Still, merely 34 of them were delisted because low-performance-their stock prices failed to represent anticipations of their performances, aggrandizing the evaluation of the A-share market as a whole. Lastly, listed companies in the A-share market demonstrate immaturity concerning management and profitability. Statistical results indicate that in the recent 10 years, 161 listings in

the American stock market have a stable ROE of more than 15% and 53 listings show a ROA greater than 10%. In contrast, only 18 companies outperform ROE of 15%, and no company has a stable ROA of more than 10%. As derived from the immaturity of the A-share market, the sensitiveness of information from all sources amplifies the effects of emotion-driven behaviors, leading to a more flippant investment environment, as Zhang (2021)'s study suggests [10].

The chances for such a sweeping geopolitical conflict are rare. Still, every ambitious company ought to get well-prepared to face it, given that the international relationship appears more unstable and uncertain. There are some suggestions for these companies. First, they need to focus on the progression of such emergencies from a dynamic perspective. By following the event's development and analyzing its position among other business entities, it can take an expeditious step and prevent further condemnations. Second, they should equip themselves with a stronger ability to control social media and cultivate a more congenial customer relationship to assist them in restoring their reputation and curtail the opportunity cost they might encounter if sanctioning. Third, they should identify the characteristics of the stock market they are in. Investors from a mature market can make a more judicious decision based on disclosed information than investors from a developing market. Companies in the former market will meet more destructive outcomes, while companies in the latter can appease their ingenuous investors using publicity means to belie some otherwise depressing news.

5. Conclusion

This paper applies CAPM to analyze the impacts of sanctioning against Russia on McDonald's stock price, using the methodology of event studies. The statistical results show that a mild sanction, temporary suspension in McDonald's case, rarely disturbed its stock return. For investors, it is a contingency to this unexpected international conflict, and it is also acceptable for it does not destroy McDonald's profitability in the long term. On the other hand, a radical sanction, McDonald's complete withdrawal from Russia, has ruined investors' faith in its long-term financial performance. However, it shows McDonald's spirit of humanity. But rational investors prioritize the loss of operating assets over its political stance, which leads to the downgrading stock return of McDonald's.

This paper regards McDonald's sanctioning as the only factor explaining its stock price change. However, the stock price is affected by various factors, and the treatment used in this article is merely for simplification. Further study can focus on reviewing sanctions' efficacy at different stages of the Ukraine conflict after the war or analyzing long-term effects on financial performance and the recovery period after McDonald's retreat when post-war statements are available.

This paper adds to our knowledge of sanctions' impacts on imposers and fills the academic blank. As major-country relationships have been increasingly turbid, any participant in international affairs ought to equip themselves with fast-updating minds to ruminate over the ramifications behind sanctioning. For business owners, it is crucial to identify their financial environment and keep informed of other companies' steps and the progression of specific convulsions. They also need to prepare for the concomitant financial or political predicaments to quickly recover after sanctioning. For individuals, it is pivotal to recognize the implications of sanctions and focus on their profound influences on operating assets which contribute to long run performances rather than political publicity.

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