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COMMENTARY

Side effects of the pandemic: impacts on the business interruption insurance market: Commentaries

Efeitos colaterais da pandemia: impactos no mercado de seguros de lucros cessantes: Comentários

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1. INTRODUCTION

The commentaries presented are part of the Revista Contabilidade & Finanças Special Edition, which aims to foster dialogue between academia and professional practice. Specifically, these comments discuss the article titled "Side Effects of the Pandemic: Impacts on the Business Interruption Insurance Market" by João Vinícius Carvalho and Izadora Gomes (2025). The document is organized into two sections: the first features comments from Prof. Dr. Eliseu Martins, from the University of São Paulo, and the second presents contributions from Prof. Ms. Gabriel Caldas, a technical analyst at SUSEP—Brazil's Superintendence of Private Insurance.

2. COMMENTS BY ELISEU MARTINS

2.1 Study Context and Key Findings

The article by Gomes and Carvalho (2025), titled "Side Effects of the Pandemic: Impacts on the Business Interruption Insurance Market", evaluates the effects of the COVID-19 pandemic on the business interruption insurance market using data from the Brazilian insurance sector. This pioneering study in Brazil quantifies the impact of this exogenous event on policy underwriting, premium volumes, and claims. The study addresses a critical gap in the literature by employing robust regression models to identify behavioral and economic changes in the sector. Its

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relevance is indisputable, as it provides empirical evidence and in-depth analyses of an unprecedented phenomenon in the insurance market, making a significant contribution to academic literature and regulatory practice.

Among the study's strengths is its application of a robust quantitative methodology, relying on official data and a longitudinal analysis spanning nearly two decades. The segmentation of pandemic periods enables a dynamic understanding of behavioral shifts among insurers and policyholders, contextualizing specific economic and legal effects. This approach enriches the understanding of probability updating phenomena and underscores the article's value as a reference in this field of study. Overall, the evidence presented by Gomes and Carvalho (2025) advances actuarial research in Brazil, particularly concerning the insurance market (e.g., Macedo et al., 2006; Afonso, 2019).

2.2 Practical Implications

The article by Gomes and Carvalho (2025) presents significant practical implications for insurance market participants, regulators, and policymakers. The findings suggest that the pandemic influenced the economic risk perception of both policyholders and insurers, driving an initial increase in demand for business interruption insurance, aligning with discussions and expectations in the Brazilian market (e.g., Almeida, 2020; Mano, 2020). The study also aligns with international research (e.g., Pulawska, 2021), which highlights challenges to insurers' financial sustainability due to an increase in paid claims, followed by a contraction in policy offerings.

Regulators may leverage the evidence provided to review pricing policies and solvency requirements. Risk managers could adapt strategies based on observed patterns of underwriting and claims payment in crisis scenarios. Additionally, the legal sector can draw on the article's insights to address contractual and regulatory issues related to coverage, particularly within the Brazilian context, which differs from the international landscape in areas such as the requirement for property damage to trigger coverage.

2.3 Future Research

The article by Gomes and Carvalho (2025) outlines promising avenues for future research. These include analyzing other insurance segments directly impacted by the pandemic, such as supplemental health insurance and life insurance (e.g., Blumenthal et al., 2020; Harris et al., 2021), given the increased demand for medical and hospital services. The transportation sector also warrants attention due to its critical role in the national economy during the pandemic.

Additionally, examining the behavior of the insurance market following recent crises, such as climate-related disasters in Brazil and global financial crises, could provide valuable insights into parallels and differences in the responses of economic agents (e.g., Calice et al., 2021; Collier et al., 2021; Koijen & Yogo, 2022). Another potential research direction involves investigating the impacts of future pandemics or global disasters on the dynamics of the insurance market, contributing to strengthening the sector's resilience (e.g., Kunreuther & Schupp, 2021).

2.4 Conclusion

The study by Gomes and Carvalho (2025) effectively fulfills its objective of analyzing the impacts of the pandemic on the market for business interruption insurance, offering a critical and detailed analysis. Despite the challenges faced by insurers, the article highlights the importance of this segment as a risk mitigation tool in extreme events. Its contribution to advancing knowledge and to the practice of the insurance market is significant, making it an essential resource for both academia and industry professionals.

The article is highly recommended, given its relevance, methodological rigor, and ability to provoke meaningful reflections in the field of insurance and risk management. Furthermore, in addition to its theoretical and practical contributions, the study also opens up several opportunities for future research related to the topic.

3. COMMENTS BY GABRIEL CALDAS

3.1 Study Context

Gomes and Carvalho (2025) examine the underwriting and coverage extensions of business interruption insurance, investigating the probability updating process during the pandemic, utilizing four statistical models that are well-aligned with the research hypotheses. The study is highly relevant in both national and international research contexts, and its results demonstrate that the evolution of the pandemic significantly impacted the insurance market, particularly the business interruption segment.

This topic is both intriguing and innovative for the Brazilian and international contexts. The analysis of various markets during the pre-, during-, and post-pandemic periods is particularly interesting as it allows us to explore the new directions of business after an event characterized by a very low frequency and high impact. Indeed, the COVID-19 pandemic affected all sectors globally, and its repercussions will be felt for some time.

The business interruption (BI) insurance market is particularly relevant as it addresses the impact of disasters or other major losses on companies, often regarded by risk management professionals as one of the most significant threats to businesses (Eckles et al., 2022). Specifically, due to the substantial effects on companies, including financial losses and employee layoffs, insurers responded by denying coverage for pandemic-related losses, which led to numerous lawsuits (French, 2020).

In the study by Gomes and Carvalho (2025), the research hypothesis on probability updating is evident, well-founded, and methodologically well-explored. The study's hypothesis was appropriate for the target topic, and the use of panel data regression in a two-stage approach was crucial to achieving effective results. The regression was divided into two stages and two models, as follows:

Stage 1 = Underwriting/issuance of business interruption policies;

Stage 2 = Issued premium for business interruption;

Control model – used to check whether the pandemic's effects were the same across other sectors; and

Claims model – although, as discussed later, there is a question regarding the use of paid claims rather than incurred claims. This is because, in legal disputes, the payment of claims can take time to be identified.

One criticism of the claims model, which will be revisited later, is the use of paid claims instead of incurred claims. While the use of incurred claims aligns with the accrual accounting method (month of occurrence), considering paid claims reflects a cash basis, which might have reduced the informational power of the results by presenting claims values from periods outside the analyzed timeframe.

3.2 Practical Relevance

As previously highlighted, the analysis of various markets during the pre-, during-, and post-pandemic periods proves particularly compelling as a means of understanding the new directions of business following an event characterized by very low frequency and extremely high impact. Indeed, the COVID-19 pandemic affected all business sectors worldwide, and its repercussions are expected to persist for some time.

The article provides a clear discussion of the legal debates surrounding business interruption claims during the pandemic period. In the United Kingdom, according to the Financial Conduct Authority (FCA), the financial regulatory body, it is understood that if business interruption coverage is ancillary to a property risk policy, no claim arises from the COVID-19 pandemic. However, if the policy exclusively covers business interruption, the coverage is deemed applicable.

In Brazil, the regulatory framework for this subject is defined by the Superintendence of Private Insurance (SUSEP-*Superintendência de Seguros Privados*) Circular No. 620, with Article 8 specifically addressing business interruption insurance, as outlined below:

Article 8. Business interruption insurance aims to guarantee compensation for damages resulting from the partial or total interruption or disruption of the insured's business operations, caused by risks covered under the policy, which are not limited to property risks. Paragraph: Contractual terms must establish the criteria for characterizing and determining the damages.

However, the matter is more clearly addressed through national jurisprudence, which interprets property damage to also include the deprivation of the use of an asset. Therefore, in the Brazilian context, there is recognition of damages during the pandemic.

The findings presented in the study by Gomes and Carvalho (2025) are particularly relevant, highlighting an increase in both the average issuance of total premiums and the number of companies underwriting or opting not to underwrite business interruption insurance during and after the pandemic. This observation corroborates the heightened demand for insurance during this period.

The study also reveals that firms operating in the business interruption insurance sector are typically larger, characterized by relatively lower premium income and higher claims incidence compared to other companies. Additionally, these firms are noted to have a greater capacity to convert assets into premiums. One plausible explanation for these findings is that these results may stem from the more aggressive pricing strategies adopted by such companies.

The first-stage model, focused on issuance, indicated that larger, more efficient companies that are more diversified and operate in multiple states within the federation are more likely to offer business interruption insurance. This aligns with the characteristics of larger firms that possess a broader presence across the national territory and greater expertise in the insurance sector.

The primary model suggested that companies belonging to the same economic group are less likely to enter the business interruption insurance market. This finding is noteworthy and may draw the attention of professionals in the field, as it diverges from my professional experience. In practice, I have observed that the largest companies, which are more prominently engaged in the business interruption insurance sector, tend to belong to major national and international economic groups.

In Gomes and Carvalho's (2025) study, the explanation of how the "group" variable was derived is provided; however, the source of this information is absent. The variable is described as binary (indicating whether a company belongs to an economic group or not). A potential improvement would be to include a more detailed explanation of how the data for this variable were obtained. Additionally, it would be valuable for the authors to consider the guidelines from the SUSEP regarding prudential groups as outlined in the National Council of Private Insurance (CNSP-*Conselho Nacional de Seguros Privados*) Resolution No. 388 of 2020. Although the concept of a "prudential group" is related but not identical to an "economic group", it could serve as a useful reference for this research.

The second-stage model (focused on premium collection) produced noteworthy results, demonstrating that the variables size, leverage, diversification, and group positively influence premium issuance. Another significant finding was that companies with higher combined ratios (ICA), indicative of lower operational efficiency, tend to collect higher premiums.

A critical point regarding the claims model is the use of paid claims rather than incurred claims as a variable. While incurred claims adhere to the accrual basis (the month of occurrence), paid claims reflect the cash basis (financial disbursement), which may reduce the informational value of the results by presenting claims data from periods outside the study's scope.

The model used in the study for probability updating segmented the pandemic into periods, and the results indicated a reduction in issuance, a decrease in collection, and a slowdown in the growth of paid claims. These findings are contrary to those observed in the broader insurance market. Notably, the business interruption insurance segment exhibited distinct behavior compared to the rest of the market. This finding is particularly significant as it suggests a trend of decreased concern for business interruption coverage relative to other segments during the economic recovery phase following the pandemic's peak.

3.3 Future Research

Regarding the presence of negative premiums in the analysis conducted by Gomes and Carvalho (2025), I suggest that future research incorporate data from annual and semi-annual financial statements. This approach is advisable because the information provided by the SUSEP Statistical System (SES-*Sistema Estatístico da SUSEP*) is not audited on a monthly basis, and adjustments to align semi-annual closing balances with the figures presented in financial statements may result in reversals. Regulatory requirements mandate that SES balances must be consistent with those reported in the June and December financial statements. Consequently, adjustments between these periods may introduce noise into statistical analyses.

A similar study could be conducted focusing on life insurance, as this segment also experienced significant debate regarding excluded risks during the pandemic period. Furthermore, there has been a notable yet unexamined increase in the supply, demand, and pricing of life insurance during the same periods, underscoring the need for further research in this area.

Additionally, I recommend that the claims model employ incurred claims rather than paid claims as a variable, as the former adheres to the accrual basis of accounting. This adjustment would enhance the alignment of the model with the principle of matching revenues and expenses, thereby improving the accuracy of the findings.

Additionally, applying this study to other insurance segments, such as life insurance, offers a promising avenue for investigation, given the unique characteristics of this sector during the pandemic. The exclusion of risks, alongside changes in the supply, demand, and pricing of life insurance during the pandemic, remains an underexplored area, underscoring the importance of extending research into this domain. Furthermore, it is proposed that future models employ incurred claims instead of paid claims, adhering to the accrual accounting principle. This adjustment would better align with the actual financial dynamics of insurers and enhance the robustness of the statistical analyses conducted.

Overall, the analysis conducted by Gomes and Carvalho (2025) highlights significant limitations in the exclusive use of data from the SES for studies on insurance premiums and claims. These limitations arise particularly from the lack of monthly auditing and the potential for balance reversals to align with semi-annual adjustments. It is therefore recommended that future research incorporate data from annual and semi-annual financial statements, as these are audited and reflect greater regulatory consistency and reliability. Such an approach could mitigate statistical noise caused by intermediate adjustments and provide a more robust foundation for analyses involving critical periods or sensitive variables, such as those examined in the pandemic context.

3.4 Conclusion

The study by Gomes and Carvalho (2025) offers a thorough analysis of the evolution of the business interruption insurance market during the pandemic, revealing key insights into how the sector adapted to a global event of unprecedented impact. The research underscores the importance of examining different markets during pre-, mid-, and post-pandemic periods, providing valuable insights into business transformations following a low-frequency but high-impact event. Additionally, the study highlights the complexities of probability updating processes and the behaviors of companies of varying sizes within the insurance market. Notable findings include the influence of firm size and diversification on the propensity to offer business interruption coverage and the generation of premiums, significantly advancing the understanding of market dynamics.

Despite these contributions, there are several areas for further exploration. Future studies could benefit from using incurred claims rather than paid claims to align more closely with the accrual accounting principle, ensuring a more accurate analytical framework. Moreover, the research could be extended to other insurance segments, such as life insurance, where similar changes occurred during the pandemic, warranting a more detailed examination of the effects on supply, demand, and pricing. Such investigations would enhance the comprehension of the insurance sector's transformations during crises and its adaptation to emerging economic and societal challenges.

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