The Impact of Covid-19 on Supply Chain Management and Global Economy Development

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***Abstract*—The impact of COVID-19 on our inter-connected economies and businesses has been significant, putting supply chains around the world under unprecedented pressure and severely disrupting global trade. Social distancing adopted by the governments in most countries of the world to contain the outbreak of the virus has many implications for the financial reporting of economic entities. The aim of the article is to consider the potential consequences of coronavirus for the presentation and disclosure of information in financial statements by economic entities. Emphasis is placed on assessing the international economic situation caused by the pandemic, the restrictions adopted by the authorities to curb the spread of coronavirus and the actions of financial reporting compilers in terms of reflecting adjusting and non-adjusting events after the reporting period and assuming going concern. As a result of the study the world economic situation and the negative risks and factors that the financial reporting compilers should pay particular attention during the presentation and disclosure of information are examined**

***Keywords*—** *Supply Chain Strategy; COVID-19; Financial Statements; International Financial Reporting Standards; Economic Situation; Global Economy.*

1. Introduction

Fluctuations in the global supply chain, lower final demand for imported goods and services, and restrictions on business and tourism travel, and conservatism in the financial markets have increased. All economies and industries should consider the impact of COVID-19 on supply chain arising from this major global risk. While the initial effects of the pandemic were most felt by the tourism and transport industries, the consequences are much wider now and create significant uncertainty for the global economy. This uncertainty creates risks that economic agents may not have previously encountered.

Restrictions on the movement of people, reduction in the supply chain of goods and various measures to curb production sharply reduced the demand of all countries of the world. In a March report, the Organization for Economic Co-operation and Development (OECD) lowered its Gross Domestic Product (GDP) growth forecasts for almost all countries in 2020 [1-3]. According to this report, China's GDP growth is the most significant among all regions. The new OECD forecast shows that the GDP growth of the Asian economic giant is expected to be 4,9%, compared with the previous forecast of 5,7% in 2020. Also it is expected that the global economy as a whole will grow by 2,4% in 2020 compared with the 2,9% previously projected. The forecast for world GDP growth according to the OECD report is presented in Figure 1.

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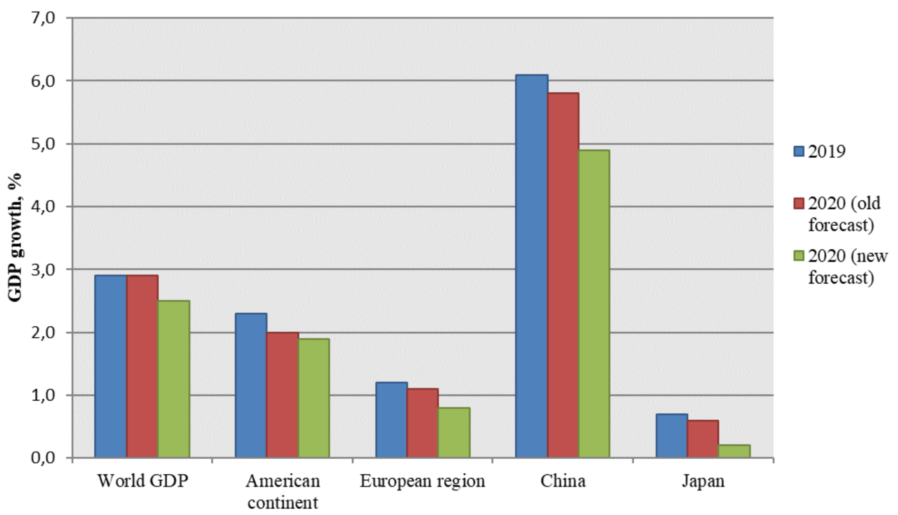

Figure-1. Slowdown of global economic growth due to COVID-19 according to the OECD report

Nevertheless, despite the current unfavorable situation for doing business, in order to analyze the organization's activities interested users should still be based on real, reliable, objective information presented in the financial statements. Financial statements are the main source of information about the financial position of an organization allowing interested users to get an understanding of the current state of an economic entity as well as to predict future cash flows. According to [3] «the expansion of the globalization process and active participation in world markets have led to the formation of reporting that meets the common requirements and needs of a reformed market economy» [4]. The rapid development of information technology will affect on the presentation of information in XBRL-format, which will facilitate the process of presenting reliable and complete financial statements.

2. Methods and materials

As a result of the impact of COVID-19 on financial indicators the statements prepared by organizations for 2020 will be significantly different from previous reporting periods. This difference relates to revision the valuation of assets and liabilities both in the financial statements directly and in disclosing risk information of integrated reporting, as well as actions taken by supply chain management to reduce these risks. These changes are also facilitated by changes in the requirements for the disclosure of information in financial statements in the context of digitalization of the economy and the creation of new format financial statements [5]. For example, one of the directions of information disclosure in integrated reporting is information regarding the preservation of jobs for staff due to the announcement of non-working days, labor protection and production safety, social and medical services [6].

As of May 8, 2020, 187 859 confirmed cases of coronavirus infection were registered in Russia [7]. The number of active cases of COVID-19 in the country exceeded 159 thousand. Most cases were reported in Moscow. The dynamics of the spread of the virus in Russia for January-May, 2020 is shown in Figure 2.

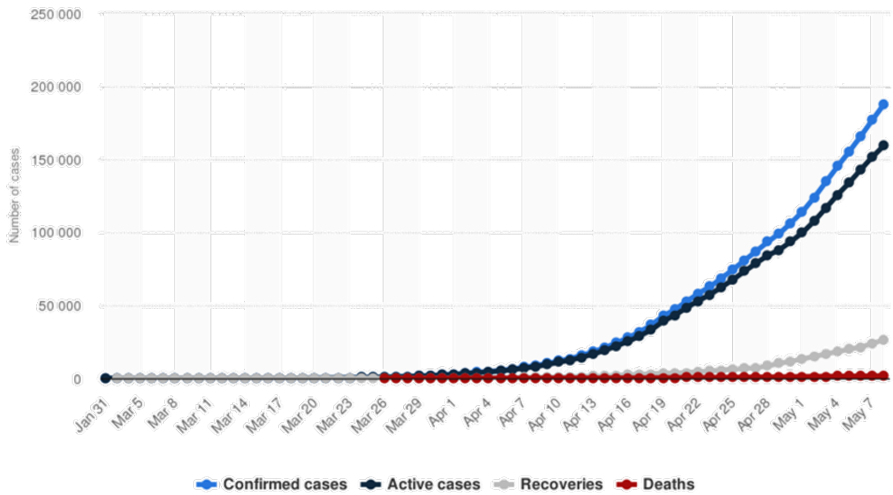

Figure-2. The total number of confirmed cases of COVID-19 disease, active cases, recoveries and deaths in Russia as of May 8, 2020.

An increase in the number of COVID-19 cases provoked a number of negative factors for the Russian economy: decrease in oil prices, slowdown in economic growth, suspension of communication with China and decrease in the number of tourists, which caused fluctuation in supply chain process of all industries [2]. One of the serious consequences of the restrictions undertaken by the authorities is the weakening of the ruble, which is caused by a damping in oil demand and, consequently, decrease in prices on oil. For the period from January, 2020 to the present moment the peak in the ratio of currencies was recorded on March 24, 2020, when the dollar exchange rate against the ruble amounted to 80,8815 [8]. The dynamics of the dollar against the ruble for January-May, 2020 is shown in Figure 3.

Figure-3. The dynamics of the US dollar exchange rate from January 10 to May 8, 2020

According to the forecast scenario of RosBiznesKonsalting (RBK), the coronavirus pandemic, exacerbated by a sharp drop in oil prices, in turn, will entail a negative dynamics in Russia's GDP in 2020-2021 [9].

Conforming to the negative scenario presented in Figure 4, GDP will grow at a rate of 1-1,5 percent while maintaining the effects of the crisis in 2021. According to the stress scenario, the critical phase of the crisis will last all of 2020, and the negative trend will continue until the end of 2021. Under such conditions the loss of the banking sector, by some estimates, may be comparable to the 2008 year's crisis.

The negative scenario assumes that the critical phase of the crisis will end after the first half of 2020, and the negative trend will continue for another year.

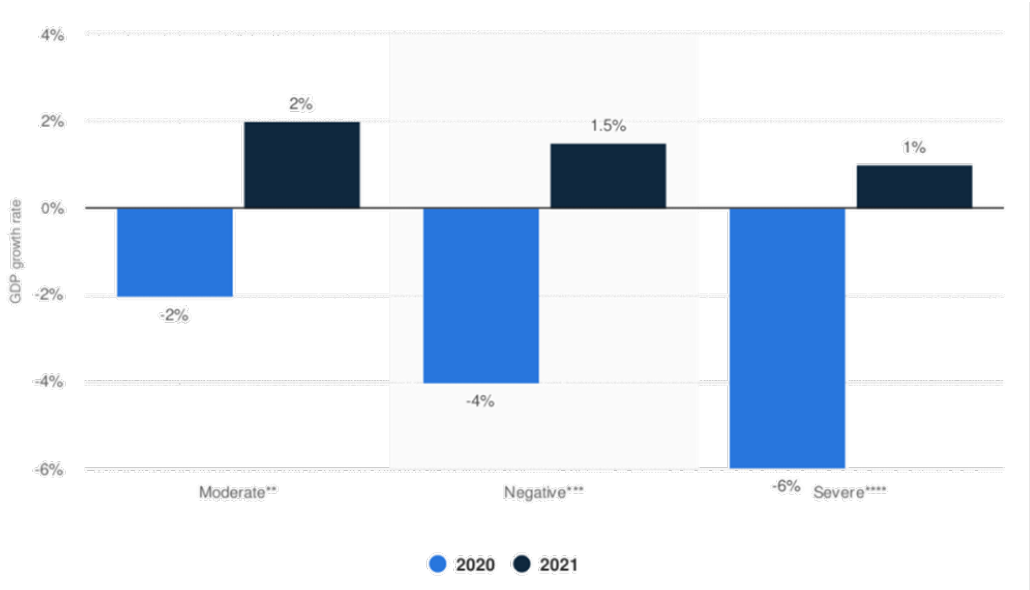

Figure-4. The dynamics of Russia's GDP according to RBK estimates taking into account the COVID-19 pandemic in 2020 and 2021 (moderate, negative, severe scenario)

The economic consequences caused by the virus will undoubtedly affect the accounting, financial statements and audit of companies' financial reporting. As a result, all organizations must evaluate to what extent they are affected by the pandemic, and how the effects of COVID-19 affect their financial statements. The virus creates new rapidly changing conditions that the organization's management and auditors have not previously encountered. Currently, reporting compilers face the following tasks:

- how to evaluate whether the impact of COVID-19 is significant for an supply chain in enterprise?
- in what period is it necessary to adjust the economy?
- what disclosures may be required from the organization, and are these disclosures sufficient?

In our opinion, at the time of the release of the financial statements for 2019, the situation is still developing, but its scale and negative impact on the world trade and the world community may turn out to be much more serious than originally thought. The weakening of currencies that expose society to risks in the event of a change in their exchange rate, the stock market fell, and commodity prices fell significantly.

Reporting standards help investors to obtain high-quality information on the financial position and financial results of the company [10]. To determine the period for adjusting the consequences of a pandemic, reporting compilers should follow IAS 10 «Events After the Reporting Period». According to this Standard «events after the reporting period are those events, favourable and unfavourable, that occur between the end of the reporting period and the date when the financial statements are authorised for issue» [11].

If the reporting date for the formation of the company's financial statements is December 31, 2019, then the effect of coronavirus cannot be considered as a condition that existed at the reporting date, since the announcement of the pandemic and events that led to the introduction of a self-isolation mode and additional restrictions occurred only in the first quarter of 2020.

So the effect on the financial statements for 2019 with rare exceptions should be practically unchanged, and those reporting should be reflected in non-adjusting events after the reporting period. A detailed diagram is presented in Figure 5.

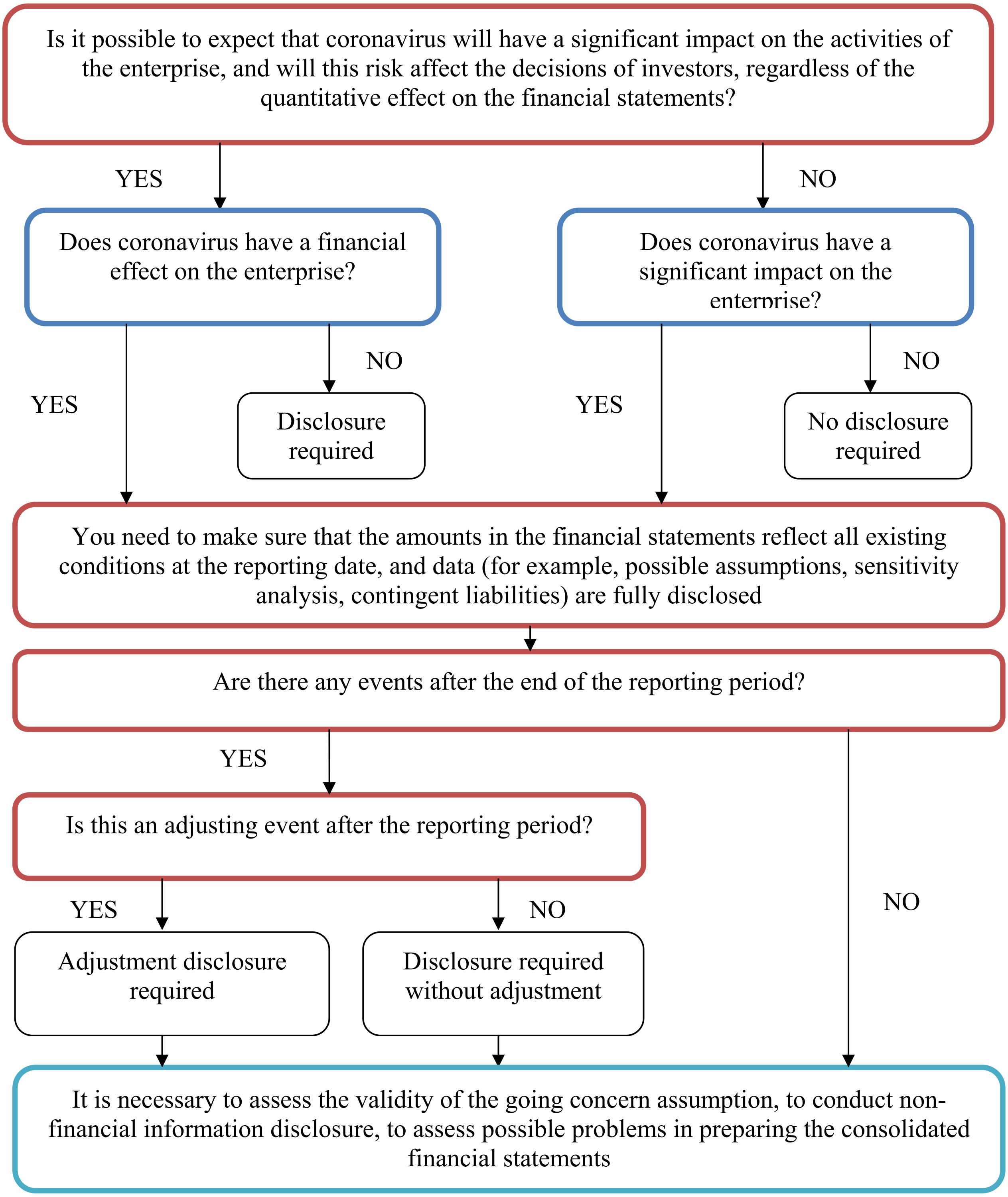

Figure-5. Key issues of disclosing the materiality of the impact of COVID-19 on the organization's activities

What are the consequences of a pandemic for each organization should be assessed by the companies themselves, based on their competitive business conditions. In the conditions of uncertainty caused by COVID-19, particular relevance to the choice of information reflection in order to satisfy the interests of a wide range of users, «allows to perform full-scale efficient control the enterprise, creating the uniform information platform supporting process of accepting of rational economic decisions» [12]. For some organizations the situation will hit business sharply and force them to wind down their business, despite the support measures that are being taken at the state level. However, there are a number of companies that have been most exposed to the virus (tourism, hotel, transport companies, retailers, etc.) in the current situation, and which should first of all consider the issue of going concern. The sectors of the Russian economy that were most affected by the COVID-19 pandemic are shown in Figure 6 [18].

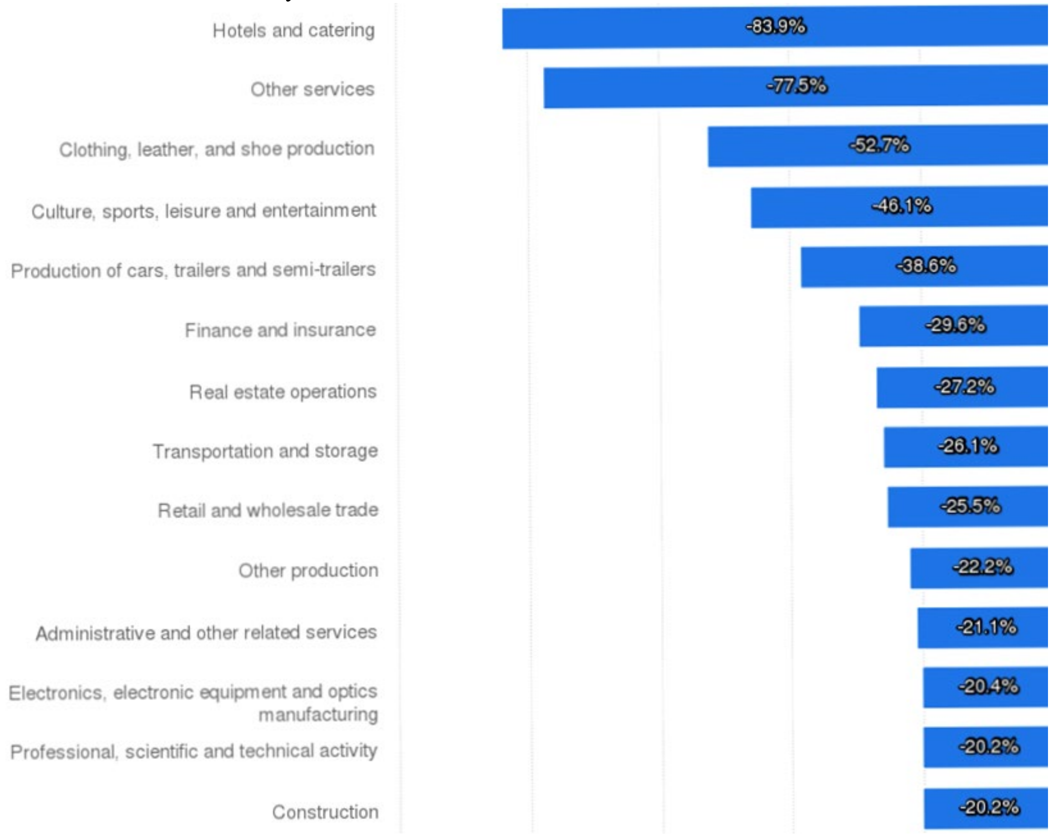

Figure 6. Change in value added in the Russian economy by sector due to COVID-19 pandemic as of May 6, 2020

According to the National Rating Agency, hotels and catering are industries in which the largest decrease in value added in Russia was almost 84 percent. The clothing, leather, and shoe production sector is expected to lose about 53 percent of value added over the course of the year due to the pandemic [13]. However, the consequences of the virus to one degree or another affected all sectors of the Russian economy, therefore, the disclosure in the Notes to the financial statements of the impact of COVID-19 applies to any organizations whose management believes that the virus outbreak and the further restrictions adopted after it turned out to be significant in relation to activities companies. Auditors also need to evaluate the effectiveness of management decisions made by the organization's management, the main of the most effective tools for this assessment is operational audit [14].

3. Results and Discussions

This abrupt disruption significantly increases risk in the financial supply chain. As buyers rush to cancel their orders with suppliers to cut costs, they will also delay or default on existing invoices. This will play havoc with their upstream suppliers who are stuck with materials or components that are no longer needed. These upstream suppliers have no funds to pay their suppliers, creating a dangerous cascade. Organizations should consider disclosing restrictive measures as a result of the COVID-19 financial pandemic. Information should be disclosed on those events during the period that do not relate to conditions that existed at the date of preparation of the financial statements, but cause significant changes in assets or liabilities in the subsequent period and will or may have a significant impact on future operations of the enterprise.

For example, according to IAS 1 «Presentation of Financial Statements» «in assessing whether the going concern assumption is appropriate, supply chain management takes into account all available information about the future, which is at least, but is not limited to, twelve months from the end of the reporting period» [15]. The company should consider all available information about the negative effect of coronavirus on both current and future activities up to the date of issuing financial statements for 2020, taking into account all available information and evaluating the organization's ability to going concern. If there is uncertainty about the company's ability to continue as a going concern, the entity should include disclosure of going concern information in the Notes to the financial statements.

As stated in IAS 36 «Impairment of Assets», in assessing the presence of signs of a possible impairment of assets, an organization, in addition to internal factors, should consider external sources of information [16]. Organizations that have reduced their activities due to the introduction of a self-isolation mode should, first of all, take into account the potential depreciation of assets, and if there are such signs, according to the Standard, «the remaining useful life, the depreciation (amortisation) method or the residual value for the asset needs to be reviewed and adjusted in accordance with the Standard applicable to the asset, even if no impairment loss is recognised for the asset» [17]. Regarding the valuation of non-financial assets, if there is evidence of impairment, an entity shall measure the recoverable amount of the asset. This calculation requires supply chain management to estimate the expected future cash flows that reflect the best estimate of the economic conditions that will exist over the remaining useful life of the asset.

Companies must also consider the requirements of IAS 2 «Inventories», in part that «inventories shall be measured at the lower of cost and net realisable value» [18]. In particular, this adjustment may affect trading organizations whose stocks, due to reduced movement in warehouses, remain unsold and lose their physical and moral qualities. A reduction in sales may result in a change in the valuation of inventories and their write-off to the net realisable value.

Estimating the realisable value possible under volatile market conditions can also be a problem due to the uncertainty caused by the pandemic. If an entity's production activity was halted due to a pandemic, and therefore the production level was unstable, the organization may need to revise its inventory estimates to ensure that unallocated overhead costs are recognized in profit or loss in the period in which they are incurred.

As for manufacturing enterprises, whose main share of property is fixed assets, this group of assets may not be used so efficiently and permanently at present. IAS 16 «Property, Plant and Equipment» states that «depreciation does not cease when the asset becomes idle or is retired from active use unless the asset is fully depreciated» [19]. Therefore, an entity must continue to accrue depreciation on property, plant and equipment, even if assets were not used for certain periods.

As mentioned earlier, one of the consequences of COVID-19 is the fall of the stock market and a change in cash value, as a result of which the companies 'cash and cash equivalents were affected. This change may entail a review of the classification of cash and cash equivalents, in particular, investments. According to IAS 7 "Statement of Cash Flows" «for an investment to qualify as a cash equivalent it must be readily convertible to a known amount of cash and be subject to an insignificant risk of changes in value» [20]. The company needs to consider whether the investment is satisfied with the definition presented in Standard and, on the contrary, the possible reclassification of cash to investments.

As a result of failures in the work of organizations, they may encounter problems in the receipt of funds, and, consequently, loss of income. The companies most affected by the outbreak of the virus will need both to get help with regard to additional financing and to consider the possibility of modifying the terms of contracts and changing financial covenants.

As a rule, many international companies compile non-financial statements containing the results of economic, social and environmental activities for the reporting period. The COVID-19 pandemic, undoubtedly, should be indicated as one of the main risk factors in the non-financial reporting of companies. Corporate reporting provides all the necessary information, «with the help of which it becomes possible to analyze the performance of the organization and make the right supply chain management decisions» [20].

4. Summary

Summarizing the above let's present the impact of COVID-19 consequences on the financial statements of companies and the further actions of the reporting preparers in Table 1.

Table-1. Potential impact of the pandemic on the financial statements of organizations and further actions of reporting entities

Standard	Impact of COVID-19 on financial reporting elements	Reporting Activities
IAS 10 «Events After the Reporting Period»	Reflection in the Notes to the financial statements of the impact of coronavirus on the organization's activities and business processes	Organizations should consider disclosing restrictive measures resulting from the COVID-19 pandemic in the financial statements if these conditions cause significant changes in assets or liabilities in the subsequent period
IAS 1 «Presentation of Financial Statements»	The probability of changes in supply chain management of the organization and preparers of the assessment of the validity of going concern assumption	If there is any uncertainty regarding the entity's ability to continue as a going concern, the entity should include a going concern disclosure in the Notes to the financial statements
IAS 36 «Impairment of Assets»	The probability in occurrence of potential impairment of an organization's assets due to a decrease in the volume of activities	Review of useful lives of property, plant and equipment, fair value of assets, measurement of recoverable amount of an asset
IAS 2 «Inventories»	Due to the reduction in sales (for trading organizations), inventories may lose their physical and moral properties	It is necessary to revise the valuation of inventories and the possibility of writing them off to the net realisable value
IAS 16 «Property, Plant and Equipment»	Downtime of fixed assets due to the suspension of production, the introduction of a self-isolation mode, the announcement of non-working days	Continuation of depreciation on all previously not depreciated fixed assets
IAS 7 «Statement of Cash Flows»	Change in cash value as a result of a fall in stock market	Assessment of a possible reclassification of cash and cash equivalents, in particular investments

Organizations in determining the impact of the virus on business processes and financial activities should not be limited only to the standards listed above and their provisions. If it is necessary, companies should also assess reserves for liabilities, credit risks for financial instruments, the fair value of financial assets and liabilities, the recoverability of deferred assets and liabilities, and the possibility of recovering receivables.

Let's look at a few examples of disclosing the impact of the COVID-19 pandemic in international company reporting.

Large international company Yum! Brands (owner of the KFC, Pizza Hut, and Taco Bell brands), which operates in the field of catering, in its annual report identified health problems due to a pandemic as a risk factor. The company has a significant number of KFC and Pizza Hut restaurants in China, operated by its franchisee Yum China. Company informs: «Many of our restaurants located within mainland China have been temporarily closed, have shortened operating hours and/or have otherwise been adversely affected by the impact of the coronavirus, and these developments have also impacted the ability of Yum China's suppliers to provide food and needed supplies at our Concepts' restaurants in mainland China» [9].

Apple company in its annual quarterly report for investors indicates that global iPhone shipments were temporarily limited: «The health and well-being of every person who helps make these products possible

is our paramount priority, and we are working in close consultation with our suppliers and public health experts as this ramp continues» [9].
Power Sports Equipment Development & Production company Nautilus reports in its annual report as risk factors that the recent spread of coronavirus and its associated quarantine and interruptions in operation have led to disruption in the production of some of its products: «The extent to which these events will affect our results of operations and financial position remains uncertain» [9].

5. Conclusions

Unless the entire supply chain is owned and managed by a single firm, the financial supply chain is essential for facilitating global trade. Different supply chain financing schemes should serve as enablers for facilitating smooth physical flows among supply chain partners, instead of an accounting game. For this purpose, accounting rules and regulation need to require improved transparency of such schemes. More importantly, the financial supply chain needs to be better integrated with the supply chain information flow and emerging technologies. To summarize, organizations while presenting and disclosing information in financial statements need to consider the following main issues:
- is the principle of going concern observed?
- did the financial and non-financial assets of the company depreciate?
- should the company create additional reserves?
- should assets and liabilities be reclassified?

Compilers of financial statements in 2020 will need to determine the impact that the coronavirus has on financial statements, and also consider additional disclosure requirements for financial and non-financial information.

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