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The storm-impervious financial sector: offshore services likely booked abroad

By Jakob Miethe

- The reaction of financial activity to extreme storm events on offshore financial centers (OFCs) provides evidence that the financial industry is operating remotely.
- New data sources allow insights into changes of local conditions as well as local financial activity.
- Storm events create deteriorations in local conditions for OFC islands and non-OFC islands.
- However, financial activities on OFCs do not react to storm events.
- Therefore, financial services are likely booked elsewhere; regulations and tracing should take place where the services are carried out.

The financial industry likely does not carry out offshore services locally

FROM THE AUTHORS

"The results of this study are a new opportunity to reconsider previous approaches to tracing and regulating offshore financial activities. Investigations should take place where the services are carried out. This study indicates that services are only booked through OFCs."

— Jakob Miethe —

MEDIA

Audio Interview with Jakob Miethe (in German)

www.diw.de/mediathek
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ABSTRACT

The high international capital positions of offshore financial centers (OFCs) have led to increasing research in the area. However, many unanswered questions remain, as OFC activities are secretive by nature and data is sparse. It is, for example, not even clear whether the financial industry actually physically operates on OFCs or if it artificially books services from other countries. Using a new research approach that examines the effects of extreme storm events such as Hurricane Irma on local conditions and financial service activities on small islands, this paper shows that offshore services are likely booked primarily from other countries. If this is the case, the current approach of regulating offshore financial services through regulation targeting the offshore financial center is inherently limited.

While the Wirecard scandal is still ongoing, the publication of the leaked FinCEN files on September 20, 2020, attracted worldwide attention and created yet another scandal for the financial industry. Once again, offshore financial centers (OFCs) play a central role in this scandal by enabling illegally acquired funds and assets to flow into the global financial system and appear legal. OFCs (also known as tax havens) are defined as jurisdictions with high secrecy regulations or weak transparency laws and low to zero tax rates for foreigners (Box 1).¹ More recent scientific research shows that the financial services provided in such OFCs are used by tax evaders,² profit shifting multi-national enterprises (MNEs),³ or corrupt businessmen and even officials.⁴

This paper investigates the question if financial services are carried out locally on OFCs, which would explain their high capital positions. This is in contrast with the hypothesis that financial services are booked through OFCs but carried out elsewhere. To answer this question, this paper uses a research approach that analyses the effects of extreme storm events occurring on many OFCs, comparing the effect on local conditions and financial service activity. The necessary data was

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Offshore financial centers (OFCs)

A little over 1.8 percent of the global population lives in offshore financial centers. On paper, these same countries account for about 40 percent of all international financial flows. Many of these jurisdictions are small island countries. For example, the Cayman Islands, which was incomprehensibly removed by the EU from its tax haven blacklist on October 6, 2020, has only five inhabitants per registered mutual fund and 33 million U.S. dollars of international bank positions per person. There are 373,917 companies and 1,499 mutual firms registered in the British Virgin Islands, a country with a population of 35,015. Offshore financial institutes provide services such as setting up shell companies and managing offshore trusts and bank accounts and support their customers in finding new ways to avoid new regulatory measures in their home countries. While it is indisputable that tax evaders or profit shifting firms do not need to be located locally on OFCs to use such financial services, it is not clear where exactly such services physically take place.

Physical location of financial services relevant for regulation

There are good reasons why it is beneficial to determine the physical location where international financial services are carried out. First, the websites of financial service providers registered in OFCs suggest that their services are carried out by well-educated local personnel on the OFCs. It is therefore useful to review the data to see if this is actually the case. Second, where the activity physically occurs matters for regulative purposes. International regulatory approaches, such as those of the OECD, aim to obtain information on financial activities in tax havens. This enables countries involved in tax information exchange agreements, like Germany, to request information on potential tax evaders from a small Caribbean island like the British Virgin Islands. Since 2017, bank account information is even increasingly being exchanged automatically. However, this is only promising when authorities on the tax havens actually have access to this information and can guarantee its quality, for example by subjecting banks to audits or a search of their premises by the police. If financial actors are not operating locally, local efforts and the island’s obligation to provide information are inherently hindered from the very beginning. The question if international financial services are actually carried out locally on OFCs is therefore central for the success of such regulative measures.

Notes:
• Depicted are the standardized deviations of incorporation activity on days that are normal workdays on the islands but public holidays in London, New York, or Tokyo. Worldwide holidays such as New Year’s or Christmas are excluded. Therefore, the comparison value is incorporation activity on days that are workdays both on the islands and the respective city.
• Sources: ICU (incorporation activity), author’s own calculations.
• The decline in activity on public holidays indicate that activities on OFCs are not conducted locally.
Leaks suggest remote bookings

There are indications that financial service activity might not actually be taking place on tax havens. When the leaked documents from the Panama and Paradise Papers were published, parts of the local corporate registries of six island OFCs were made public. This data includes the incorporation dates of local firms, including shell companies. Almost no firms are founded over the weekend: rather, incorporations are evenly spread across the week, 20 percent per workday. If almost no firms are founded on weekends, are they also not founded on public holidays? And on whose public holidays? The indicative data from the leaks show that incorporation activity on the six islands declines on almost all islands in question on public holidays in London, New York, and Tokyo even though they are normal workdays on the islands (Figure 1). In individual cases, this decline is substantial. For example, during a public holiday in London that is a normal workday on St. Kitts and Nevis, incorporation activity on the islands is a good 40 percent lower than average; in Barbados, activity declines by 20 percent.

These declines suggest that services booked on OFCs are not necessarily carried out locally. However, because the available data does not enable any detailed statistical analyses, the hypothesis must be tested using another approach.

This situation illustrates how research in the field of offshore finance generally faces two central issues: One, activities that are either being purposefully hidden or at least deliberately obscured must be identified. Even if a firm is operating legally, it likely has no interest in making its international tax-saving scheme public. Second, tax havens have poor data availability: Many of these islands only have the population of a small city and therefore have insufficient statistics. Ideas to combat both issues are presented in the following section: First a research approach that makes the potentially hidden behavior visible, followed by the data that make the approach possible.

A research approach to identifying financial activity in tax havens

About half of all offshore positions are booked via small islands in the Caribbean, the Indian Ocean, and the Pacific Ocean that regularly experience extreme storms (hurricanes, typhoons, or cyclones, depending on the region). For such islands, the effects of these natural disasters can be used to determine whether or not the international financial industry is actually operating locally or not. The hypothesis is quite straightforward: When storms, such as Hurricanes Irma and Maria in September 2017, hit small islands, negative effects on local conditions are to be expected. If this effect can be statistically substantiated, a decline in local international financial services provision is also expected (Figure 2). As only storms classified as local natural disasters are considered, their effects—such as power outages, evacuations, or flooding—should also have an impact on the financial sector. If financial services are actually conducted locally, there should be an observable, negative effect on the activity level of the financial sector following an extreme storm event. In contrast, there should be no observable negative effect on financial services booked in tax havens but carried out in other locations.
The size of the effect is not decisive; it is possible that the financial sector would be less affected than other sectors. The primary goal is to determine if an effect exists at all.

Effects on non-OFC islands in the same region impacted by the same storm event can be used to determine that the financial sector is affected by tropical cyclones on average. Additionally, each tropical cyclone only hit some of the islands in the sample; others were passed by or are located in a completely different region. To establish storm effects causally, a control group that is not affected by the respective storm can thus be used both within the OFC sample and within the non-OFC sample.

This approach allows the financial sector in OFCs to be investigated without having information about specific activities. However, a disadvantage of this approach is that sufficiently prepared data is unavailable both for local conditions and for financial services for the islands observed here.

The data: satellite data and international bank claims as indicators

Various sources are used to address the data issue. First, the effects of local storm events on small islands, like Montserrat (population 5,000), must be measured. To do this, new satellite data from NASA is used that makes it possible to calculate the average nightlight intensity on an island. Nightlight has long been used in development economics as an indicator for the economic activity of a region for which little or no economic data is available.9 For the present study, however, nightlight intensity is only used as a measure of the local shocks resulting from storm events. If an island is hit hard by a hurricane, according to the hypothesis, its nightlight intensity will decrease in the post-storm period.

A time series for nightlights from April 2012 to December 2018 can be constructed for each island using the nightlight intensity of the respective islands within their borders. For especially catastrophic storms, the decline in nightlight intensity is visible to the naked eye in satellite data. This is the case, for example, for the British Virgin Islands before and after Hurricanes Irma and Maria (Figure 3).

To fill the data gap on financial flows in tax havens, the second part of the research approach draws on information on cross-border transactions of financial institutions reported by other countries. For example, if a Spanish bank lends to a bank in the Bahamas, potentially even its own subsidiary, it reports this claim to the Bank of Spain. Spain’s central bank, the Bank of Spain, collects this data for all banks with reporting obligations in Spain. It can then construct a time series that displays all positions of Spanish banks against the Bahamas. The data are sent to the Bank for International Settlements (BIS). If the data for all reporting central banks (so, for the German Bundesbank, Bank of France, or the Bank of England) are aggregated, a data series of claims against the Bahamas is created without having to rely on data from the island. It shows the funding channel of the international banking sector to the Bahamas and thus reflects the activities of the local financial sector in the Bahamas as well.

Empirical results support hypothesis

An event study is conducted to analyze the effects of hurricanes on local economic activity (Box 2). The main results

are displayed in two datasets: one for islands classified as OFCs and one for islands not classified as OFCs. In this event study, the date of a specific storm event as well as the nightlight and bank data trends are observed and compared with those of the control group.

Storm events lead to deterioration of local conditions

The nightlight data shows that islands affected by a storm event are statistically indistinguishable from the control group for at least one and a half years until the time of the storm. A direct and sustained decline in nightlight data is visible only after a storm event, indicating a marked decrease in local conditions on the affected island. It takes about three quarters of a year for this effect to be completely compensated for (Figure 4).

Financial activities on OFCs do not react to storm events

There are significant and lasting shocks due to storm events for the OFC islands as well as the non-OFC islands (Figure 5). In contrast, the activities in the financial sector, measured by international bank claims, are not affected. Here, no effect can be determined for the group of non-OFCs for the entire observation period. The coefficients are statistically
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Figure 5

Effects of storm events on local conditions and financial activity
In percent, relative to the baseline scenario

Analysis of the effect size confirms previous results

It is difficult to make exact statements about changes in the
effect size for the present event study. Therefore, both aver-
age nightlight data and the average financial activity level
from the post-storm period are compared with the averages
from the pre-storm period.

Three quarters of a year after the storm events, the night-
light intensity is almost 20 percent lower than in the three
Here, too, there is no significant effect on the financial activity on OFCs.

Looking at the financial sector, a storm event has no lasting effect on the financial activities in the OFC group. Comparing the year and a half before and after a hurricane shows statistically insignificant coefficients close to zero. At no time does the dataset indicate that storm events affect the activity of the financial sector on OFCs. A completely different effect is visible for the non-OFC islands. For this sample and in the same period, there is a significant decrease of 33 percent in international financial positions. Moreover, the negative impact of the storm event lasts longer than the observation period: Over the long term, an effect of 17 percent is still visible. This shows that islands hit by storms recover somewhat, but they do not reach pre-storm levels compared to the control group.

These results are contradictory. Nightlight data shows marked, long-lasting, and well-identified effects of storm events on small islands in the Caribbean as well as in the Pacific and Indian Oceans. On non-OFC islands, the storm events are also visible in the subsequent changes in the local financial sector’s activity. However, the financial sector does not react to storm events at all on OFC islands. Other methodologies and other data—such as stock prices of financial service providers—can be used to confirm the unaffected financial activity in the OFCs as well as the declines in the comparison group.

The reaction of the international financial sector is not consistent with that of local financial services, which might explain the capital positions booked in OFCs. Setting up shell companies, managing offshore trusts, or organizing bank accounts require local human capital, which is affected by power outages, evacuations, or the collapse of local infrastructure if this activity is carried out locally.

**Conclusion: Previous regulation approaches should be reconsidered**

The research approach used in this study suggests that financial services that are booked through small OFC islands in the Caribbean and Pacific and Indian Oceans are most likely not carried out locally. This is evidenced by the fact that storm events, such as Hurricane Irma, create long-lasting deteriorations in local conditions on this island but do not affect financial service activities. On non-OFC islands, such storm events cause general deteriorations as well as a decline in financial sector activity. These findings provide empirical evidence supporting the indicative evidence for remote bookings in OFCs using leaked data and holidays. However, the bilateral correlations between financial centers such as London, New York, or Tokyo and OFCs still require further research.

If future research confirms the results of this study, the OECD’s impressive measures to combat tax evasion could be inherently handicapped. Even if the relevant authority in the OFC is willing to forward data to the requesting entity, local authorities on the island can neither verify nor enforce that the data transmitted by the financial service provider is truthful, as the service was most likely not even provided on their territory. Put simply, German clerks, for example, will attempt to get information about financial arrangements—which may be designed and maintained in Frankfurt—with the help of the authorities on a small island on the other side of the globe.

The Wirecard case is a prime example of the arising difficulties: Although extensive information on those involved and their offenses were made public, it is still not possible to trace the relevant financial flows via OFCs. The potential offenders, the auditing law office, and the authorities

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12 See Miethe, “Tax evasion in new disguise?”

13 The results are insignificant and all associated coefficients are very low and show no effect over the entire observation period

14 For details, see Miethe, “Tax evasion in new disguise?”
OFFSHORE BANKING

responsible for regulating both, are not in Mauritius, where capital was booked according to some reports, but are all located in Germany.

From this perspective, it is more promising to target regulation attempts directly at the international financial sector, as has been successfully demonstrated by the USA in Switzerland, for example. The American government gave Swiss banks the choice of either forwarding data on American investors or to be excluded from US capital market. Due to this pressure, Switzerland and the USA concluded agreements wherein Swiss banks agreed to report previously hidden positions of American citizens to the USA. Eighty-four banks have since signed up for this program.\textsuperscript{15} Considering the success of this approach, a similar approach may be a solution for Germany and the EU.

\textsuperscript{15} Cf. with the information on the website of the United States Department of Justice (accessed on October 8, 2020).

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