# iGAMING VERSUS BANKING: DIFFERENCES AND SIMILARITIES

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## **ABSTRACT**

This work compares existing and emerging risks of the banking and iGaming industries. Moreover, whilst a solvency framework is established in the banking industry, this study researches the potential implementation of a solvency regime in the iGaming industry.

Our literature review is complemented with semi-structured interviews held with 23 stakeholders working in risk management in Malta.

The common risks identified were compliance with regulations, money laundering, liquidity and solvency risks. The banking industry highlighted credit, market and jurisdiction risks as specific risks faced by their industry – the latter being potential worry specific to the Maltese jurisdiction. iGaming experts highlighted financial, responsible gaming and market changes as specific risks for their industry. A formalised solvency framework would be beneficial to the iGaming industry by further enhancing its reputation. Finally, we find that more focus should be given to risk management in banks and iGaming operators to improve the relationship between both industries.

Keywords: Risk management, banks, iGaming, solvency, risk, Malta

#### 1 INTRODUCTION

The iGaming industry has been growing substantially over the past two decades. This can also be evidenced by the fact that iGaming operators constitute 40% of the main shirt sponsors of the English Premier League. With the increased interest in e-sports and the legalisation of online betting in the USA and other jurisdictions such as Brazil; the industry is bound to grow at a faster pace. This should surge interest from different academic perspectives ranging from problem gambling to solvency but also increased regulatory oversight.

The banking industry on the other hand has been operating in a tightly regulated environment for many decades. Processes, industry standards and regulations developed in the banking industry have acted as an inspiration for

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other industries – for example, the insurance regulatory standard Solvency II was modelled on Basel II despite the insurance industry being also a very mature industry.

In this paper, we analyse and compare the risks faced by the banking and iGaming industries through the use of interviews and analysis of operators' published statements. Our interviews were set in Malta – a small archipelago in the middle of the Mediterranean Sea that is a European Union country. Despite its size, Malta has experienced more than the fair share of growth in gambling activity in Europe as it enjoyed a first-mover advantage (Cortis & Falzon, 2019). As an example, the most popular domicile for English Premier League teams main shirt sponsor is Malta (15%) which is only equalled by the UK (also 15%), since the majority of gambling operators have headquartered on the main island of Malta.

It is, therefore, easier to be able to compare the two industries in Malta. Despite the importance of the iGaming sector to Malta, iGaming operators find it difficult to build a relationship with local banks due to the perceived high risks, especially in corporate governance, data protection, and money laundering (MGA, 2018; Malta Profile, 2019). We also utilise our interviews to analyse the relationship between these two industries.

Given the importance of solvency in the banking industry, it is interesting to analyse whether a similar framework can be adopted in iGaming without hindering operators. This paper further explores the possibility of introducing a formalised solvency framework in the iGaming industry.

#### 2 LITERATURE REVIEW

#### 2.1 RISKS FACED

Both industries face a range of risks and any literature search would drive different categorisations of risks. While regulation such as Basel III may lead to banks having similar categorisation of risks between them, we dedicate this section to point out the main risks faced by these two industries.

# 2.1.1 CREDIT, LIQUIDITY AND FUNDING RISK

Retail banks are exposed to significant credit and counterparty risk owing to their nature of operations which engages with deposits and loans. Understandably, they have various procedures in place to mitigate this risk according to the Capital Requirements Regulation (CRR) and Basel III. iGaming companies, on the other hand, do not have as much exposure to credit risk since payments are done in advance and their client-base is private persons (LeoVegas, 2018). Some operators offer their services solely to other businesses rather than to private persons and these are at potential counter-credit party risks.

Liquidity and funding risk arises when there is uncertainty on the inflows and outflows of money in the future as well as uncertainty on the price of obtaining funds to be liquid (Drehmann & Nikolaou, 2013). Since banks are liable to their depositors, and iGaming companies need to disburse any winnings to their clients with immediacy, this is a communal risk that has the potential of making an organisation insolvent (Armstrong & Caldwell, 2008).

#### 2.1.2 MARKET RISKS

All banks are exposed to interest rate risk from their non-trading activities such as fixed interest rate loans and cashflow originating from variable interest rates; and when interest-earning assets and interest-bearing liabilities mature or are repriced at different times and amounts. Banks carry out sensitivity analyses to manage this risk. Unlike banks, iGaming companies are minimally affected by interest rate risk as their income and revenue are independent of fluctuation of interest rates. However, they are exposed to foreign exchange risks, since their financial assets and liabilities are denominated in foreign currencies, whilst their reporting currency is different. This risk is managed by setting cash deposits aside or else by hedging, which include derivative contracts. This is not a moneymaking strategy but a buffer for potential loss (Picardo, 2018).

Another risk that is linked with market risk is property risk, which arises from price fluctuations in the property market. This risk has a twofold effect on banks, namely; from ownership of property, while the other effect is linked to credit risk. Banks often use property as collateral on mortgages, and a negative effect on the prices would result in them getting less than the value of the collateral in case of client default. This affects banks' profitability and lending activity (Davis & Zhu, 2009). iGaming companies would only be exposed to the first type of property risk if they own property and not rent or lease.

# 2.1.3 REGULATORY COMPLIANCE RISK

Banking regulation aims for a safer and more stable banking industry to safeguard customers (Wallison, 2005). The iGaming industry is highly regulated in Malta, with the new Gaming Act being approved in Parliament in 2018 and the Malta Gaming Authority (MGA) having an enhanced supervisory role. The aim of the new regulatory framework is to act in favour of the public interest and mitigate the fundamental risks faced by the industry, whilst also promoting integrity and responsibility. Therefore, both industries are subject to legal/regulatory and compliance risk.

# 2.1.4 EMERGING AND OPERATIONAL RISKS

Operational risk requires adequate management and mitigation since it affects both banking and non-banking organisations alike (European Banking

Authority, n.d.). This risk also includes Information Security, Information Technology and Cyber Risks. Banks are aware that this risk cannot be eliminated but only minimised, so they ensure that segregation of duties, adequate cost-effective insurance coverage, and professional training for staff are in place whilst allocating capital to such losses.

Emerging risks are "new risks or familiar risks that become apparent in new or unfamiliar conditions." These can be man-made, natural, or both, and may be brought about by technological, economic, societal, environmental, regulatory, or political change (IRGC, 2015).

The World Economic Forum (2020) observes that global risks are different in terms of likelihood and impact when comparing 2010 to 2020. Major risks identified by the World Economic Forum (2020) that are more applicable to this study include climate change, cyber-attacks, data fraud or theft, and asset bubbles (Edmond, 2020).

# 2.1.4.1 Technology-related risks

Since banks and iGaming companies are customer-oriented, advances in technology ensure that the customer's experience is efficient by using the latest technologies available. This is why market players should embrace technology so as not to fall behind and lose clientele. (Peachey, 2019).

The majority of banks' processes are IT-based, with services provided via electronic channels (Alt & Puschmann, 2012). iGaming companies tend to be based solely online, and whether the focus is on productivity and operational excellence, or close-customer relations; IT plays a critical role (Tallon, 2010). This increased dependence on IT means that IT risk is an emerging risk.

Fintechs can be a threat to traditional banks. However, banks can embrace technology and make it an opportunity to develop a more flexible and functional product (Romānova & Kudinska, 2016). Examples of such competition include virtual banks such as Revolut, and other sources including Paysera and PSP lending (Kovas, 2019).

Other risks related to Fintech include diminishment of banks' market share due to emerging competitors, lower revenues and reduced profit margins for banks, increased operational risk, and increased risk of fraud for both banks and iGaming companies. (Romānova & Kudinska, 2016). It is expected that the risk of cyber-attacks leading to the theft of money and data will increase in the future, whereby this emerging risk could disrupt operations (World Economic Forum, 2020). A case in point involved a hacking attempt amounting to thirteen million euro on Bank of Valletta, Malta's largest bank, in February 2019. This caused the bank to temporarily shut down its operations (Borg, MacDonald & Caruana, 2019).

Since both banks and iGaming companies make heavy use of IT systems and technology, they are highly susceptible to these risks. Being customer-oriented organisations, their focus goes beyond the financial damage and

disruption to their operations, but make emphasis on protecting the customer and the data they hold.

# 2.1.4.2 Other Emerging Risks

Other emerging risks worth noting include climate change risk whereby mitigating this risk for a less devastating effect is part of the risk management process (O'Brien et al., 2006). The focus should be to reduce the risk posed by actual and potential hazards (Alexander, 2002). Political risks such as Brexit, brought by actions of governments that reduce the cashflows that investors expect from their investments (Coggan, 2017). Political risks can result in compliance risk arising from new regulations such as GDPR, where if a breach occurs, the offending company would be liable to hefty fines, depending on the severity of the breach (Wolford, 2019).

#### 3 THE FINANCIAL AND BETTING MARKETS

# 3.1 MARKET EFFICIENCY

The concept of an efficient market was primarily applied to the stock market, but it can also be applied to other markets (Beechey et al., 2000) including foreign exchange markets, as well as betting markets.<sup>1</sup>

The market efficiency theory does not hold when betting markets do not automatically adjust to available information similar to what happens in the financial market with contrarian investors (Lakonishok et al., 1994) and when there is longshot bias in betting markets (Buhagiar et al., 2018).

Available information is also a determining factor in loan pricing where the more information that is available, the less the inherent risk and the lower the cost involved (Graham et al., 2008). There is a positive relationship between the amount of credit risk involved and interest rates charged for fixed income securities (Freixas & Rochet, 1997). This is in line with market efficiency and the available information in the betting industry as highlighted above. Credit institutions also consider the loan-to-value ratio in relation to the credit risk involved and this can be compared to the credit given to high rollers in some traditional physical gambling set-ups.

# 3.2 PRICING

The way the betting industry sets odds for events is similar to the way banks charge interest rates for loans. Bookmakers set odds based on the likelihood of real probabilities of an event, together with the anticipated money flow using

<sup>&</sup>lt;sup>1</sup> We would strongly recommend the text book *Information Efficiency in Financial and Betting Markets* as a primer to this area (Vaughan Williams, 2005).

mathematical models. Similarly, banks estimate the probability of expected payment from their customers keeping in mind the minimum capital requirement, value at risk and discounting rate, since loans have a longer term (Repullo & Suarez, 2004). In the financial market, the Value-at-Risk (VaR) is used in risk management to assist in arriving at a minimum capital requirement. (Duffie & Pan, 1997).

#### 3.3 TIME-FRAME OF OPERATION

Bank loans are normally operating products for a medium to long-term, allowing more time for credit risk to manifest itself or for the risk to change, unlike bets which are valid for a shorter period. Risk management considerations in banks vary greatly from those in iGaming companies, with the VaR calculation not being the most viable option due to its incoherent nature (Cortis, 2019).

#### 3.4 SOLVENCY

The financial market is concerned with the solvency of its market players as evidenced in regulations such as Solvency II and CRD IV, requiring sufficient funds to satisfy capital requirements. High-risk activities require a proportionate capital allocation. Furthermore, these regulations allow for a timely intervention from the regulator (European Commission, 2009), (European Parliament & European Council, 2013). Cortis (2019) highlights that given the similarity of the financial industry to the betting market as seen above, solvency should also be addressed due to possible losses in the latter.

Solvency calculations have to be done simplistically to reduce costs and to be carried out promptly. This encourages active risk management, resulting in customer protection, allows investors to analyse bookmakers easily, and reduces regulatory arbitrage (Cortis, 2019). Just like the banking industry, the iGaming industry is subject to losses, where in both cases, the customers would suffer, if not the industry as a whole.

To safeguard the clients' interest, banks in the EU have depositors' insurance, which is beneficial since clients would be less inclined to withdraw all their money which would accelerate bank default (Diamond & Dybvig, 1983). In the iGaming industry, licenced iGaming companies in Malta must return money to their clients within five working days from when the request is made (MGA, 2018).

Given the similarities of both industries in terms of risks, one should consider the possibility of iGaming companies having solvency requirements and/or reserves to safeguard both clients and the industry itself. No formal regulatory frameworks exist yet, however, there is a possibility of having a solvency framework for bookmakers, despite some limitations (Cortis, 2019). This framework is risk-based depending on the risk associated with a bundle of

bets and their respective odds, it aims to encourage the bookmaker to manage risk for lower deviation and smaller variance that signifies less chance of abnormally large payouts (Cortis, 2016; Stark & Cortis, 2017). iGaming companies may face default risk if they are not able to pay out winners if not enough revenue is gathered from the opposing side of the bet, known as "unbalanced book" (Franck et al., 2009). Lack of solvency could cause crises that can destroy individual companies but could potentially escalate to financial institutions and economic sectors (Rochet & Tirole, 1996).

# 4 METHODOLOGY

Our work is subdivided into two parts: findings from literature review and interviews. Our literature review merges our academic search to the main corporate publications of four banks operating in Malta and three iGaming companies.

The annual reports of the three largest retail banks in Malta [Bank of Valletta (BOV) plc., HSBC Bank Malta plc., APS Bank plc.] and a trade finance bank (FIMBank plc.) were used. On the other hand, the annual reports of three iGaming companies operating in Malta were Betsson AB, LeoVegas AB and Flutter Entertainment plc. The latter is listed on the London stock exchange and formerly known as Paddy Power Betfair while the former two are listed on the Stockholm stock exchange.

The subsequent interviews were asked to key market players. The flexibility aspect was achieved by adapting the questions asked based on the responses given during the interview, allowing for a more open discussion, a better understanding of the interviewee's opinion (Saunders et al., 2016) and what the interviewee considers as more crucial.

Face-to-face interviews were carried out in February 2020, however, following the deteriorating scenario of COVID-19 in Malta, online interviews were carried out using Skype, Zoom, Microsoft Teams, Webex and Whatsapp.

An equal number of respondents per industry were interviewed. We invited banking respondents through an email sent via the Malta Bankers' Association to its members. This ensured that the full picture of the Maltese banking scenario was captured, namely:

- 1. Core Domestic Banks / Systemically Important Institutions
- 2. Non-Core Domestic Banks
- 3. Foreign banks

Furthermore, individual emails to Chief Risk Officers and other high-ranking employees were also sent.

A slightly different approach was undertaken for iGaming companies, whereby emails to a large number of operators comprising the majority of gross gambling revenue in Malta were sent. The majority of respondents work

in the risk and compliance function, with most of them occupying top positions. The largest and most prominent iGaming companies based in Malta were preferred, as opposed to start-ups and small companies.

A third category of interviewees encompassing regulatory/supervisory/governmental authorities and advisory/audit firms (including the Big 4). All interviewees held senior managerial roles and the following table outlines the number of interviewees by type of respondent mentioned in this section:

We transcribed our interviews and analysed each discussion to note which risks were identified by each interviewee. Every interviewee mentioned more than one risk during the open-ended discussions and interviewees were left to comment on the industry they operate in.

Table 1. Number of interviewees by type of respondent

Type of respondent	#
Bank	5
iGaming company	7
Regulatory Authority/Government Agency	5
Audit & Advisory Firms	5
Other experienced people	1

#### 5 FINDINGS

We subdivide our findings into five segments. Firstly, we discuss the major specific risks identified by each industry and then we follow it up with common risks. This leads to reflections on the relationship between the two industries, with special reference to the Maltese scenario. Finally, we discuss the reactions to the potential of a solvency regime to be applied to the iGaming sector.

#### 5.1 BANKING SPECIFIC RISKS

Three categories of banking specific risks were identified in our interviews: credit risk (including Non-Performing loans); correspondent banking and jurisdiction reputation; and market (and interest rate) risks.

The highest risk is unsurprisingly credit risk since the Maltese banks interviewed are credit institutions. The effects of such risk have been described as less immediate, as consequences are realised at a much later stage. Another subset of credit risk is non-performing loans and although Maltese banks have a lower number of non-performing loans than their European counterparts, there exists no secondary market where these loans can be sold to specialised entities.

Given the small size and volume of Malta's jurisdiction, correspondent banks have concerns when assessing the risk posed by Malta's institutions compared to the reward. A contributing factor to the elevated risk is the money laundering risk, posed by the iGaming industry amongst others. iGaming companies are no longer part of the risk appetite of correspondent banks.

This issue was evidenced by Deutsche Bank's and ING Bank's withdrawal from Malta causing banks not to be able to access foreign markets and/or currencies for international trade. iGaming companies, in particular, would be impacted by this risk due to the inability to process payments (Borg, 2019; IMF, 2020).

A bad jurisdiction reputation can cause Malta to become a grey-listed jurisdiction, leading to worsening corresponding banking relationships and industries leaving the nation, further aggravating the profitability risk for banks.<sup>2</sup>

Interest rates fluctuations affect banks' cost-of-funding and expenses, thus potentially reducing profitability. A low net interest margin and persistently low interest rates are other risks for banks. Malta has a higher margin than its European counterparts since Maltese banks are reluctant to push interest rates down too aggressively and negative interest rates are not permissible for most clients (MFSA, 2018). This risk is aggravated when banks need to deposit excess deposits overnight with the European Central Bank which incur a negative interest rate. To mitigate this risk, banks confirmed a change in their strategy to divert revenue streams from net interest income to fee-based business.

## 5.2 iGAMING-SPECIFIC RISKS

iGaming interviewees have prevalently identified four unique risks – financial risk, responsible gaming, payout limits and market shifts risk.

Financial risk is the risk of incurring additional expenses such as fines imposed on iGaming operators for various reasons including responsible gaming, money laundering, and other regulations such as GDPR, although the latter also affect banks.

Responsible gaming is a major risk due to the increasing importance given by regulators on player protection, as well as the hefty fines involved. There are notable efforts such as carrying out due diligence and KYC on their players and risk analysis on all the games put on the market. Despite this high risk, operators need to find the right balance between the commercial side and their commitment to player protection, especially because players use responsible gaming to their advantage.

Respondents said that operators need to limit their exposure in the sportsbook by having adequate risk management on the payout limits to be able to balance the book. Incorrect odds and uncapped limits could result in large exposures to the detriment of the company's solvency, resulting in insufficient funds available to pay their players.

iGaming companies explained that there is a significant risk by not being agile enough to changes in market demands. Operators need to keep up with

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<sup>&</sup>lt;sup>2</sup> At the time this paper was submitted and accepted, Malta was not yet grey-listed. However the country was subsequently grey-listed in June 2021.

the latest trends of customers' preferences, analyse the income earned from their players in various markets (countries) and their target players. Shifts were observed from poker gambling to sports betting, with a recent move onto eSports, accentuated by COVID-19.

#### 5.3 COMMON RISKS

Despite the distinct operations of both industries, respondents have identified numerous risks which are common – specifically compliance, money laundering, liquidity and solvency risk as well as a range of emerging/operational risks.

Regulation in iGaming varies in different countries, and this lack of harmonisation (unlike in the banking industry), makes it more difficult to be compliant in different jurisdictions and to venture into new jurisdictions. iGaming respondents confirmed that the industry is evolving into a regulated market with strict regulations, so much so that it is becoming much like the banking industry.

Considerable efforts are noted in managing money laundering risk in both industries, with iGaming companies recently becoming subject persons under the 4th Anti-Money Laundering Directive. Furthermore, iGaming companies find it more difficult to mitigate money laundering as customers fail to understand the level of due diligence involved since this is an entertainment industry, unlike when dealing with banks. This risk has become prominent locally, with effort done by both industries and the importance of the role of Money Laundering Risk Officer.

In banks, liquidity risk is brought about by an asset-liability mismatch, where demand for deposits are not met on time since deposits received are given out as loans. This risk is similar in the iGaming industry when operators cannot pay the winnings to their players.

# 5.3.1 EMERGING RISKS

The key emerging risks that were identified could be categorised as technological innovation risk, IT/cybersecurity risks, climate change risk and geopolitical risks.

Respondents said that companies who do not take into account technological innovation, do not use it effectively, and do not mitigate risks arising from it, would not survive in the future. In Malta, bank branches are being closed to focus more on the online and mobile aspect of banking. Both industries identified blockchain and cryptocurrencies as risky technologies which if adopted in an uncontrolled manner, would expose them to unwanted risks. iGaming companies that do not adopt new technology and fall behind in launching new products using modern technology will be at risk of failing.

Both industries are heavily dependent on technology due to their way of operating and online presence leading to IT and cyber-security risks and other

related risks such as legal, conduct, third-party and data theft risks. Respondents confirmed that although advancements have been made in both industries, there will always be people, such as hackers, who are one step ahead and could strike at any moment, making this a top risk for both industries.

Banks are exposed to climate change directly due to physical occurrences, such as rising sea levels and storms and floods which damage the banks' property and their collateral. Another related risk is the transitional risk, whereby companies change their production lines and abandon assets to be able to produce electric cars and not fuel cars, making oil a stranded asset. iGaming companies are exposed to this risk due to their multinational presence, whereby clients and servers could be impacted by climate change.

Banks and iGaming companies are affected by events and political scenarios happening around the globe which can force companies to change their business model in light of developments in foreign countries. Scenarios that impact both industries include Brexit, the US-China trade war and sovereign bonds downgrades.

# 5.4 POSSIBILITY OF A SOLVENCY REGIME FOR iGAMING COMPANIES

The majority of respondents said that certain protocols regarding solvency and financial reporting obligations already exist. There was a consensus on the adequacy of the requirements already in place. Furthermore, there was an equal number of respondents against and in favour of a solvency regime.

The arguments brought in favour include that since one of the main aims in iGaming regulation is to guarantee payout to players, operators who abide by solvency requirements show that they are reputable and players' money is protected. Emphasis has been made on having a regulated market since it already works well for banks, however, respondents advised against too much regulation since this could kill the business. A solvency regime is beneficial for both the operators and players as there would be a degree of customer protection, which prevents insolvency.

On the other hand, some respondents said that obliging iGaming companies to have solvency requirements could cause smaller operators to be taken over since they would not survive in a tight solvency regime. However, a solvency regime is beneficial as it requires fewer financial reserves due to diversification and negative correlation between different areas of iGaming, such as casino and sports betting. Respondents confirmed that to guarantee immediate disbursement of winnings, iGaming companies already have reserve funds as mandated by the regulator, making solvency requirements unnecessary and that capital and liquidity are not an issue in the iGaming industry. Therefore, the extra resources required to have a solvency regime could be better used to tackle money laundering which was identified as one of the main contributors towards making this industry a high-risk one.

The majority of respondents stated that a similar concept to a solvency regime is already in place and is mandated and monitored by the MGA. Furthermore, respondents feel that although this concept is not as thorough as that in the banking industry, it is sufficient enough as long as the regulator has the power to monitor and intervene where necessary.

iGaming companies are required to segregate their bank accounts between players' funds and the company's operating funds, as well as report their account balances to the MGA. Moreover, money in customers' funds accounts must exceed liabilities to their players at all times, meaning that a solvency regime would free up idle money held solely to exceed operators' liabilities. Tight measures, heightened compliance with increased solvency requirements and a reputable regulator, make Malta an attractive, safe and stable iGaming market.

Solvency requirements help distinguish between the licenced and serious operators and those that have the potential of ruining the industry's reputation.

Whilst some respondents agree to have solvency requirements to protect the industry and its stakeholders, just like banks due to the ever-increasing similarity between the two industries, some fear that regulation will become stricter over time. Meanwhile, respondents said that the reason why there exists no official player protection is that the safeguards mentioned above are working well.

# 5.5 RELATIONSHIP BETWEEN BOTH INDUSTRIES

Banks have little risk appetite for iGaming companies, a phenomenon that does not occur solely in Malta. Following a de-risking strategy carried out by Maltese banks, most banks stopped offering banking services to iGaming companies except for a few banks who do so selectively and offer limited services. Respondents said that in Malta, there are only two banks large enough to handle the big iGaming operators efficiently.

The risk management considerations and maturity of iGaming companies play a crucial role since in the de-risking exercise, Maltese banks only kept relationships with the large reputable companies restricting access to start-ups. Banks also confirmed that they pose minimum requirements to reduce the inherent risks, such as the limitation to operate in reputable and regulated territories, the necessity of being licenced by the Malta Gaming Authority, and having a local nexus.

The iGaming industry is considered high-risk due to its high money laundering risk, the nature of its business and operations, its high-risk customers, and issues with unlicensed operators. Furthermore, transactions are difficult to monitor and banks cannot know an iGaming company's customers. Respondents confirmed that this industry would still be classified as risky despite high-risk maturity, structured risk management, and other mitigants being put in place that reduce the risk imposed.

Maltese banks have an already-strained correspondent banking relationship. Internationally, correspondent banks consider the iGaming industry as high-risk. Malta's situation is aggravated owing to risks to the jurisdiction's reputation and its small size. Therefore, the high risk involved may not justify the revenues earned. Most banks consider correspondent banks as far more important stakeholders than individual customers and would attempt to match their correspondent banks' risk appetite. Systemically important institutions have little options but to deny or restrict their services, since they are directly monitored by the European Central Bank.

iGaming companies require a Maltese bank for their banking needs and banks benefit from added revenue owing to the size of the iGaming industry. Furthermore, both industries can work together to do double risk management on their mutual customers to identify most risks.

The iGaming industry in Malta is significant and its presence positively, but indirectly, affects Maltese banks driving a need for improvement in their relationship.

Increased anti-money laundering resources and enhanced regulations would reduce the overall risk however, some respondents said that government aid to banks is required. Banks can undertake a risk-based approach when onboarding iGaming companies and distinguish between strong, reputable iGaming companies from others. The gaming authorities could impose more onus and requirements to monitor sources of funds and reduce money laundering risk, albeit this might increase costs.

#### 6 CONCLUSION

The banking and iGaming industries are exposed to several common risks which include operational risk, regulatory compliance, money laundering, liquidity, solvency risk (which demonstrates the requirement for a solvency framework in the iGaming industry), IT and cyber risks, and reputational risk. These risks are managed by an ERM function, or simply a risk function, depending on the level of risk maturity.

Furthermore, there are some emerging risks which both industries have identified; such as risks arising from technological innovation - IT and cyber risks - which were also identified as major risks showing the magnitude of such risks, climate change/environmental risk and geopolitical risks. Traditionally major failures in different industries have been due to strategy, the classical case being Olivetti who stuck to traditional typewriters, and fraud such as the Barings Bank case (Lam, 2003). Both industries pointed out indirectly strategic risk as a potential downfall – banks by mentioning their shift to online and more service providing and iGaming by focusing on shifting market dynamics. On the other hand, our findings did not point out that the firms are actively worried about fraud – possibly due to the structure of our interviews.

Since solvency and liquidity risk is a major risk concern in iGaming companies, one can conclude that a solvency framework is required. Solvency distinguishes a reputable company from others, whilst emphasising player protection. There is also a perceived preference for a formalised structure as experience shows that it works well for banks. The benefit of a formalised solvency framework is that this would free up reserve money (which would otherwise be idly sitting in bank accounts) as it would consider diversification benefits.

There are a good number of similarities between the two industries such as being exposed to similar risks and common regulations such as AML and GDPR. Companies in both industries need to be licenced and are heavily regulated, so much so that the iGaming industry is becoming even more similar to the banking industry. Some of their operations are also similar, such as the holding of clients' moneys, how they take onboard customers, the importance of liquidity, and their use of technology.

The overarching observation is that the relationship between both industries leaves much to be desired. Few banks in Malta offer services to iGaming companies and these services are limited and selective due to little appetite for the iGaming industry since it is considered as high-risk. This inadequate relationship pervades, despite the similarities in both industries. Risk management is essential to both industries, therefore improved risk maturity, compliance with regulation and enhanced authority of the risk management function need to be at the top of both industries' agendas.

#### REFERENCES

- D Alexander *Principles of Emergency Planning and Management* (Harpenden, UK, Terra Publishing, 2002).
- R Alt and T Puschmann 'The rise of customer-oriented banking Electronic markets are paving the way for change in the financial industry' (2012) 22(4) *Electronic Markets* 203–215.
- APS Bank plc Annual Report and Financial Statements (2018).
- J Armstrong and G Caldwell 'Liquidity Risk at Banks: Trends and Lessons Learned from the Recent Turmoil.' (Online, BankofCanada.ca, 2008) Available at: https://www.bankofcanada.ca/wp-content/uploads/2012/01/fsr-1208-armstrong.pdf [Accessed 12 February 2019].

Bank of Valletta plc. Annual Report and Financial Statements (2018)

M Beechey, D Gruen and J Vickery '*The efficient market hypothesis: a survey* (Online, Royal Bank of Australia,2000) Available at: https://www.rba.gov.au/publications/rdp/2000/2000-01/predictions-of-the-efficient-market-hypothesis.html [Accessed 21 May 2019].

Betsson ab Annual Report (2018).

B Borg, V MacDonald and C Caruana 'BOV goes dark after hackers go after €13m.' TimesofMalta.com (13 February 2019). Available at: https://

- timesofmalta.com/articles/view/bank-of-valletta-goes-dark-after-detecting-cyber-attack.701896 [Accessed 26 February 2019].
- J Borg 'Deutsche Bank pulls the plug on Malta' TimesofMalta.com (12 October 2019) Available at: https://timesofmalta.com/articles/view/deutsche-bank -to-end-dollar-service-to-malta.741483 [Accessed 1 August 2020].
- R Buhagiar D Cortis and PW Newall 'Why do some soccer bettors lose more money than others?' (2018) 18 *Journal of Behavioral and Experimental Finance* 85–93.
- P Coggan 'What is political risk?' (Online, TheEconomist.com,2017) Available at: https://www.economist.com/the-economist-explains/2017/06/08/what-is-political-risk [Accessed 21 July 2019].
- D Cortis and E Falzon 'Electronic gaming: Platforms of playfulness' in G Baldacchino, V Cassar and JG Azzopardi (eds) *Malta and its Human Resources: Management and Development Perspectives* (Malta, Malta University Press, 2019)
- D Cortis 'On Developing a Solvency Framework for Bookmakers' (2019) 12(2) *Variance* 214–225
- EP Davis and H Zhu 'Commercial property prices and bank performance' (2009) 49(4) *The Quarterly Review of Economics and Finance* 1341–1359
- DW Diamond and PH Dybvig 'Bank runs, deposit insurance, and liquidity' (1983) 91(3) *Journal of political economy* 401–419
- M Drehmann and K Nikolaou 'Funding liquidity risk: definition and measurement' (2013) 37(7) *Journal of Banking & Finance* 2173–2182
- D Duffie and J Pan 'An overview of value at risk' (1997) 4(3) *Journal of Derivatives* 7–49.
- C Edmond *These are the top risks facing the world in 2020* (2020) [online] World Economic Forum. Available at: https://www.weforum.org/agenda /2020/01/top-global-risks-report-climate-change-cyberattacks-economic -political/ [Accessed 21 March 2020].
- European Banking Authority, (n.d.). *Operational Risk*. [online] Available at: https://eba.europa.eu/regulation-and-policy/operational-risk. [Accessed 23 January 2019].
- European Commission Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) Directive (Strasbourg, European Commission, 2009)
- European Parliament and European Council *Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on Access to the Activity of Credit Institutions and the Prudential Supervision of Credit Institutions and Investment Firms, Amending Directive 2002/87/EC and Repealing Directives 2006/48/EC and 2006/49/EC (CRD IV)* (Brussels, European Council, 2013).
- FIMBank plc Annual Report and Financial Statements (2018)
- E Franck, E Verbeek and S Nüesch Inter-market arbitrage in sports betting. (2009) 48 NCER Working Paper

- X Freixas and JC Rochet *Microeconomics of Banking* (Cambridge, MIT press, 2008)
- Gaming Act Chapter 583 of the Laws of Malta (2018)
- JR Graham, S Li and J Qiu 'Corporate misreporting and bank loan contracting' (2008) 89(1) *Journal of Financial Economics* 44–61.
- HSBC Bank Malta plc. Annual Reports and Accounts (2018)
- IMF *Malta: Staff Concluding Statement of the 2020 Article IV Mission*. (2020) [online] IMF.org. Available at: https://www.imf.org/en/News/Articles/2020 /02/14/mcs021420-malta-staff-concluding-statement-of-the-2020-article-iv -mission [Accessed 1 August 2020].
- IRGC *Guidelines for Emerging Risk Governance* (Lausanne, International Risk Governance Council (IRGC), 2015)
- A Kovas *Understanding the Risks of Fintech* (2019) [online] Legal.thomsonreuters .com. Available at: https://legal.thomsonreuters.com/en/insights/articles /understanding-the-risks-of-Fintech [Accessed 30 March 2019]
- J Lam Enterprise Risk Management: From Incentives to Controls (New Jersey, Wiely Finance, 2013)
- J Lakonishok, A Shleifer and RW Vishny 'Contrarian investment, extrapolation, and risk.' (1994) 49(5) *The Journal of Finance* 1541–1578.
- LeoVegas AB Annual Report (2018).
- Malta Profile *Gaming operators need to promote good practices to give banks 'comfort' MaltaProfile.info.* (2019) [online] Maltaprofile.info. Available at: https://maltaprofile.info/article/gaming-operators-need-to-promote-good-practices-to-give-banks-comfort [Accessed 9 November 2019].
- MFSA Imposition of Negative Interest Rates on Euro Denominated Deposits. (Malta, MFSA, 2018) [online] Available at: https://www.mfsa.mt/wp-content/uploads/2019/01/Circular-02\_Imposition-of-Negative-Interest-Rates-on-deposits\_PUBLIC.pdf [Accessed 29 June 2020].
- MGA Directive 2 of 2018 Player Protection Directive (2018)
- G O'Brien, P O'Keefe, J Rose and B Wisner 'Climate change and disaster management' (2006) 30(1) *Disasters* 64–80.
- PaddyPower Betfair plc Annual Report and Financial Statements (2018).
- K Peachey 'Banks hit by dozens of IT shutdowns.' BBC News (28 February 2019). Available at: https://www.bbc.com/news/business-47280513 [Accessed 20 July 2019].
- E Picardo *How to Avoid Exchange Rate Risk*. (Online, Investopedia, 2018) Available at: https://www.investopedia.com/articles/forex/082515/how-avoid-exchange-rate-risk.asp [Accessed 17 March 2019].
- R Repullo and J Suarez 'Loan pricing under Basel capital requirements' (2004) 13(4). *Journal of Financial Intermediation* 496–521.
- JC Rochet and J Tirole 'Interbank lending and systemic risk' (1996) 28(4) *Journal of Money, credit and Banking* 733–762.
- I Romānova and M Kudinska 'Banking and Fintech: A Challenge or Opportunity?' In S Grima, F Bezzina, I Romanova and R Rupeika-Apoga

#### iGAMING VERSUS BANKING: DIFFERENCES AND SIMILARITIES

- Contemporary Issues in Finance: Current Challenges from Across Europe (Bingley, Emerald Group Publishing Limited, 2016)
- M Saunders, P Lewis and A Thornhill *Research methods for business students* (Seventh Edition) (Essex, Pearson Education, 2016).
- D Stark and D Cortis 'Balancing the book: Is it necessary and sufficient?' (2017) 11 The Journal of Gambling Business and Economics 1–6
- PP Tallon 'A service science perspective on strategic choice, IT, and performance in U.S.' (2010) 26(4) *Journal of Management Information Systems* 219–255
- L Vaughan Williams *Information Efficiency in Financial and Betting Markets* (Cambridge, Cambridge University Press, 2005)
- PJ Wallison 'Why do we regulate banks?' (2006) 28 Regulation 14–19
- B Wolford 'What are the GDPR Fines?' (Online, GDPR.eu, 2019) Available at: https://gdpr.eu/fines/ [Accessed 11 August 2019].
- World Economic Forum *The Global Risks Report 2020 15th ed*ition (Cologny/Geneva, World Economic Forum, 2020).