

Performance

A triannual topical digest for investment management professionals, issue 20, May 2016



In focus

Interview—Sustainable Islamic Investing in demanding times

Hot topic

Private Wealth and Asset Management in the Middle East and the role of ADGM

Turkish real estate market outlook

Credit funds just another product option for alternative investment funds?

Banking business models of the future

RegTech is the new FinTech—How agile regulatory technology is helping firms better understand and manage their risks

Centralization in Blockchain innovation—Can banks devise a centralized business model for decentralized Blockchain technologies?

Active versus passive investing—What else do we have on the menu?

Investment Fund Governance—Developing a Risk-Based Oversight Framework

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Foreword



Welcome to this milestone 20th edition of Performance.

It is hard to believe that when a small group of Deloitte professionals conceived the idea of publishing a magazine written not only by Deloitte professionals but also with industry professionals as contributors that we could ever have dreamed of its global success. From its early beginnings as a magazine focused on true investment management topics on a local level, the magazine gradually took on a more international flavor before going truly global.

Looking back in the archives, the first edition of Performance which was issued in December 2009, reflected on hedge funds, the new UK fiscal requirements for offshore funds, Islamic finance in a nutshell and UCITS IV management companies. Seven years and 19 editions later, our focus continues to be on alternative investments, fiscal requirements, spotlight on the Middle East and challenges faced by management companies.

When comparing the topics under discussion then and now, there does not appear to have been much change. Yet when focusing on the speed of development both from a regulatory standpoint and perhaps more importantly from a technological perspective, much has changed and been achieved but the journey is not yet over. To quote a sentence from one article – As with its big brother FinTech, RegTech will mean different things to different people.....

Having tripled in size from its humble beginnings as a magazine to a weighty yet thought provoking tome, its size reflects the growing importance of going global yet remaining true to our roots. It is these roots that we have nurtured during the last seven years whilst retaining our original concept of publishing a compilation of in-depth articles covering what's hot in the marketplace, updates on tax and regulations, but most importantly contributions from you, our readers. You are part of our success story, not only by being our clients but also our companions on a sometimes long and arduous journey filled with challenges whilst always remaining true to the raison d'être of this magazine - a platform to exchange ideas whilst reflecting the multi-disciplinary facets of our industry.

Enjoy this 20th edition with a Middle Eastern flavor and look forward to seeing where we will land for the 21st edition.

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Welcome or “Marhaba”, as they say in Arabic, to this edition of the *Performance Magazine*.

The fall in oil prices, regional conflicts, the easing of Iranian sanctions and slowdown in key emerging markets, have certainly continued to keep the Middle East in the spotlight. Some see these as challenging times, whilst others would seek opportunities in such times of adversity.

From our perspective, the region still presents considerable growth opportunities for both the public and private sector entities. Governments across the region continue to step-up their proactive efforts to sustain the development and diversification of their respective economies in sectors like aviation, tourism, transportation, health, education and financial services.

The Government of Abu Dhabi in the UAE, recently established the Abu Dhabi Global Markets (ADGM), as a financial free zone, gearing ADGM as a business-friendly environment, operating in line with international best practices. ADGM along with its neighbour, the Dubai International Financial Centre (DIFC) are collectively looking to re-shape the UAE’s financial services landscape, attracting many foreign players to set-up a presence in these financial free zones and using them as a business gateway to the broader region.

Qatar too has already established the Qatar Financial Centre and with the development of the King Abdullah Financial District in Riyadh, Saudi Arabia is well underway. It’s only a matter of time before the financial services sector becomes a key economic contributor for these countries.

Similarly, although the region’s banks are seeing some slowdown in market activity, due to the associated geopolitical risk and reduction in the in-flow of petrodollars, these banks continue to be well capitalised, with healthy balance sheets and record profit announcements.

Some of the largest sovereign wealth funds in the world are also very much from the Middle East region and continue to play an active role in the local and international markets. At the same time, new products and services are being offered by investment management entities to cater to the specific needs of both the local and expat segments of the society.

Overall, the future prospect for financial services looks strong for the Middle East and we remain confident for a prosperous future for the region.



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SUSTAINABLE ISLAMIC INVESTING IN DEMANDING TIMES



Nida Raza, Director in Advisory and Asset Management at the Islamic Corporation for the Development of the Private Sector (ICD), is a senior capital markets banker with over 18 years of global investment banking experience. She leads the teams that provide advisory and asset management solutions to FIs corporates and governments on Islamic Banking, Sukuk, Enabling Environment and Liquidity Management. During her career she has led capital market transactions for over 100 clients, helping to raise over US\$115 billion in financing. She specializes in origination, structuring, and execution of conventional and Islamic capital market instruments. She has advised FIs, NBFIs and Family offices on risk management enterprise solutions and led the introduction of complete Islamic pension solution one of the largest public pension funds in Asia. She holds a first class BSc (Hons) in Physics and Space Science from University College London as well as an MSc in International Securities Investment and Banking from the University of Reading in the UK. She has Islamic Finance Qualifications (IFQ), Series 7 & 63-qualified as well as a registered Financial Services Authority (FSA) general representative.

In this article, Umair Hameed, Director and Melda Salhab, Consultant in Monitor Deloitte Middle East meet with Nida to discuss her views on ICD, its funds strategy, and the outlook for the region.



1) Many people may not be familiar with ICD, so could you please tell us a bit more about the organization, its stakeholders and its overall mandate?

ICD is a multilateral development financial institution with authorized capital of US\$4 billion and it is part of the Islamic Development Bank (IDB) Group. Currently, ICD's shareholders are IDB, 52 member countries and five public financial institutions. ICD fosters sustainable economic growth in its member countries by:

- Promoting Islamic finance channels
- Providing finance for private sector projects
- Promoting competition and entrepreneurship
- Providing advisory services to governments and private companies
- Supporting the development of capital markets
- Encouraging cross-border investment

In November 2014, Fitch rated ICD "AA/F1+" with a stable outlook. In April 2015, Moody's assigned an "Aa3/P-1" rating to ICD with a stable outlook. In December 2015, Standard & Poor's Ratings Services assigned its "AA" rating to ICD with a stable outlook.

2) As Head of Advisory and Asset Management for ICD, what sorts of sector and region are you currently focusing on?

Our focus is diverse both in terms of geographical scope and target sectors.

Initially, the Middle East and North Africa region (MENA) accounted for many of our project

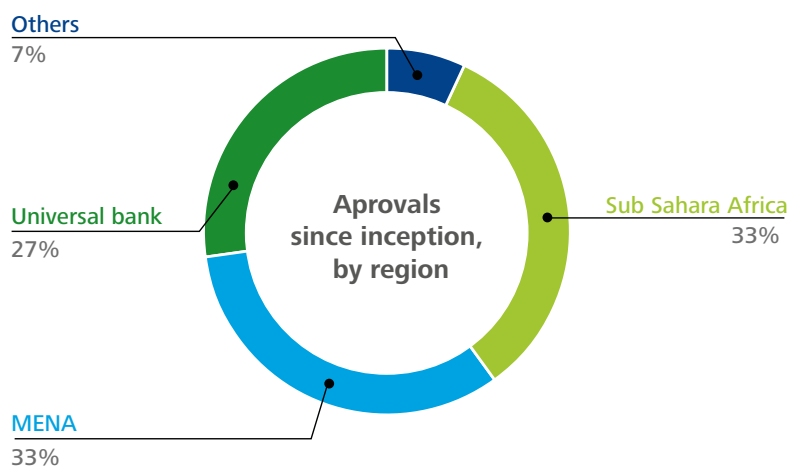
approvals. However, in 2014 we shifted our focus toward sub-Saharan Africa, mostly because of an ICD strategy to provide more support to the least-developed of our member countries. Sub-Saharan Africa now accounts for 27 percent of our total project approvals since inception.

In terms of sector focus, most of our work has been focused on finance, industry and mining, and real estate. We have also been working to increase our presence in underrepresented sectors by providing advisory services to a range of other core infrastructure industries such as telecoms, energy and transportation, as well as, the general private sector by promoting privatization, Industry and Business Environment Support programs (IBES).

3) How are you finding the quality of the underlying assets in such turbulent markets?

As a multilateral development financial institution our role is particularly crucial in turbulent times. Many of our member countries face dire economic circumstances. This is partly as a result of oil prices and a global economic slowdown but often political or security issues are to blame.

Being a strategic but developmental institution, it is our fiduciary duty to continuously support our member countries. We believe that financial inclusion is key—this is why we target Small and Medium enterprises (SMEs) and the financial services sector. This allows us to strengthen the backbone of emerging economies and to assist in improving the Islamic finance banking model as an alternative form of banking, both of which, if monitored and implemented correctly, have proven resilient in turbulent times across the globe.



Despite the challenging times, ICD has been successful in identifying and investing in high-quality assets. Our net income increased from US\$9.5 million in 2012 to US\$26.3 million in 2014. In parallel, the return on average assets almost doubled, while our total assets increased by approximately 50 percent.

4) As it is a non-traditional fund, could you give us more insight about the investment strategy of ICD? How important are factors such as socio-economic impact, contribution to employment, etc. when considering investment opportunities?

The ultimate aim of ICD is to support and boost the economic development of our member countries. Our commitment to this goal permeates our strategy, as well as, our existing products and services. ICD's commercially viable financing projects are selected based on their potential impact with regard to economic development, accounting for factors such as job creation, Islamic finance development, technology transfer, etc. Priority is usually given to projects that contribute to intra-regional trade, represent cross-border investments and have a strong export potential.

The volume of financing for a project ranges from US\$5 million to US\$20 million with average repayment periods of between five and eight years. We do not invest less than US\$2 million in any one project or more than 50 percent of the total project cost. Also, we typically do not hold more than 33 percent equity in our investments. Our target companies for investment are private sector firms or startups and privatized public sector projects or financial institutions.

5) To what extent are fund management activities undertaken by ICD in house, rather than in collaboration with third-party service providers?

While the majority of our processes, particularly strategic decision-making, do take place in house, we recognize the value of collaborating with other organizations. We often work with other fund managers to sponsor or create special purpose vehicles. The ideology behind this is to accelerate the launching of specialized funds based on member country (MC) requirements without compromising on the quality of ICD assessment or investment. Collaborating with local experts in addition to our Islamic structuring and access to funds provides a winning combination for our clients.

ICD identified that, in recent years, the biggest challenge faced by IFIs in our member countries has been short-term liquidity management. We reacted by launching an internally managed Money Market Fund (MMF). Our MMF has monthly liquidity and provides Islamic short-term excess liquidity investment solutions. The fund has exhibited returns of approximately 3.5 percent over the last 24 months through a combination of bank placements, as well as, investments in highly rated sukuks. Our access to and relationships with Islamic banks give us the leverage to be able to secure above-average returns on short-term investment funds.

The ICD Food and Agribusiness Fund is an excellent example of how we partnered with Rabobank, as a third-party service provider. A specialized asset

management company was established with ICD as the institutional advisor and Rabobank as the technical advisor. A team of experts was hired, including individuals on temporary placements from ICD and Rabobank. The strategic advantage of the partnership is the combined skill set—ICD offers a strong Islamic banking track record, while Rabobank provides international food and agriculture expertise. Extensive investment experience is a trait shared by both parties.

Similarly, our SME funds are typically established with a local financial institution/fund manager who has contextual expertise and a strong knowledge of the investment environment in the specific jurisdiction. Theemar and Afaq, our Tunisian and Saudi SME funds, are excellent examples. Joint GP structures provide a platform for knowledge sharing, as well as, opportunities to upskill the member country labor force. We aim to achieve this by investing in SMEs and providing them with educational and technical support (e.g., mentorship, Islamic finance education, accounting, strategy planning etc.).

6) Would you consider alternate investment funds/private equity players to be your competition?

There is definitely competition in the market, particularly given the presence of national investment authorities in the region and their efforts to shift away from a reliance on natural resources.

However, it is important to note that while alternative investment funds and private equity funds do compete with us in some spaces, the market is far from being overcrowded. Over the past decade, private equity capital raised in the region was equivalent to 1 percent of GDP as compared to 11 percent in the US.

Considering our other locations, there seems to be an upward trend in terms of potential competition. While historically foreign funds focused on developed or emerging markets, recent lackluster economic trends in those countries have shifted focus to regions that the ICD is heavily involved with, specifically Africa



and many parts of Asia. We do have a significant advantage by providing Sharia-compliant finance products, which appeal to many clients in many regions.

Also, most players seem to be focusing on Africa, which has extensive infrastructure requirements. This has resulted in many PE players, as well as other DFIs, which have launched funds centered on infrastructure; however, these typically only address large and mega projects. ICD's plan is to address the often neglected but highly necessary smaller infrastructure projects, which have a more immediate impact on the country but also a smaller investment horizon. These types of projects are typically not associated with the large PE and alternative investment players.

Most Gulf Cooperation Council (GCC) countries have established financial centers to provide easier access for international FIs to launch their Middle Eastern offices

7) How are the low oil prices likely to affect the fund management business for the Middle East region and for ICD's donors?

There are two ways to view the drop in oil prices in terms of its impact on the region. The most obvious result is the sudden decrease in GCC government budgets and the spillover effect that this has on the private sector and other regions. The second interpretation is that the past year has been a long overdue stress test and wake up call. Governments have been forced to re-evaluate their financing strategies and expenditure patterns. Overall, oil-exporting countries in the region were able to sustain positive GDP growth levels, while consumers in MENA oil-importing countries benefited from the decrease in petrol prices.

As an organization, ICD remained committed to supporting member states with their diverse needs throughout this period of uncertainty. In fact, the majority of our MENA project approvals in 2014 were in oil-exporting nations. There is greater need for government financing when resource rent is unreliable. An example is a mandate for Sukuk issuance for the Hashemite Kingdom of Jordan. ICD, together with the Japan International Cooperation Agency (JICA), is helping the Jordanian government create an Islamic money market. This will help

the Islamic banks in Jordan invest their short-term excess capital and obtain suitable returns on their investment, putting them on a level playing field with their conventional counterparts. In the past they had to forgo interest on conventional investment. On the sovereign side, Jordan is able to use this liquidity for its own resource requirements, providing a win-win for all parties.

Low oil prices mean that all players will find it harder to raise additional funds for typical fund management products; however, new industry or sector-focused funds are still attractive to investors. We believe funds focused on Africa, or industry-specific financing funds (e.g., focused on Islamic infrastructure, healthcare, or education), will remain attractive. They typically remain resilient to short-term economic volatility while providing long-term stable cash flows, especially if there is a government led or sponsored private sector initiative.

8) Asset management across the GCC remains generally underdeveloped compared to other regions. Have you noticed higher levels of interest from various stakeholders (banks, investors, companies) in this industry? What role does ADGM play and what is its impact on the region's asset management business?

You are absolutely correct in saying that asset management in the region is underdeveloped as a whole when compared to mature markets. For example, in developed countries, mutual funds account for the majority of Assets under Managements (AuM). Here, the trend is the exact opposite. Mutual funds represent only a tiny proportion of the industry, while separately managed portfolios for governments, big companies, and wealthy families account for billions of dollars of AuM. This is largely a result of many years of high oil prices that helped build large sovereign wealth funds and many high net worth individuals.

Most GCC countries have established financial centers to provide easier access for international FIs to launch their Middle Eastern offices. I believe that this will be further accelerated by partnerships between global AM players and regional FIs.

Consolidation and inorganic growth will be the only catalyst that will bring the Islamic AM industry into the mainstream from a GCC perspective.

Abu Dhabi Global Market (ADGM) is a welcome advance in the GCC that will help to accelerate the development of various aspects of the financial sector. The recent announcement by ADGM that it will champion the FinTech sector will help spur innovation that will benefit the general IFI industry and specifically the asset management industry, which is still very fragmented and small-scale.

I believe that we will start seeing new trends emerge. The drop in oil prices, the creation of institutions like ADGM, the opening of the Saudi market to foreign investors and the general maturing of capital markets in the region will all have a significant effect. As independent asset managers start entering the market, banks may have to begin innovating and offering more competitive products. We will also probably see a rise in multichannel distribution, especially given the digital penetration rates in the region.

The large expatriate population in the region still remits a considerable portion of surplus savings overseas for investment purposes. This, of course, represents another opportunity for the industry although it clearly needs to be accompanied by further capital market development.

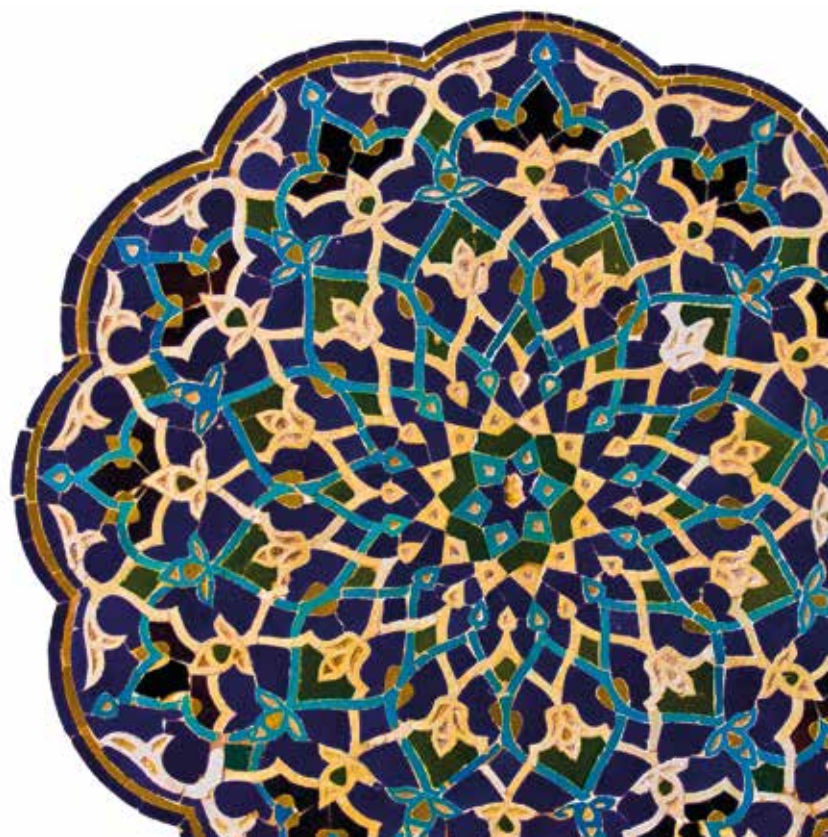
Some big regulatory changes are coming soon. There has been talk about developing a unified GCC system that would ease cross-border investment. It will be similar to the European Undertakings for Collective Investment in Transferable Securities (UCITS). If this succeeds, it will help the industry develop exponentially.

9) *What is it like to be a female in a senior leadership position with a prominent institution in the KSA?*

One of ICD's key performance indicators is to be inclusive. ICD is clearly sending a message that being "inclusive" translates to inclusivity across all its functions, including the work force. ICD's success in this field is a testament to its leadership team, who have been recruiting and developing female senior leaders within its management.

Research has shown that female representation within boards and executive management in international companies has led to higher financial performance (see the Catalyst research report on Fortune 500 companies). Furthermore, we are also working toward supporting female populations in our MCs as they are undoubtedly an essential part of the economy. Our efforts extend from SME financing and Islamic banking to human capital development through training and education.

Personally, it is inspiring to see that ICD, as an Islamic multilateral institution, embodies the vision and mission that it promotes globally.







Private Wealth and Asset Management in the Middle East and the role of ADGM¹

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The last decade has confirmed the region's position as a financial center, as well as, a trading hub connecting the West, East, developed and emerging worlds. The oil and gas financial boom has created several sovereign wealth funds and a vast amount of wealth for individuals and family groups.



The total wealth pool in the region today amounts to approximately US\$5.2 trillion and local Sovereign Wealth Funds (SWFs) together sum up to 50 percent of this wealth. The remaining wealth is split between other institutional investors such as local pension funds, as well as, mass affluent investors and Ultra High Net Worth Individual (UHNWI) investors in the non-professional segment. The increase in local wealth results from global capital markets growth, as well as, the strong growth of GDPs in the region. International along with local asset managers have recognized the importance of the region in terms of potential asset collection and have started to increase their local activities over the past decade. Strong interest and vast potential necessitated several countries in the region to take actions in order to capture this interest and support the growth of the private wealth and asset management sectors. United Arab Emirates is one of the countries that has taken a holistic approach and committed to putting the necessary regulation and infrastructure in place to have a prosperous private wealth and asset management industry.

Abu Dhabi as the capital city and heart of the United Arab Emirates and as a key success pillar of its development plan Abu Dhabi 2030 Economic Vision, has established the Abu Dhabi Global Market that will be a catalyst and enabler for the future prospects of its promising financial services sector in the UAE. Abu Dhabi Global Market (ADGM), like its neighboring counterparty Dubai International Financial Center

(DIFC), is a financial free zone established to promote the growth of the financial services sector in the Middle East, a wealth hub for the growing economies. ADGM's establishment demonstrates not only the Emirate's commitment to provide long-term partnership and collaboration with the sector locally and globally, but also its long-term strategy in promoting the region as a financial hub. As stressed by the Chairman of ADGM, Mr. Ahmed Al Sayegh, its initial focus will be on private banking and wealth and asset management, which is a core strength of Abu Dhabi, however, it will eventually incorporate the full spectrum of the financial services industry. This will further enhance and develop the positioning of ADGM to enable additional contribution to the global financial services network, international markets and related business networks.

Wealth and asset management in the Gulf Cooperation Council region (GCC), which is still in its infancy, has significant prospects in the future—yet it faces some specific challenges to achieve its potential. With oil prices at their lowest this decade and the financial services industry growing in size and sophistication, wealth and asset management is changing in the region—squeezing margins in some areas and opening up opportunities in others. Competition is heating up among banks, asset managers and asset service providers with a local presence, which will create the demand for free zones such as ADGM that will be offering operational and legislative advantages to help these players have a leaner and lower cost base.



Despite these challenges, certain opportunities will arise in the market. The recent opening of the Saudi Arabian stock market to foreign investors, the inclusion of the United Arab Emirates (UAE) in the Morgan Stanley Capital International (MSCI) Emerging Markets Index, and the launch of numerous local and international financial institutions will all drive growth in the entire wealth and asset management sector, including pensions and support services. Besides these, one of Dubai Islamic Economy Development Centre's strategic goals is to make Dubai a global reference and economic engine for Islamic Finance.

In the last decade, the asset management industry experienced significant growth of Shari'a compliant products. This growth has been across different asset classes including mutual funds, private equity and debt instruments (sukuk). Shari'a compliant products are projected to continue this trajectory of high growth over the coming years. This trend also resulted in an increase in the number of providers of Islamic funds, increased diversity of Shari'a compliant products and increase in the number of pure play Islamic asset managers, in addition, to investment managers voluntarily providing investment opportunities with Shari'a compliant structures. These have all collectively added to the significant growth of Islamic assets under management in the last few years.

As of now, sukuk that are listed on Dubai's two exchanges, Nasdaq Dubai and Dubai Financial Market, rose to US\$36.7 billion (Dh134.38 billion), according

Strong interest and vast potential necessitated several countries in the region to take actions in order to capture this interest and support the growth of the private wealth and asset management sectors

to Thomson Reuters data. Nasdaq Dubai accounts for the substantial chunk of US\$33 billion, while Dubai Financial Market accounts for US\$2.75 billion. This put UAE ahead of the world's three traditional sukuk centers: Malaysia with US\$26.6 billion listed on Bursa Malaysia and the Labuan free trade zone, the Irish Stock Exchange with US\$25.7 billion, and the London Stock Exchange with US\$25.1 billion. ADGM's role as a regulator and free zone will be critical in creating new Shari'a compliant assets and promoting the sustained growth of sukuk and other Islamic finance products in UAE. Institutional asset managers that are domiciled in ADGM, due to its proximity and access to the wider market participants in the region, have vast potential to attract the institutional investors, such as the Sovereign Wealth Funds and other regional Islamic Finance Institutes (IFI), which create the demand for Shari'a compliant products.

The first and foremost objective of ADGM is to offer a business-friendly environment with regulations and set rules aligned with international best practice standard-setting bodies. The key advantage for international financial sector players and foreign investors will be the ability to operate within a transparent legislation that offers higher certainty and familiarity, along with less risk compared with other jurisdictions in the region. Like the DIFC, ADGM will be a special free zone carved out of the UAE jurisdiction that will not be subject to UAE civil and commercial law. English common law will apply in and form part of the law governing in ADGM, established with appropriate measures in order to ensure that any unfavorable results of the common law may be overridden by ADGM.

One area of difference at ADGM will be the work environment, devised to attract the best global and local talent by offering a framework that is not only aligned with the global best practices but is also fair to both the employers and employees. Main employment-related topics that are different compared to existing employment practices in the free zone are regarding areas such as data protection and sick and maternity/ paternity leave. Overall, the regulations set by ADGM will likely be perceived well by the businesses as they relay a strong welcoming message.

While the overall regulatory framework is adhering to international best practice standards, ADGM proved its commitment to international integration by signing a Memorandum of Understanding with the Luxembourg financial center, further developing its relationship with the wider industry and stakeholders. The government's actions demonstrate its commitment to creating the required organizational and administrative support, which promotes a network of collaborative relations. The efforts will connect various state and private institutions in the UAE with its partners and stakeholders abroad.

While the Islamic and conventional finance market's considerable growth potential in the region is known, innovation and technology will be crucial in supporting this growth going forward. FinTech enables growth opportunities for many sub-sectors, including payments, software, data analytics and platforms such as crowd-funding and mobile banking applications. Today the FinTech surge is starting to reshape the financial sector on a global scale with a flourish of new actors attracting significant attention from markets, customers, and investors. As mentioned by Sayegh during the six years between 2008 and 2014, globally the FinTech sector experienced a threefold increase in investments to US\$3 billion, which is expected to double by 2018 to US\$8 billion. The FinTech movement is also gaining momentum in the private wealth and asset management industries.

Several driving forces can be identified:

- Emerging new technologies: Blockchain, artificial intelligence, machine learning techniques, digital investment platforms, peer-to-peer (P2P) lending
- The new generation of investors desire more knowledge interactions with asset managers, an increased ability to compare their investments with peer groups, to invest in a socially responsible way, and are willing to use online investment platforms

As a result, the establishment of ADGM sets the trend in the UAE and Middle East to develop an open market and an industry-clustering strategy

- Big Data and analytics make sense of data and can produce descriptive and predictive analytics on investor behaviors, performance measurement, market intelligence and risk metrics
- Regulation in the historical ecosystem is still evolving and regulation of the fast evolving FinTech solutions is uncertain
- “RegTech” emerges as a technology-based solution creating efficiency and automation in non-subjective compliance tasks

With these bright growth prospects ahead, one of ADGM’s objectives is to become a regional hub for the fast-growing financial technology industry. Currently there is no FinTech ecosystem in the surrounding region that could meet the demands of the financial community in the region and beyond. Tapping on this need for a deeply established FinTech sector, ADGM will be working closely with key industry players and stakeholders to explore and set up a sustainable FinTech environment to develop innovative solutions, products, and services. With this collaboration and assistance, Abu Dhabi would like to make financial markets and systems more efficient in order to promote growth opportunities and build on FinTech knowledge and expertise in local banks and financial institutions to capture the recent trends and risks emerging.

As a result, the establishment of ADGM sets the trend in the UAE and Middle East to develop an open market and an industry-clustering strategy. An increasingly open market, diversified economy, and political stability have all contributed to making the UAE an attractive option for foreign investors. ADGM with its structure as a business friendly set-up, international integration, technology focus, and vast potential in the region, will further boost the UAE’s position as one of the leading financial hubs in the world.

To the point:

- The oil & gas financial boom in the last decade has created several sovereign wealth funds and a vast amount of wealth for individuals and family groups in the Middle East Abu Dhabi has established the Abu Dhabi Global Market that will be a catalyst and enabler for the future prospects of its promising financial services sector in the UAE
- Competition is heating up among banks, asset managers, and asset service providers with a local presence, creating the demand for free zones that offer operational and legislative advantages
- The key advantage for international financial sector players and foreign investors will be the ability to operate within a transparent legislation, offering higher certainty and familiarity



Turkish real estate market outlook

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Turkey is a country whose growth potential is challenged with reverse capital flow pressure and regional political uncertainty. However, the demand drivers of the Turkish real estate sector such as the country's "crossroads" geographical location, urban renewal and development projects, strength in the construction sector and demographic advantage continue to support the Turkish real estate market. The Turkish real estate market, office and commercial property have outperformed over the past five years. Indeed the rental yields and selling prices for retail and residential prices have been continuing to grow since 2010. In the future, primary commercial properties in central areas are likely to attract investor interest. Real estate is one of the most significant drivers of the Turkish economy and will continue to be in future.

The re-opening of recent agreements and chapter negotiations with the European Union (EU) can be seen as positive developments for the Turkish economy, along with the commodity prices

Historically, Istanbul has been the trade and cultural center between Europe and Asia. The city sits on the border of both continents, which has attracted many leading real estate companies and international investors. There are several factors that attract foreign investors to Istanbul, one of which is affordability—considering the more than 50 percent US Dollar appreciation against the Turkish Lira during last two years and also the straightforward and accessible financing tools in Turkey. After the elimination of the reciprocity principle in 2012 with regards to the sale of real estate to foreigners, the real estate industry has witnessed an increase in sales to foreigners. In addition, with the government's introduction of a new law in 2013 to supplement the existing law, foreigners' residence permits were extended from three months to one year and allowed the renewal of the residence permit, as long as the foreigner continues to own property in Turkey.

The various challenges in the global landscape are likely to continue in 2016. This prediction largely stems from the concerns about emerging economies, with Turkey unlikely to be exempt from this situation. Federal Reserve System (FED) kept interest rates unchanged during their session on 17 March—meeting most market watchers' expectations—yet FED expects to raise rates twice this year. It appears that extreme rate hikes are off the table for now, yet it would be optimistic to think that the pressure on emerging economies would decrease, including Turkey. However, it is also possible that there would be a relative decrease in the volatility with the start of the normalization process. There are some other uncertainties such as the discussions regarding the presidential system;

whether it will continue and how long it will occupy the public agenda are among the unknowns. The region is currently in a state of chaos due to Syria, which has reflections locally. Furthermore, the rising tension between Russia and Turkey and the outcome of the peace process are important drivers of political risk and uncertainty.

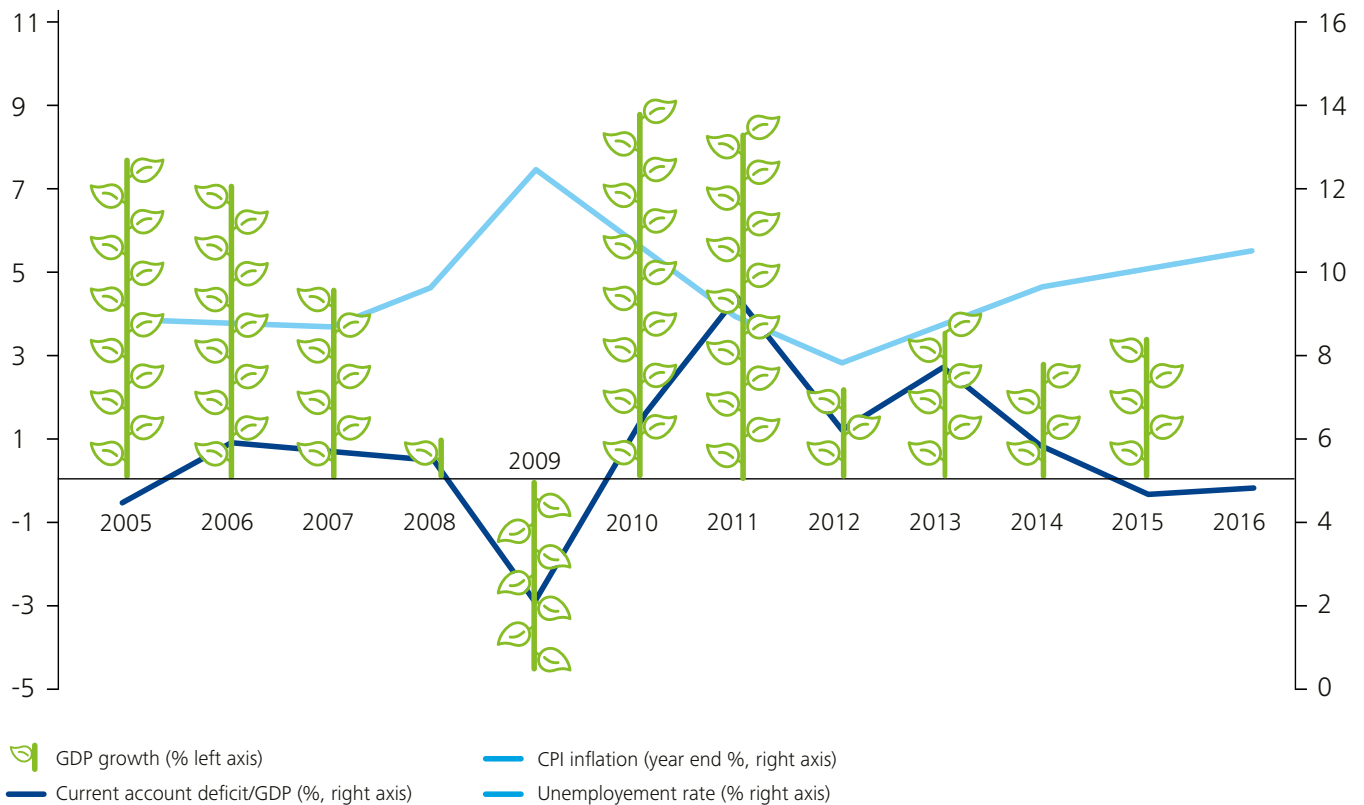
On the other hand, the re-opening of recent agreements and chapter negotiations with the EU can be seen as positive developments for the Turkish economy, along with the commodity prices. At the time of writing this article, the price of the Brent crude oil was below US\$40 per barrel. Thus, Turkey's energy import bill might decrease further, though not as much

as the decrease observed this year. Recovery in the Eurozone is a positive development for Turkey, however 2016 will be another challenging year. There may be a growth rate of 4 percent or more and inflation levels below 7.5 percent, however the current account deficit remains high.

What should we follow in 2016?

Apart from the unknown risks (termed black swans) and geopolitical risks, the main issues that should be monitored are FED, the course of China and other emerging economies including Turkey, and as well, the perceptions of investors regarding the emerging economies.

Figure 1: Main macro factors in Turkey



Source: Deloitte Turkish Economic Outlook Report

Long-term prospects for the Turkish Real Estate Market

Although current investors remain hesitant to make transactions in the short term, the Turkish real estate industry presents many opportunities to both local and international investors over the mid to long term. Turkey, with its large and young population, drives domestic consumption to a considerable level. Along with a population increase in recent years, families are being divided due to cultural change, urbanization, increased levels of income and improved life standards; the division of families means that the demand for real estate is constantly increasing.

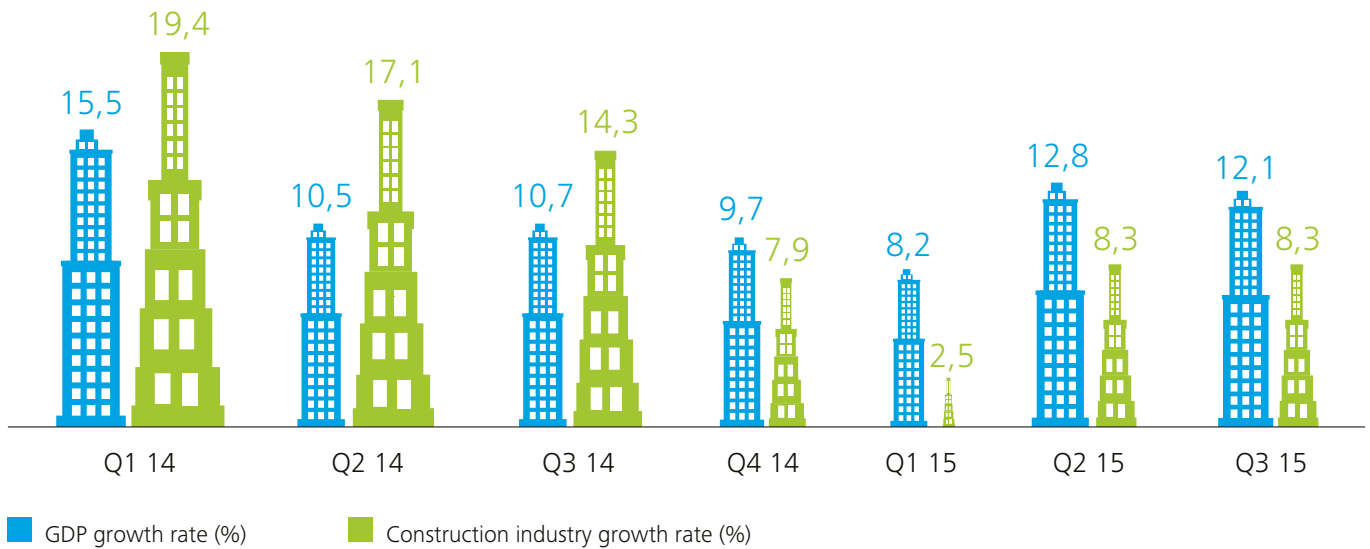
At the doorstep of Europe, the Turkish market addresses two fundamental flaws: a glowing economy and GDP growth, as well as, favorable demographics—further

confirmed by a persistent growth in consumption. However, while offering a clear opportunity for the Turkish property market to attract non-domestic investors—especially investors from Gulf countries—risk aversion remains high due to geographical and regional uncertainty.

Gross domestic product increased by 12.1 percent compared to the same quarter of the previous year, while the growth rate for the construction industry was 8.3 percent for the same period. The share of the construction sector in the overall GDP in Turkey was 4.7 percent.

The share of property sales to foreigners decreased by six percent in the first nine months of 2015 compared to the previous period.

Figure 2: Construction industry vs. GDP growth rates (current prices)



Source: Turkstat

Figure 3: Foreign direct investments



Source: Republic of Turkey Ministry of Economy

In 2015, the total number of house sales reached 1.28, compared to 1.16 million in 2014, showing an annual growth rate of 10.6 percent

Residential

Turkey's population continues to migrate from rural regions to urban cities, where currently 75 percent of the population lives. This population shift increases the demand for the construction of new buildings in urban areas.

In 2015, the total number of house sales reached 1.28, compared to 1.16 million in 2014, showing an annual growth rate of 10.6 percent. Conversely, monthly mortgage loan interest rates, which were below one percent in the first nine months, showed an increasing trend in the last quarter of 2015, which can be seen as a possible decrease in demand. Total mortgage loans reached 132 billion Turkish Lira (TRY) in 2015, compared to 114 billion TRY in 2014, showing an annual growth rate of 15.7 percent.

Logistics

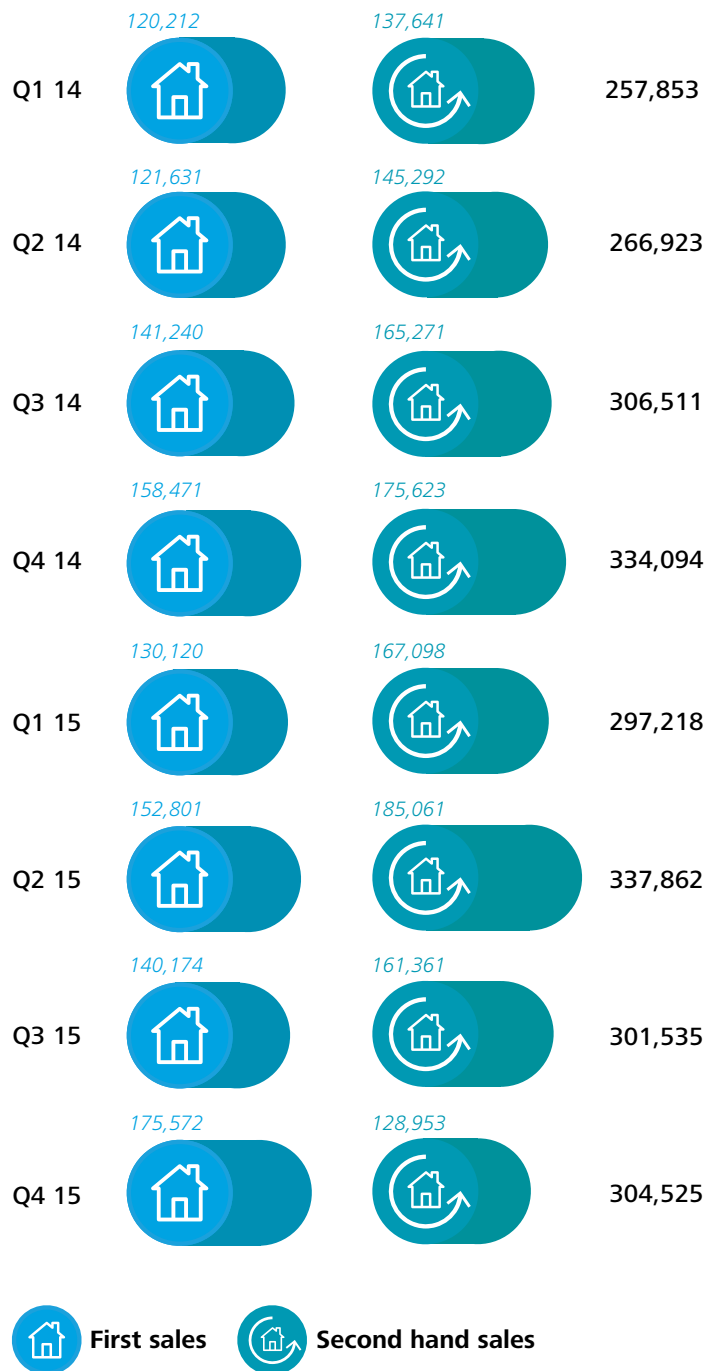
Turkey, as a regional hub providing easy access to 1.5 billion consumers in Europe and the Commonwealth of Independent States (CIS), and as an energy corridor between Europe, Central Asia, and the Middle East, creates more and more enterprises each year within its borders.

Infrastructure projects continue to increase the performance of the logistics industry and, given that the expected efficiency is achieved, more individual and corporate foreign investors will be willing to relocate their base to Turkey. There have been significant improvements in the logistic infrastructure of Turkey in the past years; new airports have been built in many cities of Anatolia, the capacity of ports have increased, many dual carriageways are ongoing and the high-speed train network construction has commenced connecting major cities—thus having an impact on freight and passenger transportation volume. There are several critical infrastructure projects that upon completion will have an impact on the real estate market development.

New Istanbul Airport: The first phase will open in 2018 and aims to serve 90 million passengers per year. This will increase to over 150 million passengers once fully complete. Terminal 1 of the new Istanbul airport will be the world’s largest airport terminal under one roof, with a gross floor area of one million square meters.

Third Bridge: The third bridge will be the world’s widest (59 meters) and longest spanning (1.4 kilometers). The bridge, which will be built on the Bosphorus as part of the Northern Marmara Motorway Project, is considered the future of transportation and commerce. It will be completed in 2017.

Figure 4: Housing sales number (units)



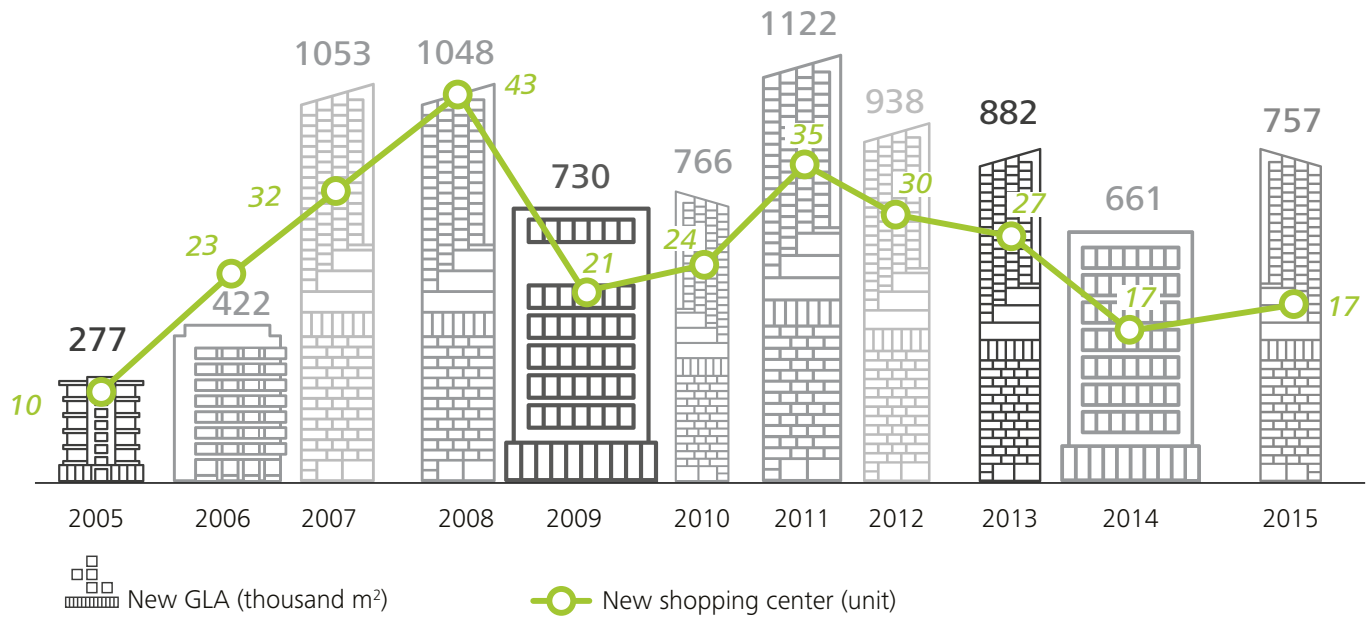
Source: Turkstat

Retail

Organized retail continues to grow with an increasing number of shopping centers around the country. In 2015, the number of malls increased to 360 in 2015. There are 58 cities out of 81 with shopping malls and new investments are in the pipeline. The total gross leasable area (GLA) reached 10.5 million square meters at the end of 2015 and the GLA per 1,000 people exceeded 120 square meters. These numbers are higher for Ankara, Istanbul, Karabuk, Bolu and Eskisehir, which have over 151 square meters in total density.

This ratio is still below the levels of most of the developed markets (EU-27 average was 265 in 2015), which indicates room for growth; currently there are 17 cities with more than one million people, in addition to the three main cities¹. Thus, although the three large cities have reached a certain saturation level in terms of gross leasable area, there are many opportunities for growth in other cities across Turkey.

Figure 5: Shopping centers and Gross Leasable Area (GLA)



¹ GLA per 1,000 inhabitants between 101-151 square meters in Bursa, Gaziantep, Antalya, Kayseri Kocaeli, and Aydın; 51-100 square meters in Adana Konya, Mersin, Diyarbakır, Balıkesir, and Samsun; 0-50 square meters in Hatay, Sanlıurfa, and Manisa

Office

Istanbul office markets continue to experience strong performance, especially in the central business districts where vacancy rates are in the range of 16-17 percent. Consequent to multinational companies establishing their regional management and operational centers in Istanbul, as well as, increasing growth and institutionalizing trends of national companies, the office demand continues to increase. This strong demand and requirement for office space continues to trigger office investments.

One of the significant office projects in Istanbul is the International Finance Center (IIFC), which includes office spaces, as well as, shopping centers, residences, congress centers and related businesses. The project will be completed in 2018. The Turkish government's goal for the landmark project is to establish Istanbul as a global center for finance. The IIFC will house the head offices of the Banking Regulation and Supervision Agency (BDDK), the Central Bank, the Capital Markets Agency, state-owned and private banks such as the Central Bank, the Capital Markets Agency, Ziraat Bank, Halkbank, Vakıfbank and other financial institutions. It will include 45 million square feet of office, residential, retail, conference, hotel and parking space. Office construction licenses obtained throughout Turkey in 2015 increased by 8.6 percent compared to the previous year and topped up to 8 million square meters. Office building occupancy permits increased by 87 percent compared to 2015's first three quarters with a total of 7.5 million square meters, resulting in increase of office supply.

The Turkish real estate sector from the perspective of foreign investors

Investors in the Middle East and North Africa (MENA) region perceive Turkey as a growing and promising country with a long historical relationship. Most Arab investors want a second home, or they see Turkey's real estate market as more affordable than the EU, because it is still at its infancy phase. Going forward, MENA investors are bullish about Turkey, which saw doubling investments from this region in the last year. MENA now accounts for a similar fraction of total foreign investment in Turkey as the EU.

To the point

Although currently investors remain hesitant to make transactions in the short term in Turkey due to political and economic uncertainties in the region, with the favorable demographics and consumption growth levels, the Turkish real estate industry presents many opportunities to local and international investors over the mid to long term:

- Residential: Turkey's population continues to migrate from rural regions to urban cities, increasing the demand for construction of new buildings in urban areas.
- Logistics: There have been significant improvements in the logistics infrastructure of Turkey in the past years. New airports have been built in many cities of Anatolia, the capacity of ports have increased, many dual carriageways are ongoing and the high-speed train network construction has commenced, which connects major cities and has an impact on freight and passenger transportation volume. Furthermore, critical infrastructure projects such as Istanbul's new airport and Third Bridge, when completed, will also have an impact on the development of the real estate market.
- Retail: Organized retail continues to grow with an increasing number of shopping centers around Turkey. Although the three large cities have reached a certain saturation level in terms of gross leasable area, there are many opportunities for growth in cities with more than 1 million people across Turkey.
- Office: Consequent to multinational companies establishing their regional management and operational centers in Istanbul, as well as, a growth of national companies, the office demand continues to increase, triggering office investments.



Credit funds Just another product option for alternative investment funds?

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A revision to German Federal Financial Supervisory Authority (BaFin) administrative practices, as well as the implementation act of the UCITS V directive, has broadened the scope for setting up credit funds in Germany in the form of Alternative Investment Funds (AIF).

The additional options available to market participants—depending on their individual situation—should now be considered: investment management companies (KVGs) have gained additional business potential through the use of credit funds, however they must guarantee a MaRisk-compliant (minimum requirements for risk management) credit choice and processing model. Banks now have the opportunity to not only increase the risk on their own books, but also to act as an agent for KVG activities. The latter entails selling their credit know-how without having to submit themselves to the necessary requirements in terms of their own capital. Credit funds open alternative investment avenues to institutional investors and above all to insurers, pension schemes and pension funds.

The characteristic traits of fund types defined under the German term “Kreditfonds”—or under English terms such as “credit funds,” “loan funds,” or “debt funds”—are not yet clear-cut. The methods for setting up such funds vary greatly but each includes a fundamental minimum investment of the funds in un-secured credits. Currently, in addition to the laws and legal initiatives that exist at the European level (e.g., European Long-term investment Funds (ELTIF), European Social Entrepreneurship Funds (EuSEF), European Venture Capital Funds (EuVECA) regulations or the European Securities and Markets Authority (ESMA) opinion on “Loan originating AIFs” as of 11 April 2016), credit fund precursors also exist at the EU member state level

(e.g. in Ireland), which define the legal bases for loan acquisition, as well as, for the original granting of loans on behalf of investment funds. In principle, these funds can be sold to professional investors in Germany within the scope of the EU passport. According to information that recently became available, the status in Luxembourg is that there is neither a specific legal basis nor any guidelines from the Luxembourg supervisory authority (CSSF). Therefore, existing funds restrict themselves to the secondary market for loan acquisitions.

Legal framework for credit funds in Germany

In Germany, the launching of credit funds was allowed even before BaFin had revised its administrative practices or the draft of the UCITS V Implementation Act had been published. However, investment funds could only acquire loans amounting to up to 30 percent of the net asset value of the fund on behalf of “special funds” until the Kapitalanlagegesetzbuch (KAGB) came into force on 22 July 2013, though only the acquisition of loans on the secondary market or using a fronting bank was permitted. It was BaFin’s view that granting loans (loan origination), as well as, restructuring or prolongation events, constituted credit transactions and were therefore illegal banking transactions for investment management companies according to § 1 para 1 No. 1 KWG (German Banking Act). For this reason only a few credit funds have been established in Germany until now.

The wording of the regulation and its interpretation based on new European laws could also be applied to loan origination within collective portfolio management

On 12 May 2015, BaFin issued a circular (WA 41-Wp2100 – 2015/001) in which it changed the previous practice with reference to a derogation rule in the KWG (§ 2 para 1 No. 3b KWG). According to the circular, investment management companies (KVGs) were allowed to grant loans, as long as, they were part of the process of collective portfolio management. The KWG derogation rule was originally devised for the security deposit business, which is considered to be a banking business under German law. When the investment act was established, no one viewed the granting of loans as a possible part of collective portfolio management. However, the wording of the regulation and its interpretation based on new European laws (e.g., loan origination being permitted under the EuVECA and EuSEF regulations), could also be applied to loan origination within collective portfolio management. In the context of the German implementation act for the UCITS V directive (the draft version passed by the Federal Parliament), the legal framework for funds' investment opportunities in loans will now be extended through changes in the KWG and KAGB (German Capital Investment Act). § 2 para. 1 No. 3b. The KWG is being changed insofar as the derogation regarding collective portfolio management has been explicitly extended to permit loan origination.

The BaFin circular clearly stated that the credit business will continue to be a regulated business due to the necessity to protect the market. This means

that investment management companies do not have to obey the solvency rules that apply to banks. However, they must comply with the associated organizational and risk management rules as stipulated in the minimum requirements for risk management of banks ("MaRisk," BaFin circular 10/2012 (BA) dated 14 December 2012, currently under revision), insofar as they pertain to the credit business (BTO 1 credit business and BTR 1 credit risks). In the KAGB, the new legal basis for special regulations regarding the operational and organizational structure of credit businesses was constructed by adding the new paragraph 5a to § 29 KAGB-E. There are exceptions for credit according to the UBGG (German law for companies participating in non-listed companies), for loans made to real estate companies granted by open-end real estate funds or for shareholder loans e.g., in the private equity area. Under this rule, special requirements for risk management will apply to nearly all AIF investment management companies (AIF-KVGs) that will grant future loans on behalf of the AIF or invest in non-securitized/certificated loans.

AIF-KVGs will need to establish structures for loan processing (including loan extensions), loan processing controls, and the handling of problem loans as well as procedures for early risk diagnosis, appropriate for the type and scale of their business. According to the UCITS V Implementation Act, the "€1 million credit report," as defined by §14 KWG, shall also be filed by AIF-KVGs.



Additional requirements arise regarding loan origination. The scope of application for loan origination is restricted under the German implementation act for the UCITS V directive (adaption of § 20 para. 9 KAGB draft bill) as follows:

- Loan origination on behalf of UCITS is prohibited.
- Loan origination is allowed for AIFs, provided that it is permissible under the European regulations governing European Venture Capital Funds (EuVECA), European Social Entrepreneurship Funds (EuSEF), and European Long-Term Investment Funds (ELTIF); or the AIF is a domestic closed-end Special-AIF that fulfills the requirements in the new para. 2 of § 285 KAGB draft bill (see below regarding closed-end funds). Additionally, according to § 285 para. 3 KAGB draft bill, shareholder loans can be granted by closed-end or open-end Special-AIFs.
- Changes to the conditions regarding loan origination or acquisition (restructuring/ prolongation) are excluded from the aforementioned provisions and restrictions for loan origination, which means that they are permitted in general; meanwhile, this regulation also now applies again to open-end Special-AIFs, after they were previously excluded in the federal government draft law.
- External investment management companies (KVGs) may grant cash loans to their parent, subsidiary or sister companies on their own behalf.



For closed-end Special-AIFs intending to allocate loans on the basis of fund assets in the future, further framework requirements arise from the UCITS V Implementation Act, and from the amended paragraphs 2 and 3 of § 285 KAGB draft bill:

- Leverage restriction: § 285 para. 2 KAGB draft bill stipulates that for closed-end Special-AIF loans, only credit accounting for up to 30 percent of the aggregated invested capital and the committed but uncalled capital may be borrowed.
 - Loans may not be granted to consumers as defined under § 13 of the BGB (German Civil Code).
 - Risk distribution/risk limitation: AIF-KVGs may only grant loans to a borrower up to the maximum total amount of 20 percent of the aggregated invested capital and the committed but uncalled capital of the closed-end Special-AIF.
 - In contrast to the aforementioned limits, § 285 para. 3 KAGB draft bill stipulates that loans amounting to a maximum of 50 percent of the aggregated invested capital and the committed but uncalled capital of the open-end or closed-end Special-AIF (§§ 282 para. 2 sentence 3, 284 para. 5 KAGB-E), or amounting to a maximum of 30 percent of the aggregated invested capital and the committed but uncalled capital of a closed-end mutual AIF (§ 261 para. 1 No 8 KAGB draft bill) may be granted to associated companies (shareholder loans), provided that they are classified as subordinated loans or that they do not exceed the acquisition value (mutual funds) or the double acquisition value (special funds) of the respective share. Alternatively, subordinated loans of more than 30 percent of the capital may be granted to associated companies, provided that they are subsidiaries of the Special-AIF and that they themselves only grant cash loans under the aforementioned circumstances.
- Annual report, management report, audit: according to the new § 48a KAGB draft bill, AIF-KVGs registered according to § 2 para. 4 KAGB and granting loans according to § 285 para. 2 KAGB draft bill must prepare and provide an annual report for every closed-end domestic Special-AIF (including a balance sheet oath according to § 45 para. 2 No. 3 KAGB) and a management report. These documents must be certified by an auditor and made available to investors upon request. For the purposes of financial accounting, the regulations governing private limited investment partnerships (Investmentkommanditgesellschaften, InvKGen), especially § 135 para. 3 to 11 KAGB, apply accordingly. Further specifics regarding the content, scope, and presentation of the report are outlined in the KAPrüfbV (the Investment Management Audit Report Ordinance). For the purposes of accounting and auditing other investment funds administered by accredited investment management companies, specific regulations for the credit business may be added to the KARBV (the Investment Accounting and Valuation Ordinance) and the Investment Report Regulation (KAPrüfbV) through existing powers to issue delegated acts. BaFin has also already proposed the inclusion of necessary changes to the respective rules in the ordinances in the context of the amendment to the KAGB act.



- Prevention of conflicts of interest: the codes of conduct in §§ 26 and 27 KAGB were devised to prevent potential conflicts of interest that could arise in the context of loan origination—additional legal regulations are not required.
- Organization and risk management: no additional regulations are necessary in connection with liquidity risk management (§ 30 KAGB). The new § 29 para. 5a KAGB draft bill was created for the purpose of defining the requirements pertaining to the organizational and risk management duties of KVGs for the granting of cash loans or for investing in unsecured loans. This should serve as a basis

to explain the applicability and use by BaFin of the relevant rules that apply to banks under the MaRisk. Regarding the applicability of the rules in general, some exceptions were allowed, for example for loan investments by closed-end mutual AIFs or for loans granted to real estate companies on behalf of a real estate fund according to § 240 KAGB. Registered KVGs that have granted loans on behalf of investment funds have the legal obligation to observe the organization and risk and liquidity management rules.

Investment opportunities for individual fund types with regard to loans:

| Fund Type | KAGB-E | Investment in loans | Loan granting/lending | Loan structuring | Shareholder loan |
|--|--------|---------------------|--|------------------|-------------------|
| UCITS | § 192 | no | no | no | no |
| Open-end domestic mutual AIFs (other investment fund) | § 221 | yes | no | yes | no |
| Real estate special estate AIFs (granting loan to its real estate company) | § 240 | no | no | no | yes, as before |
| Closed-end domestic mutual AIFs | § 261 | no | no | yes | yes (conditional) |
| General open-end Special-AIFs | § 282 | yes (up to 100%) | no | yes | yes (conditional) |
| Open-end domestic Special-AIFs with fixed investment conditions | § 284 | yes (up to 100%) | no | yes | yes (conditional) |
| Closed-end Special-AIFs | § 285 | yes (up to 100%) | yes, under conditions (foreign financing up to 30%, no loan to consumers, max. 20% to each loan taker) | yes | yes (conditional) |

In summary, on the basis of European legislation and also market practice in other European countries, the legislator believes that a further option for the funding of the real economy is being created through this action. At the same time, the legislator also wants to prevent the transfer of risky loan transactions to a less-regulated market area (shadow banks) by, for example, implementing the requirements for credit processes.

Consequences for market players

The new business area of allocating loans on behalf of an AIF will have different consequences for the various market players (banks, asset managers, institutional investors, and, where applicable, service providers) and provides them with different options. Institutional investors may have ample opportunity to generate profits (while at the same time accepting the risks), but these would have to be above the market level to actually be of interest to the investor. The VAG (German Insurance Supervision Act) determines the "regulatory" leeway insurance companies and pension pools will have when investing in credit funds, in connection with the investment ordinance or the new supervisory set of rules and regulations for insurance companies entitled Solvency II.



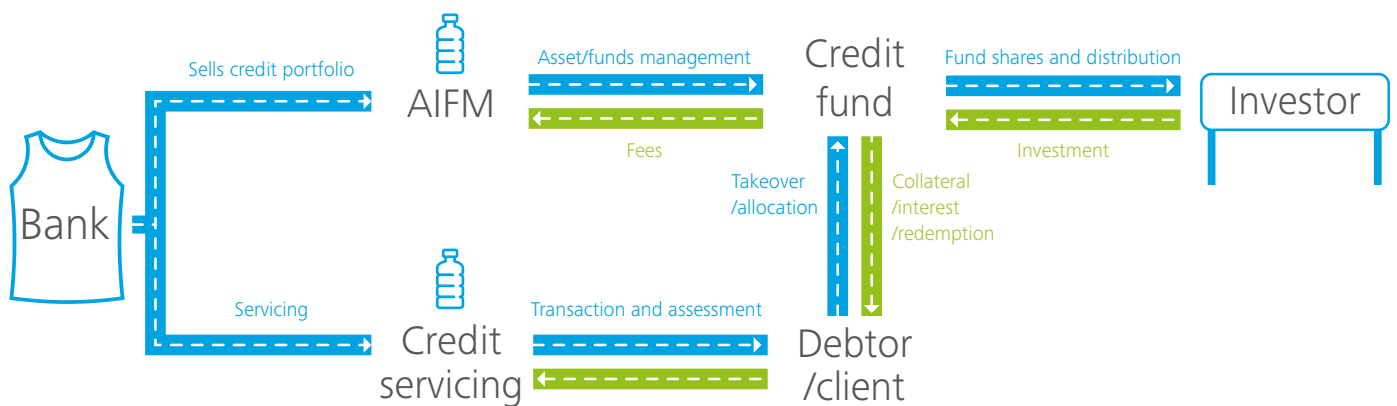
Issuing AIF-KVGs must appropriately organize their new “credit” business line. To this end, expertise within portfolio and risk management must be acquired regarding asset selection, diversification, asset assessment and so on. With regard to credit processing, the AIFM must comply with the MaRisk (Minimum Requirements for Risk Management), especially parts BTO 1 (credit business) and BTR 1 (credit risk). To comply with this regulation, the KVG needs to establish an operating model for the credit business line. So the KVG has to weigh up the revenue prospects of the additional funds business against the mandatory investments for complying with the credit management regulations.

Rather than establish organizational frameworks and processes on its own, the KVG has the option to outsource the credit business to an external service provider. In this regard it will be important to ascertain whether the service provider has sufficient incentives to retain the credit fund processes (e.g., review business models, margins, etc.). In this scenario, the asset manager can simultaneously generate additional fund business and ensure the credit business is operating in a cost-saving and more efficient way through a specialized provider. However, the KVG must ensure that it has reached a certain competency level to comply with the existing requirements governing outsourcing.

On the topic of credit process outsourcing, there may eventually be new opportunities for financial institutions and especially for those with asset management subsidiaries. In one aspect, financial institutions could sell credit portfolios to a KVG or could place debtors with the KVG with whom they could arrange—in light of possible conflicts of interest—to take over credit processing. The KVG (subsidiary of a bank) finds one or more investors for the credit portfolio and issues the fund in accordance with their specifications. The advantage for the financial institution is that the risks of the credit business could be transferred and therefore, more efficient management of the institution’s own funds and the relevant indicators according to CRD IV is possible. Apart from this, the arrangement enables the financial institution to maintain the relationship with the client/debtor, because the credit processing functions are still within the bank. It is therefore possible to increase and diversify the credit business without the strains of own funds requirements and independent of the bank’s readiness to assume risks, offering a broader range of products and solutions with additional earnings from servicing (commission revenue) instead of interest revenue.

The characteristic traits of fund types defined under the German term “Kreditfonds”—or under English terms such as “credit funds,” “loan funds” or “debt funds”—are not yet clear-cut

The following picture gives a schematic overview of the possible relationships between the market participants:



The extent to which credit funds establish themselves on the market (and also in relation to products that are already on the market) depends on the following parameters:

- The final legal framework in Germany, which must be designed so that there are incentives for all involved parties to invest in the product and so that there are no competitive disadvantages in comparison to the context in other European member states.
- Fund management expertise regarding the selection, structuring and management of the investments (by means of outsourcing where necessary).
- KVGs' ability to access senior debt portfolios with good risk/return ratios, in which institutional investors are most interested. In this context, cooperation with financial institutions may be advisable. However, possible conflicts of interest deriving from the cooperation with the bank must be considered.
- Distribution of the incentives/revenues between the involved parties: the financial institution as the originator of the debt claim, the asset manager, and the investors, as well as, the service provider, where applicable.
- Eventually, the supervisory authorities will take an interest in preventing an increase in credit fund scenarios that allow the transfer of credit risks in unsupervised market areas. It is expected that in Europe, frameworks for credit funds will be established to prevent systemic risks without a significant limitation of the possibilities for company and infrastructure financing. We will have to wait and see what the effects of possible compromises with the regulatory authorities will be. Our initial thoughts on this topic can be found in the ESMA report on trends, risks, and vulnerabilities (January 2015) and the ESRB (European Systemic Risk Board) paper on "Loan Origination by Investment funds." Here it remains to be seen what the effects and possible regulatory compromises will be for the development of loan originating funds.

Outlook

The market success of credit funds will depend on the regulatory constraints that lie ahead in the context of the standardization in the KAGB and the implementation in European law. On the market, credit funds will be competing with established products and, once again classified as eligible, the securitization market (Security Token Service (STS) certificate, true sale securitization). In relation to other (securitization) fund types, an AIF credit fund as defined under the German regulation will have some additional features. It remains to be seen how market participants will use the leeway offered and how the German framework will work in comparison to the credit fund alternatives of other European member states.

On the topic of credit process outsourcing, there may eventually be new opportunities for financial institutions and especially for those with asset management subsidiaries

To the point:

Due to a change of supervisory practice by BaFin and changes in German law by the UCITS V transformation act, loan funds as well as loan origination has been facilitated. In order to make use of the new rules, certain provisions are to be observed:

- Changes to the conditions of loans (restructuring/prolongation) are permitted
- Loan origination is only allowed for domestic closed-end Special-AIF
- For closed-end Special-AIF loans leverage is allowed, but only up to 30 percent
- AIF investment management companies which are launching credit funds do have to comply with the respective organizational and risk management rules as stipulated in the minimum requirements for risk management of banks (MaRisk)

- No granting of loans to consumers
- The AIF-KVG has to acquire expertise in the area of credit within the portfolio and risk management, as well as, in credit processing and needs to establish an operating model for the credit business
- Instead of establishing the organizational framework and processes on its own, the KVG has the possibility to source out parts of the credit business to a respective service provider; nonetheless a certain level of competency has to be retained to provide for an appropriate outsourcing controlling

Additionally, more liberties were retained or conceded, respectively, with regard to loans granted to property companies, subsidiaries or companies in which the fund holds a share.

Banking business models of the future

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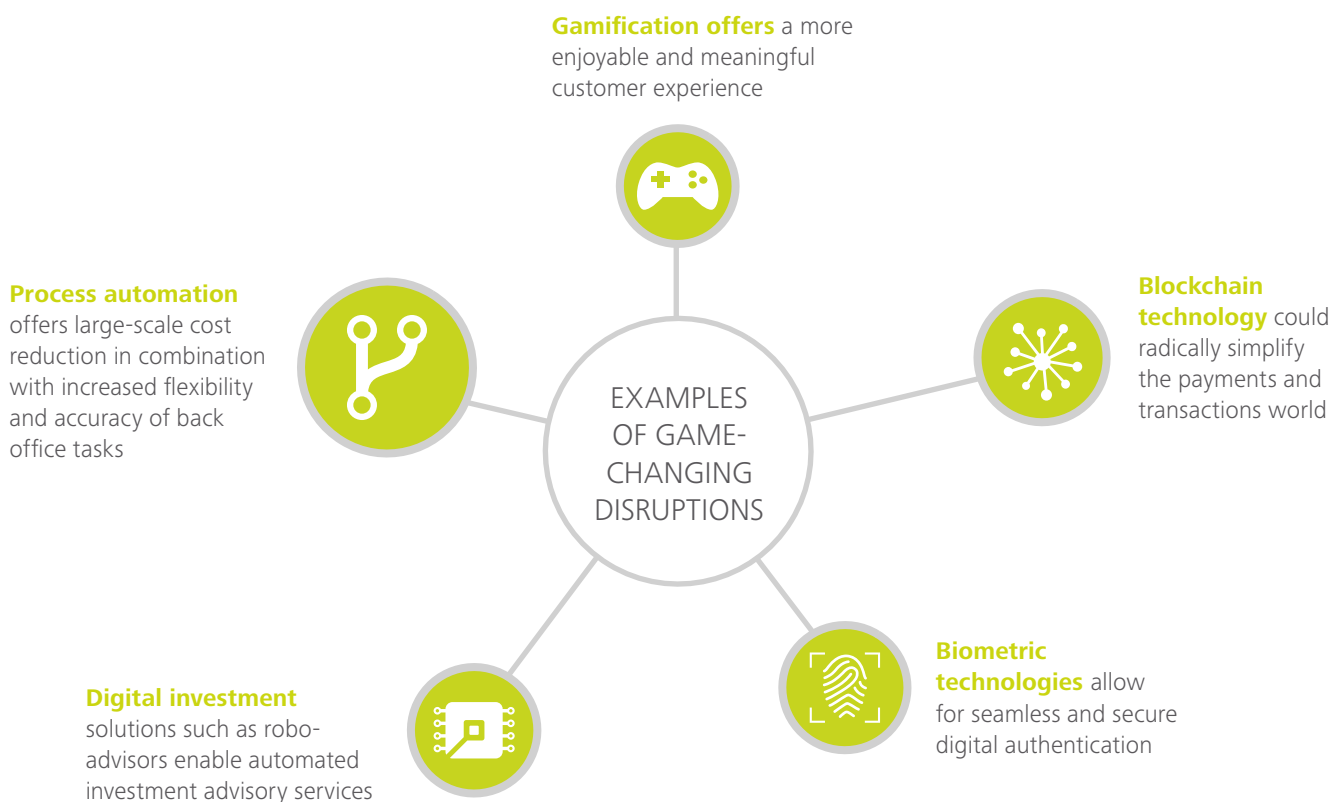


Banking is undergoing a significant change and all current business models are under scrutiny. Digitization is the most significant of several universal trends and disruptive new entrants may fundamentally change the competitive environment. We have identified three potential scenarios for the banking of the future and believe that now more than ever, banks need to choose a strategic business model and adapt it in accordance with the prevailing scenario. In light of these choices, banks must take action today to be prepared for tomorrow.

Digital disruptions challenging the traditional role of banks

New technologies are radically changing the traditional banking business model. From the way banks interact with customers to the way banks manage their middle and back office operations, technological innovations are challenging traditional processes across the entire value chain.

Today, there are several examples of game-changing disruptions that suggest how banking may develop in the future:



With customers increasingly adapting to digital disruptions and with more and more new types of competitor and solutions arising in this space, “digital” has officially arrived in the banking sector to shine a spotlight on all major banking functions, described below.



Payments

Decentralized currencies, e.g., leveraging Blockchain technology and mobile money solutions provide compelling alternatives to traditional value transferring systems by streamlining intermediation processes. Driven by competitive pressure from these innovations, the future of value transfer will be more global, more transparent, faster and cheaper. Contrarily, the seamless integration of payment transactions into the purchase process (for example Amazon 1-click or Uber) reduces touchpoints between payment providers and customers, making it harder for payment providers to differentiate themselves from the competition.



Deposits and lending

Alternative lending platforms leveraging peer-to-peer models are transforming credit evaluation and sourcing of capital, as well as, narrowing the spread between deposits and lending. Platforms such as Lending Club, Zopa and Lenddo use alternative adjudication methods and lean, automated processes to offer loans to a broader base of customers and a new class of investment opportunity to savers. Eventually, this reduces the dependency on banks as financial intermediaries. At the same time, increased demand for flexible and alternative banking solutions paves the way for the rise of virtual banks (e.g., Fidor Bank) and the creation of customer-facing enhancements leveraging standardized application interfaces, for example provided by specialized providers such as Yodlee.



Investment management

A number of disruptors, from automated wealth management services (e.g., Wealthfront) to social trading platforms, have emerged to provide low-

cost, sophisticated alternatives to traditional wealth managers. These solutions cater to a broader customer base and empower customers to have more control over the management of their wealth. At the same time, new providers such as Eco Financial Technology simplify process outsourcing, leading to improved levels of efficiency and reducing the advantage of larger wealth managers in terms of economies of scale.



Market provisioning

The development of smarter, faster machines in the field of algorithmic trading (e.g., Palantir and SNTMNT), which are learning to process unstructured information such as news feeds, will have unpredictable implications on market provisioning in terms of volume, volatility and spread. New information platforms, such as ClauseMatch, are improving connectivity and information sharing among market constituents, making the markets more liquid, accessible and efficient.



Capital raising

In light of the growing interest in startups and digital democratization, alternative funding platforms such as Seedrs and others have emerged, widening access to sources of capital and providing funding to a greater number of companies and projects, while investors can play a more autonomous role in providing capital for investment opportunities. New platforms enable companies to customize the benefits for the investors (e.g., Crowdcube).

In light of all these disruptive innovations, it is clear that all five banking functions will be affected and change in the banking sector will be inevitable. But what are the implications?

Three likely scenarios for the future of banking

To summarize the impact of digital disruptions on each of the banking functions, the traditional one-stop banking model will be eroded even further: payments will become more independent from banks, reducing customer touch points and making partnerships with retailers more important; deposits and lending will become more widely spread across different platforms, reducing the demand for traditional deposit and investment products; investment management will become increasingly commoditized by process automation and outsourcing; raising capital will become more customized to companies and investors' need to raise capital; and market provisioning will become more

automated, reducing the role of humans and improving transparency. Differentiation through product innovations or personal holistic advisory services that go beyond pure banking services will become more important than ever to ensure client retention.

Given the current trends and depending on the ongoing process of customers adopting new behaviors, the current and future regulatory environment, the assertiveness of new innovative competitors, agility and willingness to adapt to the changing environment, by particular banks, we believe that the following three scenarios for the future of banking could materialize:

| | 1 Bank's domination | 2 Banking reinvented | 3 Banking ecosystem |
|---|---|---|--|
|  Payments | <ul style="list-style-type: none"> • Clients prefer payment solutions that seamlessly link to their bank accounts • Incumbent institutions provide leaner, faster payment options within the existing network | <ul style="list-style-type: none"> • One-click solutions favor a default card, driving consolidation of the payment market • Incumbent institutions launch products connected to alternative payment schemes | <ul style="list-style-type: none"> • Digital wallets remove the limitation of large numbers of cards • Incumbent institutions compete with an alternative network of financial providers |
|  Deposits and lending | <ul style="list-style-type: none"> • Traditional institutions absorb alternative platforms and build upon their trust • Banks strengthen client relationships beyond needs-based transactions | <ul style="list-style-type: none"> • Traditional institutions and alternative platforms cater to different clients • New banks focus on account management and partner with alternative networks | <ul style="list-style-type: none"> • Alternative platforms successfully move upstream to replace traditional players • Traditional players become product providers as new entrants own client relationships |
|  Investment management | <ul style="list-style-type: none"> • Wealth managers focus on High Net Worth clients and Online tools serve mass affluent clients • With the externalization of previous core capabilities, human factors become differentiators | <ul style="list-style-type: none"> • High-value services become commoditized and banks focus on tailor-made services • Centralizing compliance increases speed at which banks can react to regulatory change | <ul style="list-style-type: none"> • Retail and social trading platforms compete directly with traditional wealth managers • External service providers give smaller players access to sophisticated capabilities |
|  Market provisioning | <ul style="list-style-type: none"> • Large players develop platforms to improve connectivity and efficiency between them | <ul style="list-style-type: none"> • New platforms make counterparty selection more objective, empowering smaller institutions with less developed networks | <ul style="list-style-type: none"> • Platforms extend connections to individual investors and can act as market for specific assets |
|  Capital raising | <ul style="list-style-type: none"> • Peer-based funding platforms focus on investors with motives beyond financial return | <ul style="list-style-type: none"> • Peer-based funding platforms focus on higher risk seed-stage companies, while banks provide later stage venture capital financing | <ul style="list-style-type: none"> • Peer-based platforms develop into alternative channels for larger companies to raise capital |



1

Banks' domination

Regulators increase entry barriers for new digital-driven disruptors, which have had little regulation thus far, and clients remain inclined to maintain their primary relationship with established and trusted institutions, so banks succeed in protecting their business model. A pre-requisite of this scenario is that existing banks keep pace with the changing client expectations and invest in new offerings (through in-house development or acquisitions).

2

Banking reinvented

Customers gain trust in new banking players with attractive offerings, as process outsourcing makes it easier for new banking players to enter the market without significant infrastructure, and existing banks fail to adopt new technologies sufficiently quickly because they are held back by decades-old legacy systems. New banking players leveraging Finance 2.0 ideas thereby overtake established banks.

3

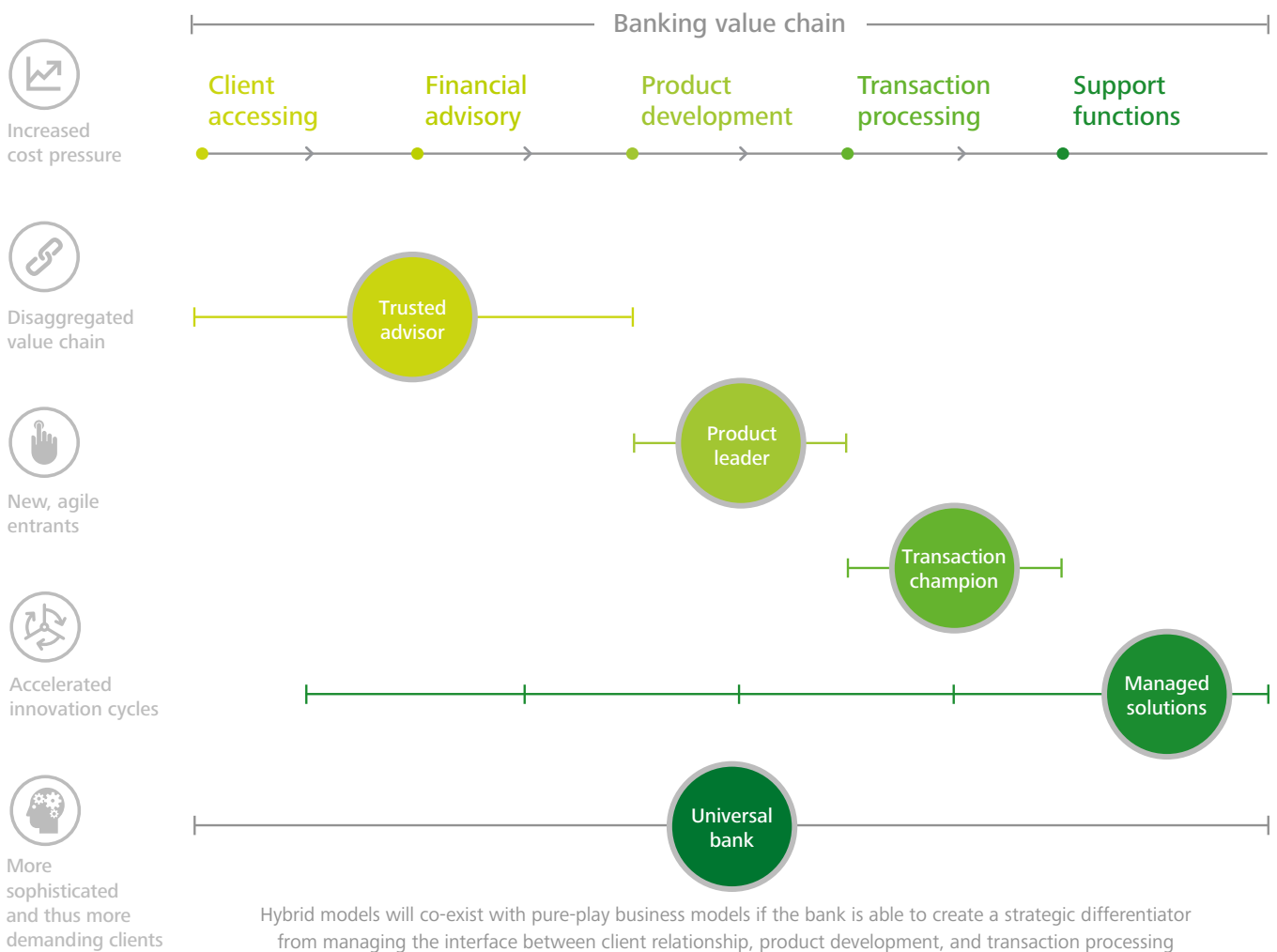
Banking ecosystem

Customers prefer to consume tailored services, existing banks underestimate the power of networks while the digital revolution largely ignores well-established rules and boundaries, and disruptive entrants gain significant market share in some market segments. Banks thereby lose the exclusive ownership of their client relationship for a wide set of services ("one-stop-shop"). Instead, successful banks transform themselves into platforms offering their capabilities to a wide ecosystem of specialized providers.

Once likely future scenarios have been identified and described, banks should test their strategic choices against them. First and foremost, business model choices need to be reviewed and refined.

Disaggregation of the value chain drives business model differentiation

CHALLENGES BUSINESS MODELS



In all scenarios, the standardization of IT interfaces and communication standards for banking services and other disruptive innovations foster the disaggregation of the value chain, which was traditionally dominated by banks operating an integrated business, i.e., managing large parts of the value chain in-house. Enabled by digitization, specialized firms emerge that focus on specific parts of the value chain and thereby challenge incumbent players. A review of the banking value chain suggests five possible business models which will enable each other in a particular kind of banking ecosystem.



Trusted
advisor

Banks choosing “trusted advisor” as their business model will focus on exploiting economies of scope and gaining a high share of their client’s wealth. The key value proposition of “trusted advisors” is building upon clients’ trust and going beyond pure investment or transaction advisory services. We envisage an open-architecture product portfolio encompassing proprietary and third-party products as a pre-requisite for credibly offering advisory services truly focused on client needs. Furthermore, the “trusted advisor” bank distinguishes itself through offering tailored services based on a deep understanding of clients’ needs beyond financial matters. Extending the offering into value-added services, such as concierge services, financial education or working seamlessly with real estate agents, corporate finance advisors, and philanthropy experts enables such banks to deepen the client relationship and increase client loyalty.



Product
leader

“Product leaders” will differentiate themselves by developing innovative products for which they are able to command premium prices. Rapid time-to-market enabling banks to quickly gain market share is a key objective for “product leaders,” enabling them to maintain their market position and exploit their first mover advantage. Central to the value proposition of “product leaders” are superior insights into technological and financial engineering developments and the capability to translate client needs into new products. While trust is a key asset for “trusted advisors,” “product leaders” are valued by clients for the quality and performance of their products.

These five business models present a somewhat idealized picture and hybrid models may co-exist with pure-play business models if the bank is able to create a strategic differentiator for managing the interface between the client relationship, product development and transaction processing.



Transaction
champion

As “transaction champions,” banks will focus on exploiting economies of scale through partnering with other (bank and non-bank) providers. This business model builds upon a standardized offering at a low cost to end clients and third parties. The means of achieving the necessary economies of scale are white labelling, acting as a transaction consolidator and offering custody and depositary services. Integrating into an extensive network as a correspondent bank allows the “transaction champion” to offer connectivity that smaller banks may not be able to maintain on their own. In addition, a “transaction champion” might consider seeking to benefit from the disaggregation of the value chain by becoming the banking platform for unlicensed new entrants.



Managed
solutions

Banks choosing a “managed solution provider” business model will focus on building economies of scale through providing specific banking solutions to other providers. In particular, their specialist offering allows banks and non-banks to break up their internal value chain and to source capabilities from the “managed solution provider.” The focus is on becoming a solutions provider rather than a provider of single services. Solutions on offer may range from regulatory insights, to specialized investment advice, as well as, non-core processes, e.g., Know your customer (KYC), tax, and payments.



Universal
bank

“Universal banks” must achieve scale in all their business lines to achieve low cost levels and overall efficiency. Banks choosing this business model will offer a comprehensive product offering across several industry sectors, i.e., retail, private, corporate and investment banking, as well as, asset management. Their key value proposition is the maintenance of seamless control over front-to-back processes (even if such processes are outsourced) and the smart reduction of the value chain depth to 50 percent. The aim is to provide “universal banks” with greater flexibility to tailor to client needs, particularly by offering sophisticated products and services leveraging capabilities across business divisions. Their diversified business mix will theoretically reduce the revenue volatility if the bank is able to manage the increased complexity efficiently.

What banks should do today

In order to prepare for the future, banks should assess their own capabilities compared against those of their peers and thoroughly assess their strengths and weaknesses. Next, a deep understanding of the recent developments and trends in the financial industry needs to be developed and shared across the organization. Current uncertainties dictate that we must consider varying scenarios for the future, against which each business area needs to be assessed. Irrespective of which scenario will materialize, banks should start preparing for the inevitable—imminent changes facing the industry. At board level, it is now time to conduct open and honest discussions about the likely scenarios and the most suitable business model in each. Once business model choices are made, strategic options can be derived based on SWOT analyses that account for uncertainty. The necessary changes to prepare for the future require the full attention and commitment from the top and need to be initiated now.

At board level, it is now time to conduct open and honest discussions about the likely scenarios and the most suitable business model in each

To the point:

- Banking is undergoing fundamental change
- Digitization and disruptive new entrants are the key drivers of change
- Three scenarios are likely to emerge: 1) the continuation of traditional banks' domination, 2) disruption by leaner, more flexible and focused banks or 3) the emergence of an ecosystem of financial service providers
- The trends are accelerating the disaggregation of the value chain, forcing banks to choose one of five business models: 1) trusted advisor, 2) product leader, 3) transaction champion, 4) managed service provider or 5) universal bank
- Banks need to understand their own core capabilities and their strategic aspirations today to take actions for tomorrow

RegTech is the new FinTech

How agile regulatory technology is helping firms better understand and manage their risks

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Regulation is one of a number of services to receive the “tech” treatment in recent times. As with its big brother FinTech, RegTech will mean different things to different people in this developing area.

While the name is new, the marriage of technology and regulations to address regulatory challenges has existed for some time with varying degrees of success. Increasing levels of regulation and a greater focus on data and reporting has, however, brought the RegTech offering into greater focus, thereby creating more value for the firms that invest in these solutions.

In this article, based on our research and interviews with RegTech companies, we seek to explore how firms can benefit from regulatory technology and in particular how they can leverage regulatory focused data to better understand and manage their compliance risks.

Furthermore, we seek to highlight:

RegTech solutions (and the underlying technology) that are becoming more prominent in the market

The benefits of RegTech

The significance of the experienced financial services professional in the RegTech/FinTech era

How best to leverage RegTech to plot your regulatory journey for the future

Regulations result in operational challenges but require strategic solutions

Increasing levels of regulation and more challenging regulatory expectations are having significant operational impacts on firms requiring people-, process- and technology-based solutions. With respect to new legislation and regulations, this can create challenges around understanding, implementing and embedding the new requirements, whereas for existing legislation there can be challenges around understanding and managing the risks.

“It is important to carefully weigh up how these pressures can be resolved,” explains Thibault Chollet, Director in the Luxembourg member firm. *“Looking at what has been done at insurance companies in the context of Solvency II, many insurers realized that a standardized approach, although requiring more investment at the implementation stage, has an excellent return on investment considering the significant number of controls to be performed. Concretely, this standardized approach is based on a standard set of controls that are parameterized to meet the specificities of the different data sets. In other words, instead of implementing new rules for each dataset, the data quality project team only defines a small set of parameters. This approach drastically reduces implementation costs, as well as, recurring costs. Furthermore, it enables a much more systematic approach to quality control.”*



In the past, the choice was between selecting one of the big, well-known vendor systems and building an in-house solution. The pressure of requiring fast implementation can result in tactical compliance-focused solutions which in turn can create more operational challenges than they set out to solve. Besides covering the required functionalities, the solution must fit in the (often complex and heterogeneous) architectural IT landscape of the company. Depending on the existing data architecture, the new component ensuring data quality will typically occur at the entrance to the data lake, data warehouse, or risk data mart. On the output side, reporting and visualization tools often already exist. *“However, these tools are typically used within different departments, not governed centrally and need to be adapted to meet the new legislative requirements. To meet both adaptability and accuracy requirements, firms will have to evaluate their own IT landscape,”* says Thibault Chollet.

Moreover, the technology can potentially end up costing infinitely more than any off-the-shelf or tailor-made technology solution, while simultaneously increasing potential compliance risk.

Implementation costs should not be the only expenses taken into consideration when finding the ideal technology, as recurring costs can be significant as well. Ronan Vander Elst from the Luxembourg member firm explains that having a standardized approach, based on a set of controls that are parameterized to meet the specificities of the different datasets, instead of implementing new rules for each dataset, drastically reduces implementation costs as well as recurring costs. Furthermore, it enables a much more systematic approach to quality control. Finding the right balance to address the regulatory challenge of the day is far from straightforward, as the strategic versus tactical solution debate rages on. What we have found is that there are other solutions that should be considered.

Move over, FinTech

FinTech is an amalgamation of the words “financial” and “technology.” It refers to the use of new technologies in the financial services industry to improve operational and customer engagement capabilities by leveraging analytics, data management and digital functions. The sector, characterized by the presence of many small, agile startups, attracted a FinTech venture capital investment of approximately US\$539 million in 2014.¹

In order to capture and display the level of activity in the FinTech space, Deloitte has designed a sector-specific digital tool called “bridge” which:

- Connects enterprises and innovators
- Helps identify emerging trends
- Highlights areas of FinTech focus
- Provides perspectives on innovations

Bridge raises awareness in relation to how specific FinTech companies have the potential to solve defined business problems and fill capability gaps.

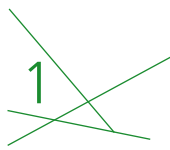
FinTech is high on many governments’ agendas. In Ireland, for instance, Minister Simon Harris’ “Strategy for Ireland’s International Financial Services Sector” is explained as aiming to: “drive research, innovation, and entrepreneurship in the IFS sector, with a particular focus on financial technology and governance, risk and compliance.” Governments in Singapore, Hong Kong, and the UK are all driving the same FinTech hub agenda for their respective countries, and are working hard to attract investment from global banks in this area (Citi in Hong Kong, DBS Bank in Singapore, etc.).

In effect, Fintech has resulted in and is leading to the development of new, innovative and agile solutions to the data and reporting challenges that our industry faces. But what about regulation? Are there nimble, configurable, easy to integrate, reliable, secure and cost-effective solutions available? The answer is yes... move over FinTech and make way for RegTech!

What is RegTech and why do we need it?

Alan Meaney (CEO of FundRecs) explains RegTech as follows: “like FinTech, PayTech, and many other combinations of XXXTech, RegTech is another example of an industry that is being changed rapidly by software. There has been technology used at various levels in the regulatory space for over 20 years. However, what the new RegTech label recognizes is that the gap between software-enabled and non-software-enabled services has widened significantly.”

Technology has been used to address regulatory requirements for some time, so what is new and exciting about RegTech? Here are some of the key characteristics of RegTech:



Agility

Cluttered and intertwined datasets can be de-coupled and organized through ETL (Extract, Transform, Load) technologies



Speed

Reports can be configured and generated quickly



Integration

Short time frames to get the solution up and running



Analytics

A recent Deloitte report² quoted biologist Edward Wilson, who said: “we are drowning in information, while starving for wisdom.” RegTech uses analytic tools to intelligently mine existing “big data” datasets and unlock their true potential, e.g. by using the same data for multiple purposes

1 “Silicon Valley Bank” Report

2 “New Strategies In A Changing World of bank Regulation,” July 2015

The key difference between traditional solutions versus RegTech-era solutions is simple—agility

Kent Mackenzie, Director in the UK member firm, sees a significant opportunity for so-called RegTech providers to bring clarity and efficiency to the way in which regulation is interpreted, how compliance is managed and most of all how reporting is and will be automated. The use of cognitive technologies and enhanced analytics is beginning to help the industry rapidly and automatically understand not just the explicit meaning of the regulation but also the implicit meaning or “nuance” that is so often a challenge to digest and assess. As we all know, data is meaningless unless it is organized in a way that enables people to understand it, analyze it, and ultimately make decisions and act upon it, i.e., by creating consumable information. In recent work Kent has undertaken for clients by deploying a RegTech solution, they have been able to identify the “one to many” relationship for the first time, i.e. where one control satisfies many regulations or where a single regulatory paragraph requires many controls.

In its purest form, the ability to automate a reporting or dashboard view is moving many away from a cumbersome, typically spreadsheet-based approach. Indeed, this is a very pertinent technological advance, especially when one considers the inescapable challenge for the financial services sector in Europe—and indeed globally—

posed by its heavy reliance on legacy systems, some dating back to the 1960s. It is estimated that in 2014, banks in Europe spent €55 billion on information technology; however, what is most interesting is that only a remarkably low figure of €9 billion was spent on new systems.² The balance was used to “bolt-on” more systems to the antiquated existing technologies and simply keep the old technology going.

RegTech provides senior executives with an opportunity to introduce new capabilities designed to leverage existing systems and data to produce regulatory data and reporting in a cost-effective, flexible, and timely manner without taking the risk of replacing/ updating legacy systems. We believe we will witness a rejuvenated effort to tackle back and middle office legacy challenges through RegTech investment which can elicit clean, accurate, secure, and timely data that can be sliced, diced, and scrutinized in whatever format the regulator or other stakeholders require. Barry McMackin from TradeFlow succinctly explains that *“RegTech companies need to show themselves as having expert knowledge of a specific problem and an ability to solve it. On one side, technology will assist firms in complying with regulation and on the other side, regulators will require new technology to make better use of the information provided by the industry.”*

How is it different—and is it actually different?

The key difference between traditional solutions versus RegTech-era solutions is simple—agility. While traditional solutions are robust and designed to deliver on your specified and “locked down” requirements, they can be inflexible and require development or configuration in a proprietary language for enhancements or changes.

Many RegTech providers use agility and are exploring how advanced analytics and assessment techniques can start to “learn” and support in accelerating the assessment of new and emerging regulations based on what has been seen previously and how that has been interpreted. In very much the same way neural

³ Celent “IT Spending In Banking: A Global Perspective” February 5, 2015

networks have helped predict fraud and customer behavior, Kent Mackenzie sees advanced RegTech helping to enable an automatic assessment of the impact of emerging regulation on a business.

In addition, the well-known brand name vendors' commercial models are typically aligned to multiple module purchases, meaning that the full benefits of a solution will only be realized when using multiple modules or "bolt-ons" of the preferred platform. Add in high price tags and significant lead times for change and it is clear that an agile alternative is required.

Let's not throw the baby out with the bathwater quite yet, as vendors do still play an important role according to Barry McMackin from TradeFlow: *"agility is great in product development and responding to customer and market validation but getting the product to market does require those insights that experienced software vendors have proven to have."*

Another defining feature of RegTech is that the solutions tend to be cloud-based. RegTech solutions using cloud mean that data is remotely maintained, managed and backed up.

Cloud-based solutions offer the following key advantages:



Where does RegTech work best?

While the growth of RegTech is promising, is it the panacea for all compliance challenges? Unfortunately, the answer is probably no, given the importance of subjectivity and the numerous other factors that must be considered in managing these risks.

Where we have seen it work well, however, includes heavily quant-based obligations, information-based obligations and risk identification and management tools including:







- Legislation/regulation gap analysis tools
- Compliance universe tools
- Health check tools
- Management information tools
- Transaction reporting tools
- Regulatory reporting tools
- Activity monitoring tools
- Training tools
- Risk data warehouses
- Case management tools

These tools, and RegTech in general, have yet to reach their true potential. As Sean Smith, Partner in Risk Advisory at Deloitte puts it: *“In the short term, RegTech will help firms to automate the more mundane compliance tasks and reduce operational risks associated with meeting compliance and reporting obligations. In the long term, it will empower compliance functions to make informed risk choices based on data-provided insights about the compliance risks the company faces and how it mitigates and manages those risks.”*




What are some examples?

Tools such as Hadoop, Tableau, and Pentaho sit on top of a virtual data lake, organize the data (which is usually a real pain point) and allow tailor-made reporting to be created in a way that is flexible enough to meet regulatory requirements today and which can also be easily configured to meet the changing regulatory requirements of tomorrow, next month and next year. In addition, these tools enable analytics to be applied to big data. Tableau, for instance, is a visualization tool that makes it easy to look at data in new ways to help identify trends and, from a regulatory perspective, help recognize outliers, right down to the individual customer transaction level. In real terms, these features allow for the extraction of data from core banking systems with a relatively limited implementation and integration cycle and one which is a lot more efficient than replacing or upgrading a core banking system.

Examples of Irish RegTech companies include:

-  Fund Recs Reconciliation software for the fund industry
-  Silver finch Creates connectivity between asset managers and insurers through a fund data utility in a secure and controlled environment)
-  Trustev Online fraud prevention by scanning transactions in real time to determine whether they are real or not)
-  Trade Flow Trade data tracking and technology based on risk alerts
-  Vizor Software provider that enables the supervision of companies by a supervisory authority, such as a central bank, financial regulator, or tax authority
-  Corly-tics Software that analyzes compliance risks in banks and financial firms)

Some RegTech companies established on the Luxembourg market are:

-  KYC3 Customer, counterparty risk management, and competitive intelligence solution
-  The Markets Trust Risk-management related needs, including quantitative asset modeling, portfolio simulation, and regulatory compliance and reporting
-  Asset Logic Aggregate all fund management data into a single source to make compliance, marketing, data governance, and relationships with service providers more efficient)

London-based FundApps is a truly great example of a RegTech company. Founded in 2010, FundApps Founder and CEO Andrew White had two very simple aims for his compliance monitoring and reporting solution:

1. Make it cloud-based
2. Maintain a team of compliance experts who can update the platform as new regulations emerge

From his financial services experience, Andrew realized that core to his business success was the solution’s ability to scale and flex as new regulations emerged. This would be beneficial to his overall cost and client servicing model but also in reducing the regulatory burden his clients faced and in increasing his overall value proposition to them. This was achieved through cloud technologies, accessible development capabilities, and an ecosystem at the TechHub in London which powered his growth. In addition, Andrew’s success was aided by his previous FinTech adventure with MIG21 (now a PFS/State Street solution) and the network and experience he gained at the time. When pushed for insights regarding a potential exit strategy, Andrew said: “Presenting in front of senior people at the big financial institutions and seeing their reactions to what FundApps can deliver via modern cloud technology is amazing. I’m just enjoying this, it’s the ride of my life.”

Silverfinch, led by financial services veteran John Dowdall, beautifully demonstrates the power of technology disruption by turning data-flow and reporting responsibility in the asset management and insurance industries on its head. Silverfinch, through a

platform, provides asset managers with a single venue for their portfolio holdings data that will respond to many institutional client requests in an efficient, reliable, secure and cost-effective manner. On the insurance side, through its platform, Silverfinch provides an easy, reliable and cost-effective way to request and organize data for the granular holdings data they need to feed their reporting and risk management models.

The Silverfinch method relies on data standardization. According to John, “everything in Silverfinch is about data standardization. The data we receive and the data we produce is all industry approved. The same tripartite data utility model can be applied elsewhere and expanded to a list of portfolio-based regulatory requirements.”

Key observations



Tech-savvy silver foxes teach young dogs new FinTech tricks

One of the most interesting findings from our research is the age profile and background of RegTechers. Despite RegTech and FinTech being synonymous with 20-somethings skateboarding to work in their loft-style offices, what we learned is in fact it is the more seasoned and experienced financial services professionals who are embracing this new era of technology disruption and driving the RegTech agenda. These individuals fundamentally understand how the financial services industry and corresponding data ecosystems work (or don't!) and therefore bring innovative, scalable and—you guessed it—agile solutions to the marketplace. The importance of data has not been lost on this experienced financial services crew and due to this they have joined forces with younger developers to gather, mine, analyze, and report via truly 21st century methods. As Rurik Bradbury from Trustev outlined, “The key thing about working in financial services today: if you do not have a seasoned person in charge and a sales pitch that looks polished and mature, you fail. Bankers expect some gray hair from the people challenging their existing business processes.”

2 Smaller European cities have competition

Another significant finding from our research is that large financial markets are attracting entrepreneurs from smaller European cities. This is particularly true of London, for the following reasons:

- Existing FinTech community
- Lower capital gains tax of 20 percent (soon to be 18 percent)
- Increased number of key decision makers and influencers in London across a broad range of financial services sectors
- More favorable personal taxation for knowledge workers
- Financial Conduct Authority (FCA) and Prudential Regulation Authority (PRA) fully embracing RegTech and FinTech start-ups
- Large technology talent pool
- Large financial services talent pool
- Easy company creation via online service

Other locations such as Singapore and New York are looking to expand and develop their FinTech communities. Further notable and upcoming challenger cities include Sydney, Warsaw, and Berlin.

Hong Kong—voted second best place to do business by Forbes—and the Association of the Southeast Asia Nations (ASEAN) region, however, are not without their challenges. Regulatory standardization and consistency are known complexities in Europe but the ASEAN market is most definitely not immune to this. Zac Chen, working in one of the largest South East Asian banks and a FinTech advocate notes, “*While Europe has a European Banking Authority that somewhat guides the region, we have to observe if the recent ASEAN Financial Integration*

Framework will provide some guidelines or direction, in which I hope there will be a standardized regulatory baseline or data interchange format across the region.” There is a significant opportunity for RegTech solutions to be at the heart of these data standardization conundrums.

What to do now

RegTech has a very bright future, with a huge amount of opportunity for those developing this type of technology to automate and enable the world of regulatory assessment and control management, bringing clarity and control to an area of the business that is so incredibly important, but so often cumbersome and time-consuming.

Don't be scared of the new. Yes, it is a huge opportunity—but the human intervention to provide final arbitration will always be required.

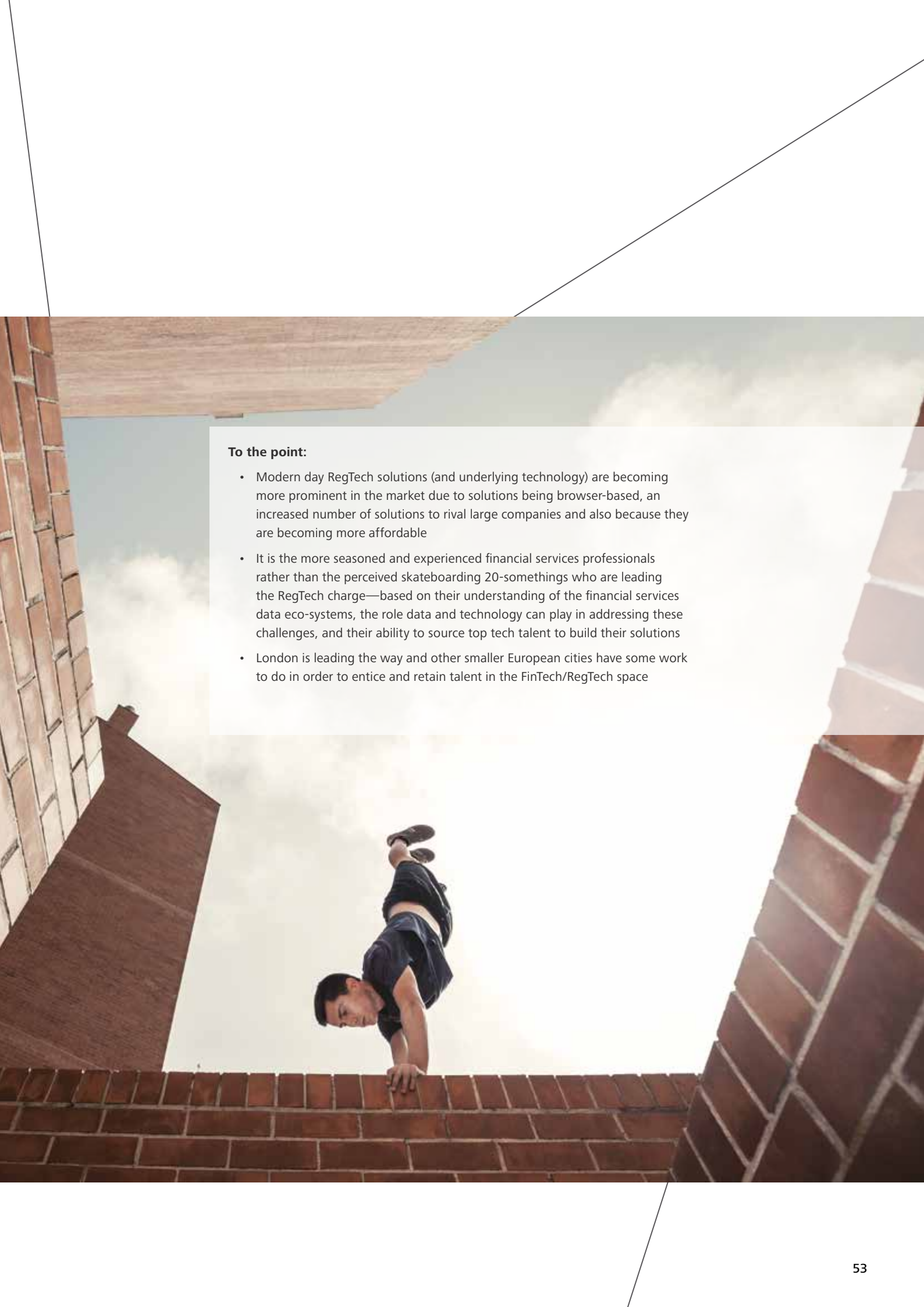
As we stand at the crossroads of this new paradigm in the RegTech age, companies should ensure that they:

- Make the most of their data (as it has certainly cost enough to get there)
- Conduct research to understand their existing organizational regulatory technology
- Leverage their existing technology investment and do not discount the capabilities of powerful solutions which have been proven to overcome operational challenges
- Understand their upcoming regulatory data and reporting requirements in line with the next set of regulations affecting their business (keeping the organization's overall technology strategy in mind)
- Ask their network and peers about what they are doing and what new solutions are available
- Embrace technology
- Make a plan and plot their future

We would like to thank the following people for their valuable and considerable contribution to this article:

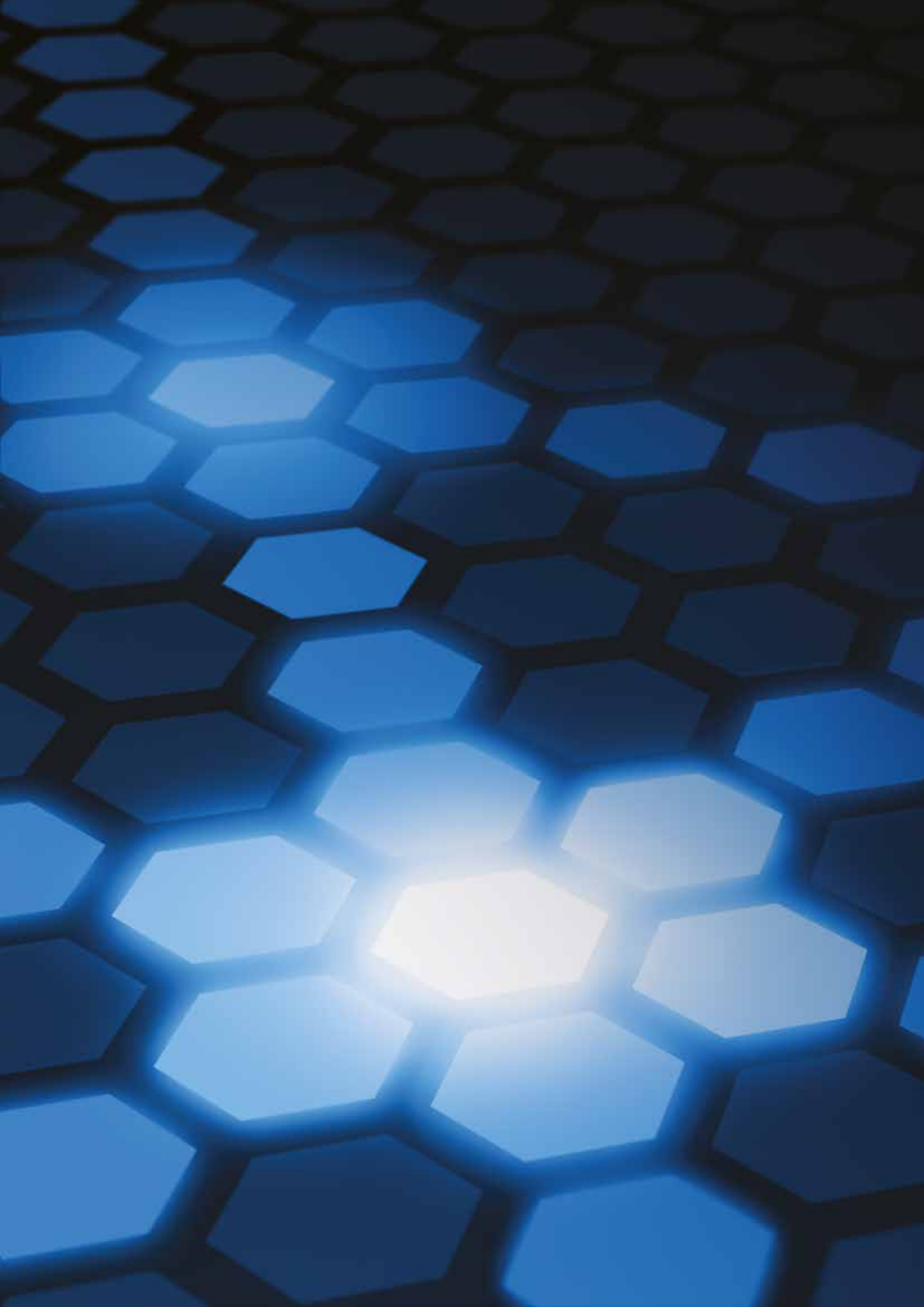
- *Cillian Leonowicz (Manager, Consulting, Deloitte)*
- *Nadia Andersen (Senior Consultant, Deloitte Consulting)*





To the point:

- Modern day RegTech solutions (and underlying technology) are becoming more prominent in the market due to solutions being browser-based, an increased number of solutions to rival large companies and also because they are becoming more affordable
- It is the more seasoned and experienced financial services professionals rather than the perceived skateboarding 20-somethings who are leading the RegTech charge—based on their understanding of the financial services data eco-systems, the role data and technology can play in addressing these challenges, and their ability to source top tech talent to build their solutions
- London is leading the way and other smaller European cities have some work to do in order to entice and retain talent in the FinTech/RegTech space



Centralization in Blockchain innovation Can banks devise a centralized business model for decentralized Blockchain technologies?

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Consensus—the cornerstone of business models for Blockchain technology in banking services

An authenticated system of ownership that verifies the entire transaction chain is no longer a dream in the financial sector: this is what is known as “Blockchain technology.” The ability to automatically and unequivocally check whether a person really owns what they claim and to trust other actors are the new benefits offered by Blockchain and is particularly relevant for financial markets.

Blockchain technology is fundamentally based around consensus, i.e., all parties agreeing to network verified transactions. The anonymity of participants constitutes an expensive commitment, as is demonstrated by the work on the Bitcoin Blockchain; when participants are known and trusted,

commitment is possible without the high costs. This commitment can be created in various ways: namely, proof of a stake, where fraudulent transactions would be penalized, or multi-signature validation, where a previously defined majority could validate a transaction. However, we believe that the best alternative for banking services, especially securities services, would be centralized validation in a powerful decentralized system that retains the need for a trusted third party.

This is an opportunity for the banking industry to make Blockchain technology part of the future of banking—a realistic proposition provided there is a set of contributors with regular asset transfers. This is especially true because regulators would initially strengthen pressure on banks if decentralized

Blockchain-driven financial systems were developed in the future. It goes without saying that Blockchain technology will prove disruptive for all actors in the financial value chain in the medium term. Indeed, the purpose of this article is to go further than the traditional futurist perspective regarding Blockchain; the objective here is to outline the innovation's potential to encourage collaboration on the financial services market. Every sector needs to evolve and innovate; historically, the financial industry has wrongly seemed less concerned about innovation because of familiar existing processes and heavy computing infrastructure, but the evidence suggests that it has always been successful in adapting to innovation. It is time for banks to consider the future applications of cutting-edge innovations so as not to be left behind. To this end, rather than viewing Blockchain as a threat, banks must appreciate it as an opportunity to streamline their processes, add value and increase the scope of their role.

1. Integrating Blockchain in banking services—the opportunities offered by crypto-securities

Although Blockchain is the tool that will make the investment value chain quicker and more transparent, it is up to businesses to make the most of the opportunity and call “the trade is the settlement” models into question.

An inspiring definition of a disruptive innovation states that it “allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill.”¹ Simplification is the key to disruption; cost reduction comes after, because what really changes is clients' behavior on a market.

The internet brought disruption in terms of information, and now Blockchain entails disruption with regard to money, value, and risk, with crypto-money and crypto-security. Banks can respond to the challenges they face by including Blockchain in the

panoply of services they provide.

A sector such as financial markets, in which transactions are characterized by fungibility, speed, and a plurality of actors, is different from a sector where transactions are rare, as is the case for notarial deeds. Deciding which services to adapt and which to maintain depends on each company's business strategy. Services can be adapted to suit the needs of individual or institutional clients: some need security and a higher level of compliance; others would benefit from speed and transparency. A flexible and resilient answer to clients' needs would be the best choice for implementing Blockchain in banking services.

However, while it is easy to overstate Blockchain disruption, banks have always been adaptable and have shown their ability to work collaboratively to evolve when required. Large capital expenditure has been initiated to develop better services and capabilities, such as contactless payment in retail banking, the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network in financial messaging, and the TARGET2-Securities (T2S) platform in securities services in the Eurozone.

In this respect, building up a Blockchain-driven crypto-securities transaction system offers two great benefits. First, the synchronicity of the transaction makes the securities market more liquid and facilitates collateral management procedures. Part of the processing costs could therefore be avoided by banks. Secondly, a Blockchain-based system enhances transparency and traceability and may boost the confidence of investors who see the entire life of a security, thanks to “chained” data in the Blockchain. As a result, the Blockchain forces banks to provide more information throughout the financial value chain.

¹ Clayton Christensen, author of *The Innovator's Dilemma*, father of disruptive innovation, and professor of business administration at Harvard University

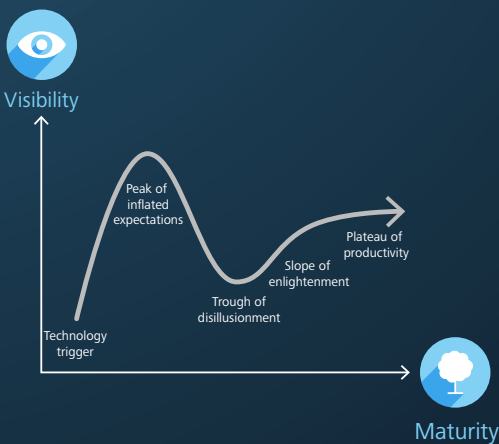




2. Competition in action in the innovation race for Blockchain—who will disrupt whom?

R3CEV, a consortium of 42 banks and technology companies, assumes that Blockchain technology has “the potential to impact the financial services sector the way the internet changed media and entertainment.”² A high level of awareness of the challenges can be a key competitive factor for banks competing with one another, as some of them could become the Netflix of the financial industry or, to a lesser extent, the next IBM or Amazon. Facing a huge technological challenge, these companies have been resilient enough to pivot and develop profitable business models within the new market paradigm. The banks involved in R3CEV have already selected five suppliers to design a system of bond transactions: Ethereum, Chain, Eris Industries, IBM and Intel. In the innovation race, it must be noted that banks would certainly both suffer and benefit as a result of Blockchain.

Yet, the Depository Trust & Clearing Corporation (DTCC)³ white paper⁴ published in January 2016 goes further, assessing the limitations of Blockchain technology integration for current financial applications: we are certainly entering the “disillusionment” step of the innovation maturity process, described in the Gartner curve. The challenge is to overcome it quickly to reach the “slope of enlightenment,” which is not all that far away.



In retail banking, where the expected impact is huge, a lot of new entrants are challenging banking institutions: startups, telcos, and tech and retail companies. However, retail banks can offer new services based on smart contracts. In the field of asset management, the industry would benefit from the development of Blockchain technologies for large portions of the core processes. The aim is to quickly transfer ownership of illiquid securities between asset managers. Digital Asset Holdings has already raised a US\$60 million investment funding plan, backed by the largest banking institutions. In securities services, directly trading securities between counterparties in an interbank network implies a significant risk of disruption of market infrastructure models for exchanges, clearing houses, and central securities depositories.

Nevertheless, the widely prophesized collapse of the current banking system is certainly not the only conceivable outcome: a decentralized system would add fluidity, agility and some disintermediation to the exchange, settlement, and reporting of transactions, but centralized governance would ensure the security and compliance that is so valuable in banking services. While disruption affects every level of financial trade, it will add efficiencies, to the extent that the challenge will be to develop useful applications while protecting global market balance and actors.

3. Building a decentralized Blockchain-driven interbank system with in-built centralization to ensure safety

Cooperation with regulators will play a fundamental role in the development of new systems. On one hand, regulators face the challenge of protecting the market balance while allowing the upgrade of markets and infrastructure to create a regulatory environment that is conducive to better compliance controls and more ethical market practices. On the other hand, safety requirements in the banking system are paramount, to such an extent that it can even be compared to a public utility mission. The G20 Financial Stability Board is already studying the systemic risks linked to FinTech development, and will suggest a regulatory framework with a worldwide approach

2 David Rutter, CEO and founder of R3CEV

3 The Depository Trust & Clearing Corporation (DTCC) is an American post-trade financial services company providing clearing and settlement services to the financial markets. It provides a way for buyers and sellers of securities to make their exchange in a safe and efficient way. It also provides central custody of securities

4 “Embracing disruption: tapping the potential of distributed ledgers to improve the post-trade landscape,” DTCC, January 2016



during the next G20 summit in April 2016. In fact, the skyrocketing evolution of investments in FinTech from US\$4 billion in 2010 to US\$12 billion in 2014 is proportional to the estimated potential of these innovations.

Facing new technical and regulatory challenges could indeed bring benefits to banks. Blockchain has the potential to simplify and speed up contracts, transactions, and systems. Nevertheless, the situation is similar to moving from 3G to 4G with telco operators: phones still need SIM cards to ensure the protection of devices: operations control and transaction security will continue to be a core competency of the banking industry, and regulators will still have to determine the role of each actor within the control processes of financial transactions through Blockchains. While clearing can be faster and increase the liquidity of financial markets, especially for asset managers, fund custody will still require a high level of compliance evaluation. Banks can even imagine upgrading the level of compliance to an unprecedented degree, based on the traceability provided by Blockchains. Moreover, even if Blockchains offer significant advantages, price-setting in the trade market centralized in financial operators will always require a high level of transparency. Yet, placing orders on financial markets is not only a value chain through banks and market infrastructure, as this also requires asset servicing skills (tax, legal, etc.); this aspect would hardly be disrupted. Even if some customers would want to manage their assets themselves via online applications, we can easily argue that the majority of clients would still need the services provided by asset managers and banks—particularly in the fund industry.

By developing practical uses for Blockchain technology, banks would benefit from a collaborative project with regulators and adapt regulatory progress to innovative market activities. In a Blockchain-driven system, ownership of securities would be transparent and highly speculative shorting of securities would be easily and automatically identified. If a peer-to-

peer crypto-securities transactions system were to be adopted widely, banks would have a major opportunity to provide a higher level of control, more than any other actor, in line with the regulator's expectations. In a way, Blockchain-driven systems would be an asset for financial market regulation. The market authorities would still control securities transactions passing through a Blockchain-driven platform and it would also provide new and less cumbersome ways to apply appropriate regulations to the industry.

In securities services, settlement and book entry of non-listed securities could be the first step to speed up execution, improve pricing and reduce the costs associated with the current business processes involving manual operations. However, introducing a wider peer-to-peer transactions system based on Blockchain through an interbank network would require a deep involvement and engagement from a broad consensus between banks, market infrastructure, and public authorities.

Conclusion: A call for collaboration between market actors

The success of financial innovation is underpinned by the capacity of asset servicing companies to include innovation in their operating model, reforming their execution services and simplifying the relations between investors and markets.

If banks do not want to witness an "uberization" of financial services by entrepreneurs who would build new models to redefine the way these services are operated and marketed to consumers and investors, they need to consider how to provide a superior customer experience. But before that, actors could return to the "expectations" step to have a better view of customer demand and differentiate real demands from mistaken or farfetched expectations. It would represent one clever step back to adapt supply to demand.

It is undeniable that every bank is studying what is being done to develop Blockchain technology: the next step is to get involved in an inclusive consensus. Every Blockchain initiative needs to be designed in a network in order to be really powerful. Individual investments, such as the Digital Asset Holding investments, to create the credit default swap of tomorrow or the settlement system of Goldman Sachs, are proactive investments to reduce trading costs, but it would be far more efficient in the context of a global collaboration between all the actors of the banking value chain.

Gathering intelligence to identify the future applications of Blockchain technology also entails collaboration with the Fintech sector, in a context of the fourth industrial revolution, the digital revolution, and the future emergence of artificial intelligence, where Blockchain is only one of many innovative solutions. Some banks have already started—a way to let challengers work with banks. Startups make banks rethink their model, and they can therefore make each other grow. Some banks develop the new tools themselves, some forge partnerships with consortium and labs, and some buy out or enter the capital in startups. To take a broader perspective, the recent Tech.eu study published in early March states that the United Kingdom, France, and Germany have already invested US\$1.4 billion in startup projects since the beginning of 2016. Never forget that, to a certain extent, banks themselves are FinTech, especially asset servicing institutions, providing financial technologies and computing services. Also remember that Blockchain is a tool, invented in 2009, and the possibilities of this boundless technology are as unknown as they are infinite. Finally, remember that innovation always challenges us to think differently about our businesses.

To the point:

- The banking industry is on the cusp of changing its approach on Blockchain technology from monitoring to applications for banking services
- Of all of the features of Blockchain development, consensus is the key element that will help to create a powerful Blockchain system
- A multi-tier collaborative approach to the potential usage would adapt services to clients' needs, whether this entails seeking transparency and speed or ensuring a higher level of control and protection
- The question is not *"Who will win the innovation race?"* but *"How can the banking industry win the innovation race collectively?"*
- A decentralized transactions system including centralized controls and compliance on markets is more realistic than market players think
- Technical and regulatory challenges can be overcome thanks to the inherent strengths of the Blockchain system, in-house infrastructure and skills within banks
- The future worldwide Blockchain-driven interbank platform is still a "work in progress" and will be for years to come

Active versus passive



What else
is on the

Menu?

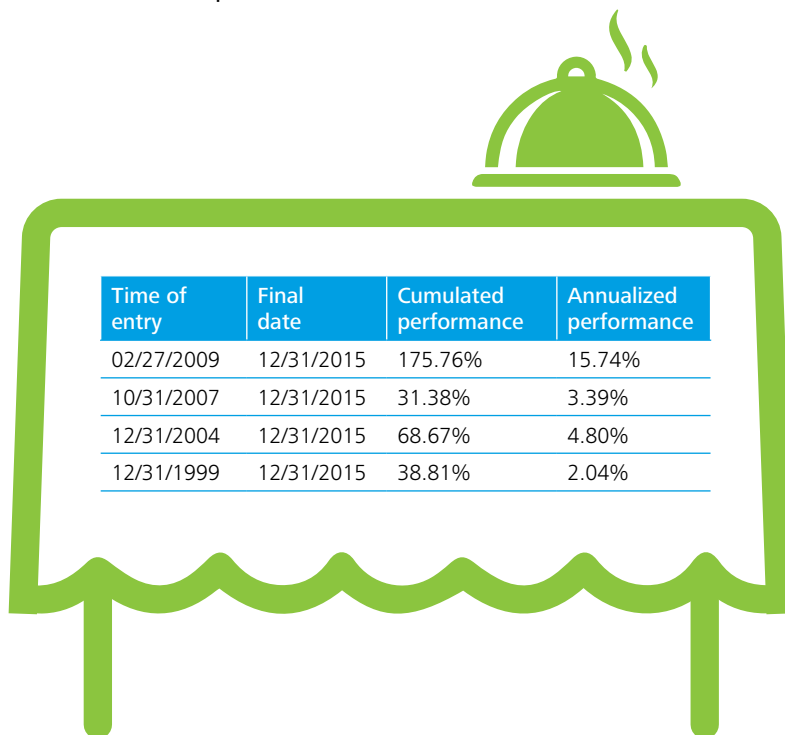
Xavier Zaegel
Partner
Advisory & Consulting
Deloitte

Hervé Hens
Manager
Advisory & Consulting
Deloitte

Before investing, the retail investor has to face a dilemma between active versus passive funds:

- On the one hand, academic research has shown that active portfolio managers fail to beat their benchmark on average after accounting for fees. Those who managed to beat their benchmark fail to repeat their performance over a consistent period of time. Their outperformance was probably due to sheer luck rather than investment skills.
- On the other hand, the performance of passive investing has been shown to be extremely dependent on the time of entry into the markets. As an example of the importance of entry time, we can compare the performance (including dividend reinvested) of a passive investment in the Standard & Poor's 500 (S&P 500)¹ in the table below:

Table 1: S&P 500 performance



| Time of entry | Final date | Cumulated performance | Annualized performance |
|---------------|------------|-----------------------|------------------------|
| 02/27/2009 | 12/31/2015 | 175.76% | 15.74% |
| 10/31/2007 | 12/31/2015 | 31.38% | 3.39% |
| 12/31/2004 | 12/31/2015 | 68.67% | 4.80% |
| 12/31/1999 | 12/31/2015 | 38.81% | 2.04% |

As we can observe, the annualized performance is highly dependent on the time of entry. There is also no guarantee that holding the investment for a longer period will yield a higher return over time. To make things worse, the retail investor is often lured into investing in the stock markets at the worst time—when asset prices have already gone up and the upside potential for the coming year is limited. Moreover, passive investing may suffer from large drawdowns during a bear market making it psychologically difficult to remain fully invested or even add capital.

In this article, we will present two alternative strategies that can be used by a portfolio manager. The strategies will exist in two versions (low-risk and high-risk profiles) and the management of the strategies will be kept to a minimum—no stop loss will be used and the number of trades will be limited to one per month. We will compare these two strategies to a simple buy-and-hold strategy in the S&P 500. We will also look at the behavior of the different strategies under extremely volatile market conditions.

Here are two option-based strategies:

Strategy #1: selling an At-the-Money (ATM) put option

The first strategy will consist in selling ATM put options on the S&P 500 index with 45 days to the expiration date. The put option will be cash-secured. A cash-secured put involves writing a put while setting aside the money corresponding to the maximum loss on the put. That money will be invested in treasury bills. By cash securing the put, it eliminates the leverage embedded in options. This strategy is therefore conservative and can be implemented on behalf of clients with the majority of risk profiles.

One should then mechanically exit the position after 30 calendar days, irrespective of the profit & loss (P&L). The reasons for not waiting until the option's maturity are twofold. First, the risk/return ratio deteriorates over time. The position carries the same amount of risk (i.e., the maximum loss remains the same during the option's lifetime) but the remaining premium decreases over time (i.e., option prices decay over time).

¹ The exposure to the S&P 500 is gained through an ETF on this index.

² The Standard & Poor's 500, often abbreviated as the S&P 500, or just "the S&P" is an American stock market index based on the market capitalizations of 500 large companies having common stock listed on the NYSE or NASDAQ.

Secondly, the gamma risk increases exponentially as the expiration date approaches. Gamma risk represents the risk of a profitable product rapidly losing ground because of an adverse movement in the underlying. Gamma risk is at its highest point close to the expiration date. If the position goes against the investor close to expiration, there is no way he or she can hedge the position because of the limited remaining time. Therefore, they should exit their position after 30 days in the trade to limit gamma risk.

Strategy #2: selling At-the-Money (ATM) straddle

The second strategy is actually a variation of the first. In addition to selling the ATM put option, the investor could also sell the ATM call on the S&P 500 index. The simultaneous selling of both ATM call and put options is called a straddle. Unlike a put option, selling a naked call option can lead to unlimited loss (i.e. the underlying price can theoretically go to infinity).

Therefore, the maximum loss cannot be set aside in cash. Instead, one relies on the margin formulae provided by most brokerage firms to estimate the collateral need. They will use 25 percent of the account to cover the margin requirement for the straddle. This 25 percent exposure allows some room for margin expansion—the margin requirement is recomputed on a continuous basis by the broker and may be increased if the position goes against the investor. To avoid any subsequent margin calls, it is important to limit the exposure to 25 percent. The remaining 75 percent of the portfolio is invested in treasury bills. One should mechanically exit the position after 30 calendar days irrespective of the P&L for the same reasons stated above. Because this strategy involves the potential for unlimited loss, this strategy fits the profile of an aggressive investor.

Below is a summary of the two strategies:

| | Risk profile | Description | Entry | Exit | Position sizing |
|-------------|--------------|---|--|--|---|
| Strategy #1 | Conservative | Sell ATM put on S&P 500 with a number of days to expiration | Open a new position on the first day of each month | Exit the position after 30 calendar days (irrespective of the P&L) | Cash-secured put option. The collateral is invested in treasury bills |
| Strategy #2 | Aggressive | Sell ATM straddle on S&P 500 with a number of days to expiration closest to 45 days | | | 25 percent of the account is used as collateral for the straddle. Remaining funds is invested in treasury bills |



We qualify these two strategies as “mechanical” as the rules used for the trades are fixed over time. Unlike active investing, these strategies do not involve making any decisions whatsoever with respect to asset allocation among different asset classes or selecting specific securities. Investors only trade options on the S&P 500 index. These strategies differ from passive investing in that investors sell the existing position and re-establish a new one every month at the new volatility environment prevailing at the beginning of the month. In that sense, this investment style is more active than passive.

Below, we compare the historical performance of the following three portfolios over the last 10 years (from 31 January 2005 to 31 December 2015). We retrospectively tested the performance of an account worth US\$1,000,000 invested in the following three portfolios.

- **Portfolio #1:** buy-and-hold in ETFs tracking the S&P 500 including dividend reinvested (i.e., total return)
- **Portfolio #2:** portfolio following strategy #1 as described above
- **Portfolio #3:** portfolio following strategy #2 as described above

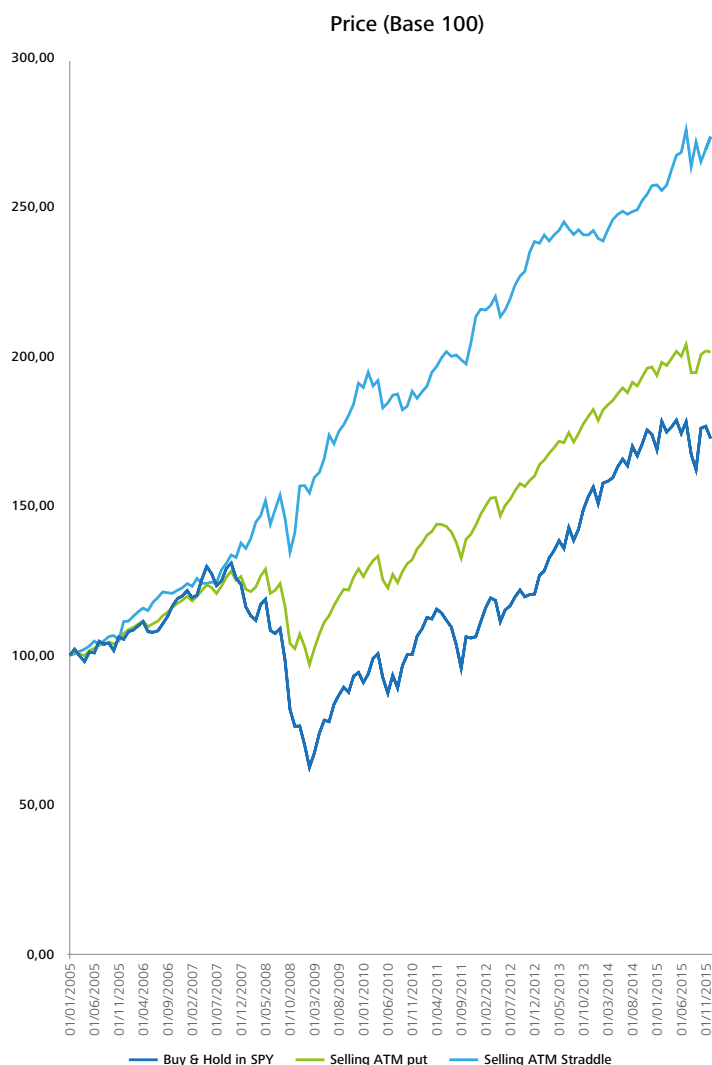
For Portfolios 2 and 3, we accounted for the transaction costs² and interest earned on the T-bills.

2 We assumed a US\$1 commission per contract and per trade.

Table 2: comparison of performance metrics

| | Portfolio 1 | Portfolio 2 | Portfolio 3 |
|---|-------------|-------------|-------------|
| Cumulated performance | 72.54% | 101.41% | 173.46% |
| Total number of months | 131 | 131 | 131 |
| Average annual performance | 5.12% | 6.62% | 9.65% |
| Number of positive months | 80 | 92 | 94 |
| Number of negative months | 51 | 39 | 37 |
| Volatillity | 14.53% | 8.14% | 7.60% |
| Sharpe ratio | 0.24 | 0.62 | 1.06 |
| Max drawdown | -52.20% | -24.84% | -12.47% |
| Longest time to recover from valley (in months) | 65 | 19 | 14 |





As we can observe on the graph above, the two mechanical strategies outperform the buy-and-hold strategy in the following respects:

- Cumulated performance: the performance of both portfolios 2 and 3 outperform the buy-and-hold strategy
- Volatility: the volatility of the performance has been reduced by about half
- Resilience in extreme market conditions: the most remarkable aspect of these two mechanical strategies is the limited drawdown during periods of high volatility. The difference in performance over the studied period is actually explained by the higher resilience of portfolios 2 and 3 during the subprime crisis (see the difference in maximum drawdown). Below, we analyze the performance of the three portfolios from 31 October 2007 to 27 February 2009. This period corresponds to the peak-to-valley period of the S&P 500 during the subprime crisis

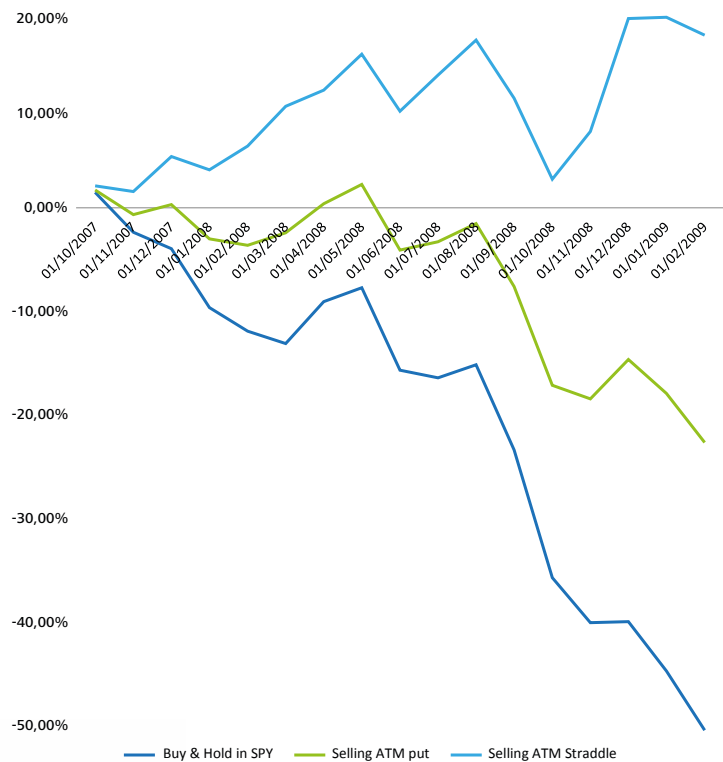
The higher resilience of portfolios 2 and 3 may be attributed to the following factors:

- The cash is invested in US Treasury bills, which act as a cushion when equities markets fall
- Option prices tend to adapt naturally to the market conditions. When equities markets fall, volatility rises. As a result, option prices increase (i.e., there is a positive relationship between higher volatility and option prices) and we are therefore able to collect a higher premium. This higher premium acts as a buffer against declining equity prices. Because straddles are composed of two options, we are able to collect a higher premium than selling a single ATM put. As a result, portfolio 3 was more resilient during the subprime crisis

Mechanical strategies can provide a superior risk-adjusted return at a very low cost and with limited trade management

As we have demonstrated in this study, there is life beyond actively managed funds and indexed funds. Mechanical strategies can provide a superior risk-adjusted return at a very low cost and with limited trade management. Mechanical strategies can act as a cushion during market turmoil and therefore should be considered in any type of portfolio. The retail investor will be able to invest in funds following these mechanical strategies to outperform indexed funds and provide greater portfolio diversification.

Cumulated performance during subprime crisis



To the point:

- The performance of passive investment is highly dependent on the time of entry
- Mechanical strategies can outperform active and passive investing in terms of performance and risk
- Retail investors have other choices than active and passive investments to build a portfolio





Investment Fund Governance

Developing a Risk-Based Oversight Framework

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While much of the scrutiny in the aftermath of the global financial crisis has focused on corporate board structures, practices, and processes resulting in numerous corporate governance codes across the financial services industry, less has been written on investment fund governance. There is a tendency to entangle investment fund governance within the norms and rules of corporate governance. There are, however, fundamental differences between investment funds and ordinary corporations, and these differences have important implications for the governance of investment funds—differences that require a unique governance framework.

Investment fund governance in this context moves beyond mere regulatory compliance toward a Risk-Based Oversight Framework, which puts the protection of investors at its core. This framework seeks to provide those who are involved in the governance of investment funds, such as fund promoter organizations, investment fund boards, management company boards, and service provider organizations, with an effective governance framework that will assist in protecting the interests of investment fund investors as well as enable boards of directors to make risk intelligent decisions.

The Certified Investment Fund Director (CIFD) Institute was established to bring the unique characteristics and challenges of investment fund governance to the front of the governance agenda and to encourage a common, global approach to investment fund governance with investor protection at the core.

A Risk-Based Oversight Framework for Investment Funds (hereafter “Risk-Based Oversight Framework”) is the cornerstone of the CIFD Institute’s Certified Investment Fund Director Program and can be implemented by investment fund boards or those charged with the governance of funds.

Setting the scene for a Risk-Based Oversight Framework

To better understand the framework we must first define investment fund governance and investor protection, explore the unique characteristics of investment funds that have an impact on their governance, and consider the roles of the various parties within the investment fund governance framework.

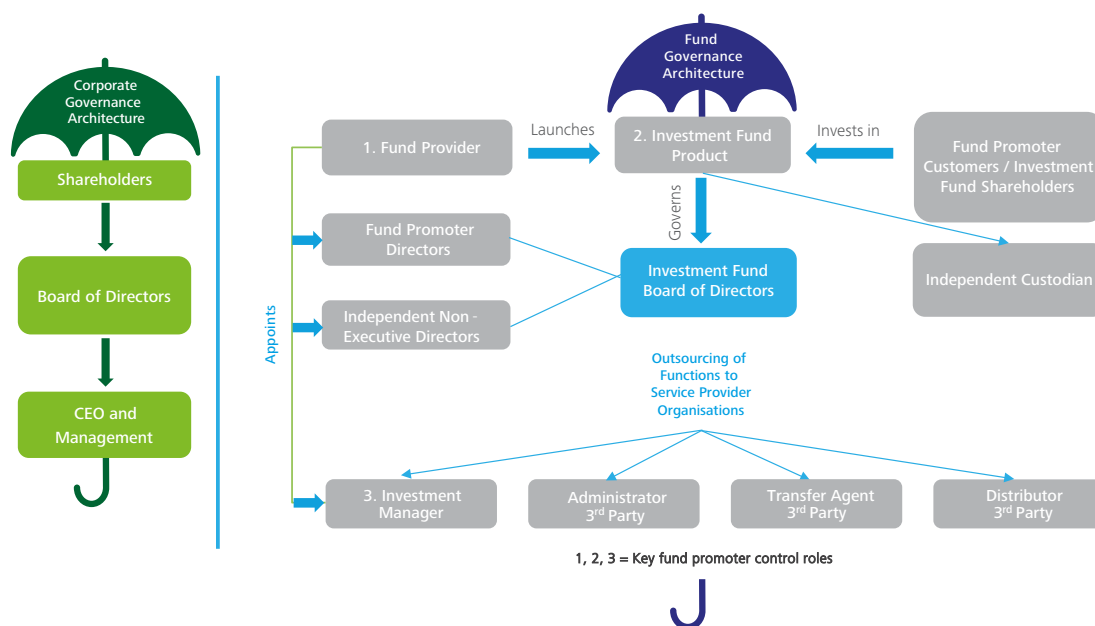
1. Defining the principles of investment fund governance

Identifying globally accepted principles of fund governance can be difficult, particularly given the different stakeholders involved and the varying interests and views across the investor population. The ultimate goal of the governance framework is investor protection, which does not equate to protecting investors from market-related losses. Rather, according to IOSCO¹, the objectives are to:

- enable investors to understand the risks attached to investment fund products
- prevent misleading or fraudulent practices
- prevent investor loss due to the malfeasance or negligence of fund promoter organizations
- minimize conflicts of interest

¹ IOSCO is the world’s primary forum for international cooperation for securities regulatory agencies. In May 2004, IOSCO approved the mandate proposed by the Technical Committee Standing Committee on Investment Management (SC5 sub-committee) regarding the “Examination of Governance for Collective Investment Schemes.” The mandate directed the SC5 sub-committee to establish broad general principles for investment fund governance based on a review of both its past work and the results of a survey concerning investment fund governance in applicable jurisdictions (i.e. jurisdictions where investment funds are authorised and are members of IOSCO). IOSCO produced two documents aimed at establishing general principles for investment fund governance in June 2006 (IOSCO, 2006) and February 2007 (IOSCO, 2007).

Figure 1: Governance architecture



2. Unique characteristics of investment funds versus companies

Two key features that should be considered are the product nature of investment funds and the typical outsourcing model employed by investment funds.

i. Investment funds are fund promoter products

The aim of an investment fund is limited to facilitating the collective investment by investors in capital markets. The investment fund is an investment product conceived and developed within the fund promoter organization. Investors invest in the fund promoter's investment product, i.e. the fund, rather than the fund promoter organization. This product is the means by which investors gain access to professional investment management. Investors may invest for a variety of reasons including prior performance, strategic allocations of capital, and identification with the fund promoter brand, which is an important characteristic of investment funds.

Investment funds, along with their investment objectives and policies, are the brainchild of fund promoters. Once fund promoters begin the process of establishing funds, they select the entities to provide services to the funds. As reflected in Figure 1, the core functions of investment funds are (1) investment management, (2) distribution or marketing, (3) fund administration (including transfer agency), and (4) safekeeping of assets (by a depository).

ii. Outsourcing model

As reflected in Figure 1, investment funds typically outsource the core portfolio and related investment management activities. The outsourcing model presents a number of challenges for investment fund boards. Much of this is due to the fact that the board is fully responsible and accountable from a legal perspective but may not in practice have the power or influence of a board of a traditional company. Some practical issues that create challenges include:

- The board may not be formed and functioning at the time of considering the selection of the various fund service providers.
- The outsource model requires the board to effectively oversee the service providers in order to place reliance on the operations and management of risks being undertaken by the fund service providers.
- Management of risks that are not outsourced remain under the sole control of the board. This can create risks given the number of parties involved and increase the likelihood that certain risks may "slip between the gaps" or that legal agreements with the various service providers may fail to capture all risks that are outsourced.
- There are increasing global standards and higher levels of expectation (of regulators and investors) in respect to the role of the fund director.



3. Understanding the governance framework of investment funds

The governance framework for investment funds is made up of:

- The oversight by the investment fund board (and/or management company)
- An executive layer consisting of:
 - fund promoters/investment managers
 - other service providers including the administrator, custodian, and distributor
 - support services including legal and audit

As outlined above, investment funds are investment products whereby the fund strategy and risk profile are established by the fund promoter and set out in the fund prospectus and related documents. The board involvement is to oversee the operations to ensure that the fund operates within its mandate, as set out in the fund prospectus.

In short, service providers (including those within the fund promoter organization) are experts upon which heavy reliance is placed regarding the management of risk on a day to day basis. Upon appointment the investment fund board inherits an infrastructure with appointed outsource service providers, risk management methodologies, and a prospectus detailing the parameters within which the fund can operate.


Investment fund governance frameworks should go beyond regulatory compliance toward an architecture with investor protection at its core

Risk-based oversight framework for investment fund governance

The Risk-Based Oversight Framework captures the unique characteristics of investment funds and the respective roles, responsibilities, and accountabilities of those involved in investment fund governance. Fund promoters and investment fund boards should ensure that the governance launch of investment funds occurs in parallel and with the same vigor as the legal launch of funds. It provides a practical methodology and a range of enabling tools that can be implemented by those charged with governance. The approach and methodology is designed so it can be applied to a range of funds, taking account of the specific fund characteristics such as regulatory requirements and operating complexity.

Key risks

The Risk-Based Oversight Framework reconciles the objectives of investment fund governance, as articulated by IOSCO, with the oversight role of investment fund boards arising from the contextual factors outlined above. Table 1 identifies the component parts of investor protection (the “What” that investment fund boards are trying to achieve). The Risk-Based Oversight Framework presented in this section, is one framework that investment fund boards can utilize in pursuit of investor protection (the “How” of investor protection).



| IOSCO 2006: Objectives of Investment Fund Governance | Risks to Investors | Components of Investor Protection (the WHAT) | HOW |
|---|---|---|--|
| <ul style="list-style-type: none"> To enable investors to understand the risks attached to investment fund products | <ul style="list-style-type: none"> Investors invest in products inconsistent with their risk appetite | <ul style="list-style-type: none"> Identification and disclosure of the risks attached to the investment fund Investment strategy employed consistent with expectations of investors. Distribution of investment fund in line with regulations, fund promoter brand and product offering | |
| <ul style="list-style-type: none"> To prevent misleading or fraudulent practices To prevent investor loss due to the malfeasance or negligence of fund promoter organisations | <ul style="list-style-type: none"> Loss to investors arising from inappropriate controls and/or fraudulent activity within the entities involved in the day-to-day operation of the fund | <ul style="list-style-type: none"> Transparent investment performance within regulatory constraints and ‘consistent’ with ‘expectations’ of investors Oversight of integrity of the Net Asset Value of the fund: <ol style="list-style-type: none"> Safety of assets Valuation methodology Transparency | <p>Risk-Based Oversight Framework</p> |
| <ul style="list-style-type: none"> To minimise conflicts of interest | <ul style="list-style-type: none"> Fund is managed in best interest of fund promoter/ asset manager, related parties and/or service providers and not in the interests of investors | <ul style="list-style-type: none"> Conflicts of interest management through objective assessment | |

A Risk-Based Oversight Framework provides various tools to allow fund directors to understand, identify, and manage risks with an appropriate degree of certainty and in a way that is appropriate for the funds industry and the particular fund in question. This framework is reflected in Figure 2. Investment funds will always have a legal launch, and it is critical that they also have an investment fund governance launch. As such, the framework is split into two phases to allow an effective governance launch (Steps 1 to 3) and the ongoing activity (Steps 4 and 5) to ensure appropriate governance into the future.



Step 1: Understanding the fund DNA

The governance framework originally adopted by the board should be appropriate for how the fund is legally structured but also how the fund will operate in practice. The framework should be tailor-made to the unique characteristics of the fund in question, since once a fund is up and running, changes to the governance framework become more difficult to implement. An effective governance framework cannot be designed and implemented without a full appreciation of the risks attached to the fund, which, in turn, are only determinable by understanding how the fund operates. The DNA mapping process will provide a broad overview of the key areas within the investment manager, other service providers, and the investment fund, requiring consideration and the key documentation that should be analyzed to understand the risks within the investment fund.

Successful completion of the first step will provide the board with sufficient understanding of the funds' modus operandi to develop the risk profile of the fund.

Step 2: Risk profiling the fund

A documented understanding of a fund's DNA provides the foundation on which to build an appropriate Risk-Based Oversight Framework of governance. Risk profiling the fund involves identifying the universe of risks attached to the fund (macro and micro level, strategic, market, credit, legal, fiduciary, reputational, operational, organizational, industry, tax, political, and competitive risks to mention a few) but particularly the risks specific to the fund.

This step also involves allocating ownership and accountability for each risk and the related controls across the various service providers (including the investment manager) and, where applicable, the investment fund board. The investment fund board should be comfortable with the day to day management of risk by fund service providers to whom functions have been outsourced. This comfort may be obtained from conducting due diligence prior to appointment, conducting ongoing assurance testing, or obtaining risk-focused management information and service organization control reports (e.g. SSAE 3402 or SOC 1 Report).

The input for step 2 is:

1. Risk identification
2. Risk reconciliation
3. Risk allocation
4. Determining residual risk
5. Risk assessment/measurement

The output from Step 2 is a risk heat map reflecting the following key fund information:

1. Inherent risks (including materiality)
2. Risk ownership and accountability (agreed between the board and each service provider)
3. Controls mapped to the risks
4. Residual risk
5. Residual risk measurements

Step 3: Establishing a governance framework

Step 3 involves comparing the top down analysis from the board with the bottom up analysis of each service provider to ensure that:

1. There is complete alignment across all parties as to the nature of risks as well as ownership of and accountability for these risks and related controls, and that this is reflected in contractual agreements.
2. The operating policies of each of the service providers reflect the DNA of the fund, its respective risk profile, the ownership/accountability for each risk, and are agreed by the investment fund board.
3. The escalation and reporting procedures of the service providers for the particular fund ties into the aligned risk profile of the fund and related risk measurements agreed with the board. It is this management information that will drive the board oversight process for each fund.
4. All service level agreements are accurate and up to date, reflecting the above. It will be possible to quickly identify gaps in risk management/internal controls which can be allocated to an appropriate service provider through contract or SLA.

Step 4: Implement and report

Once the governance framework is structured, it must be implemented by the investment fund board and the service providers. Step 4 is essentially the ongoing oversight by the investment fund board based on the framework developed over Steps 1 to 3.

Service providers must provide management information to the investment fund board in the nature, format, and frequency agreed under Step 3. In executing its oversight role, the investment fund board seeks to confirm that the parties to whom the risk has been outsourced are effectively managing these risks.

Through ongoing consideration of management information and through the escalation of risk events or breakdowns in internal control, the board oversees the operation of the investment fund. In reviewing reports provided and asking appropriate questions, the investment fund board will be able to positively transition from a reassurance model (i.e. it is ok because I am told it is), to gaining reasonable assurance (i.e. it is ok because I have reviewed various reliable sources of information specific to the fund and I am satisfied with what is being said and by whom).

The result is a governance framework encompassing:

- 1 Operating policies specific to the fund

- 2 Escalation and reporting procedures (including MI) specific to the fund

- 3 Accurate contractual arrangements and SLAs

- 4 Compliance with regulations

- 5 Compliance with legal documentation

Step 5: Reflect, review, and revise

Changes to the fund risk profile may also drive changes to the governance framework information received by the board. Two contextual factors are identified below but many more are likely to exist in individual funds.

- *New products*
Prior to a fund engaging in a new type of portfolio investment, the board should be satisfied that the adviser has considered the risks of the new investment and determined that the instruments are appropriate in light of the fund’s risk tolerance, investment strategies and related objectives.

- *New legislation*
or regulation Investment fund boards should undertake, in conjunction with the service providers, a periodic risk and change control assessment. The objective of this assessment is to determine what has changed in the operational, regulatory, or economic landscape that has an impact on the fund’s DNA and its related risk profile. This assessment may result in updates to operating policies, escalation and reporting procedures, and SLAs.

Conclusion

Investment fund governance frameworks should go beyond regulatory compliance toward an architecture with investor protection at its core. The objective of this article is to provide those who are involved in the governance of investment funds, such as fund promoter organizations, investment fund boards, management company boards, and service provider organizations, with an effective governance framework which will assist in protecting the interests of investment fund investors as well as enable boards of directors to make risk intelligent decisions. The Risk-Based Oversight Framework captures the unique characteristics of investment funds and the respective roles, responsibilities, and accountabilities of those involved in investment fund governance. Understanding the distinction between corporate and investment fund governance is critical, as is the understanding that governance is an iterative process and investment fund boards should make certain that their governance framework keeps pace with regulatory, operational, and product development.

To the point:

- Define the objectives of investment fund governance
- Unique characteristics of investment funds
- Understanding the governance framework for investment funds
- Understanding the fund DNA
- Risk profiling the fund
- Establishing the governance framework
- Implement and report
- Review, reflect, and revise



Global tax and investor reporting **Converting risk into investor value**

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In the previous article of our “Global Tax and Investor Reporting” series for *Performance Magazine*, we discussed the opportunities for and drivers of operational model changes for fund tax departments. The significant increase in fund complexity and rapid global growth of the asset management industry continues to stretch the capacity of the fund tax teams and expose vulnerabilities, leaving the door open for potential investor and regulatory risk.



An in-depth look at how a fund tax department operates and an assessment to identify and close any gaps may be highly beneficial, not only to mitigate risk, but also to add the value that the benefits arising from planning and continual reassessment can provide.

The regulatory environment has changed significantly since the independent market research that Deloitte commissioned in 2013 to explore certain areas of the asset management industry, and change continues to be the norm. Regulatory bodies and tax authorities across the globe are attempting to close revenue gaps by putting significant enforcement mechanisms in place, such as the Foreign Account Tax Compliance Act (FATCA) in the United States and regulations stemming from the Base Erosion and Profit Shifting (BEPS) project in the Organization for Economic Co-operation and Development (OECD). Meanwhile, asset managers are struggling to implement technology and operational changes to keep investor and regulatory risk to a minimum.

There is a clear duality when thinking about the asset management industry: the dichotomy between actions taken for value creation and those arising from regulatory requirements.

Investors challenge their asset managers to expand their services into new markets and launch creative products, so how can asset managers find the right balance between meeting the demands of their investors by expanding into new markets and products while also containing the cost of risk mitigation measures required as a result of more oversight? Moreover, how can asset managers turn the cost of risk mitigation into a benefit for their investors?



Case study: utilizing the data required for the Global Exchange of Information

In 2012, the United States introduced the new tax regulation FATCA, which requires non-US financial institutions to report profits earned by their US account holders. The US government reportedly stands to receive up to US\$8 billion over the next 10 years¹ by reporting from US taxpayers who earn income abroad but fail to report and pay tax on that income.

The implementation of US FATCA can cost large multinational financial institutions millions of dollars: costs that may be passed along to investors. However, non-compliance is not an alternative.

The financial penalties and tax withholding would be significant and the reputational cost may be immeasurable. Some foreign financial institutions have indicated that they are not willing to take on the risk and costs associated with having US investors and have closed accounts belonging to such investors to minimize the possibility of compliance mishaps.

¹ Joint Committee on Taxation, JCS-6-10, *Estimated Revenue Effects of the Revenue Provisions Contained in an Amendment to the Senate Amendment to the House Amendment to the Senate Amendment to H.R. 2847, the Hiring Incentives to Restore Employment Act.*

There is a clear duality when thinking about the asset management industry: the dichotomy between actions taken for value creation and those arising from regulatory requirements

However, US FATCA is only the start. In 2017, a global exchange of investor information from financial institutions in nearly 100 countries will commence under the OECD's Common Reporting Standards (CRS) regime. The OECD has drawn inspiration from the FATCA Model 1 Intergovernmental Agreement in the development of the CRS, and the approach was developed to maximize efficiency while minimizing implementation costs for financial institutions by leveraging the work already done for FATCA compliance.

Investors are challenging their asset managers to find new market opportunities and the result is often that asset managers are becoming responsible for meeting compliance requirements in more countries. This is a new era of cross-border information sharing and, as asset management companies grow, they need to be prepared to meet requirements that involve sharing more data with global tax authorities.

Controlling the risks associated with global information reporting involves a great deal of preparation. For example, process and procedure documents need to be put in place and due dates and reporting requirements need to be tracked. Perhaps the most significant element in reducing risk comes from reviewing systems and data. Ideally, global investor demographic data is stored in one system so that data can be leveraged across the products in which they invest, reducing both the need for multiple client on-boarding documentation requests and the likelihood of a data conflict.

The more global a firm is, the more critical it is that their systems and data are centralized. The centralization of the data into a refined, streamlined system not only helps to address the current global information exchange requirements, but also facilitates a quicker response to requirements encountered in future growth and reduces the risk of incorrect information being reported. Given the increased regulatory burden to which asset managers are currently subject, and the large volumes of data being collected to meet these requirements, consideration must be given to how best to utilize this information to generate value for investors through other opportunities. Data analytics can play a large role in creating value for clients. For example,

the proliferation of data in respect to products and investors may enable an asset manager to determine the incidence of withholding tax leakage on investment income. Tax may have arisen due to treaty claims as well as other deductions. Clearly, fund structuring may be relevant to mitigate tax costs but funds should consider which taxes could potentially be reduced at the source or reclaimed under domestic, treaty, or other provisions.

Case study: embracing the compliance obligations of the European Union member states

One area which has seen significant developments in the last few years is the potential to reclaim previously irrecoverable withholding tax levied on dividends paid by companies in the European Union.

One of the primary objectives of the EU is the establishment of the common market—an area in which the free movement of goods, services, persons, and capital is enabled. On joining the EU, member states commit to adhering to the principle of the supremacy of EU law.

There are a number of case law examples from the Court of Justice of the European Union which indicate that, in principle, when the investment vehicles of two EU member states are comparable, it is contrary to the principle of the free movement of capital for the non-resident investor to be subject to a higher overall tax burden than a resident in receipt of the same income. Significantly, the territorial scope of the free movement of capital extends to third-country (non-EU) nationals by virtue of the European Treaty. The court has confirmed that, in principle, funds based in third countries can rely on the free of movement of capital principle in the same manner as funds based in the EU. In addition, it is important that adequate exchange of information and mutual assistance provisions are in place between the two countries.

The opportunity for global investment funds to consider filing refund claims is far reaching. To date, many funds have submitted claims to various European tax authorities seeking repayment of withholding tax that has been paid contrary to EU law.



As a result, European governments have responded in various ways:

- A number of member states have already amended their legislation in order to remove the difference in treatment between certain resident and non-resident investors.
- Some countries, such as Sweden and Finland, have made withholding tax repayments to European Collective Investment Vehicles (UCITS) entities for some time now and have recently commenced repayments to US Regulated Investment Companies.
- France, Poland, and Spain are routinely making repayments to UCITS entities, yet, despite positive case law developments elsewhere, they have been slower to recognize the comparability of US mutual funds to the relevant domestic entities.
- In other markets such as Germany and Italy, the claims process is not as developed and litigation may be necessary in order to settle claims.
- Further opportunities for potential cost synergies include the possibility of applying for relief at the source in various markets.

It is not only UCITS and US mutual funds that have received repayments of withholding taxes. Third-country sovereign wealth funds were also able to submit claims and have been successful in receiving refunds in a number of markets.

Aside from the legal developments across the EU there are other initiatives affecting this area. The OECD Treaty Relief and Compliance Enhancement (TRACE) project, which was devised to create a uniform mechanism for claiming withholding tax relief by authorized intermediaries on behalf of portfolio investors in funds, is expected to attract more attention in light of recent developments on global information exchange (FATCA/ CRS). Separately, the European Commission is currently reviewing the process and the time limits for European governments to settle withholding tax reclaims. By leveraging existing available information, asset managers may have the opportunity to provide increased returns to their investors, as well as demonstrate effective governance and stewardship for managing investment portfolios.



An asset manager's ability to move from risk containment to adding value and demonstrating due diligence in finding increased shareholder return is key to investor satisfaction in a very competitive industry

Conclusion

Taking on risk mitigating measures, particularly to meet regulatory compliance requirements, can be a daunting, costly, and time-consuming task with no clear benefits for investors. However, the quality and volume of the data that has been collected as a result of these efforts can be beneficial to asset managers in identifying opportunities to reclaim withheld tax or offer a new product in a new jurisdiction quickly and efficiently. An asset manager's ability to move from risk containment to adding value and demonstrating due diligence in finding increased shareholder return is key to investor satisfaction in a very competitive industry.

To the point:

- Investors are pushing their asset managers to be more global in their product offerings and investment opportunities
- There is risk associated with the increased tax authority oversight as a result of the asset managers distributing their products in new jurisdictions
- Risk mitigation measures, like collecting more data on investors, can be costly with no perceived benefit
- However, a forward looking investment manager may use this to identify opportunities to increase shareholder return

PASSIVE CURRENCY OVERLAY—TRENDS AND CHALLENGES FACING THE FX HEDGING MARKET

Participants:

Jay Moore—Senior Vice President Foreign Exchange—Brown Brothers Harriman

Marc Tuehl—Global Head of FX Overlay—HSBC

Mark Hogg—Mark Hogg – Director, Head of Currency Overlay and FX Product Development,
Treasury & Market Services, RBC Investor & Treasury Services (RBC I&TS)

Xavier Zaegel, Partner in the Advisory & Consulting at Deloitte and Simon Ramos, Partner and Regulatory Strategy Leader at Deloitte have asked BBH, HSBC and RBC I&TS about their view on the challenges in the Foreign Exchange Hedging Market.



Jay Moore is a Senior Vice President and the Global Head of Currency Administration at Brown Brothers Harriman. Jay joined BBH in 2012 to lead the firm's Product Development efforts for Foreign Exchange and has since transitioned to run the Currency Administration business. Prior to joining the firm, he was the head of the Currency Management and Portfolio Solutions Strategy teams for State Street Global Markets. He has 15 years of experience in the foreign exchange industry, including time within operations, trading, research, sales and product development.



Marc Tuehl became Head of Currency Overlay Management at HSBC Trinkaus in 2004 before moving to London in 2013 as Global Head of FX Overlay. In this position he is responsible for the global FX Overlay platform of HSBC providing passive and dynamic hedging solutions. Prior to joining HSBC Marc became Head of German Desk at LCF Rothschild in Geneva. In this position he was responsible for the advisory of German and Pan-European clients within structured rates, FX and quantitative asset management.



Mark Hogg has global responsibility for Currency Overlay and FX Product Development for RBC IGTS. In addition, Mark maintains oversight of FX sales for North America. Prior to joining RBC IGTS in 2010, Mark spent 9 years with Fidelity International in various currency management roles. He is a graduate of Dublin City University holding a B.Sc. in Business and Finance and a M.Sc. in Investment and Treasury.

Since the start of the WMR scandal, the foreign exchange (FX) market has not left the news. FX hedging for investment funds is constantly increasing in size and scope as new trends emerge. Regulators recently touched on this topic as well with ESMA's consultation paper on share classes of UCITS and MiFID II.

In their consultation papers published in December 2014 and April 2016, the European Securities and Markets Authority (ESMA) outlined their view on the different types of share classes allowed in a UCITS fund. Their goal seems to limit the complexity and additional exposures at share class level in order to protect investors and avoid any spillover to other share classes. It could potentially restrict several products at share class level; some which create new exposures to exotic FX currencies in order to profit from their interest rates but also others which could reduce the level of risk of the investor such as the interest rate risk, duration hedging, or the market risk, beta/delta hedging.

Regarding MiFID II, the discussion about best execution requirements could change the view of the market and the expectations of clients on transparency. In light of this trend, we recently observed that several market players are currently assessing the suitability of their execution model, their level of reporting of FX trades and their pricing approach. In this context, Deloitte convened a roundtable of market experts and providers of FX Overlay services to highlight how protection against FX risks in Investment Funds has changed to best respond to Asset Managers requests and regulatory pressure in terms of product capabilities, process alignment, transparency and risk monitoring.





FX overlay relates to the use of an FX strategy on top of the investment strategy to reach either the goal of additional alpha through new currency exposure, called active overlay, or the goal of protecting the investor against the FX risk or FX hedging through a passive overlay program. Furthermore, a passive strategy also adheres to the strict guidelines of the process, as no active management decision is made. In this roundtable, the focus will be on the passive programs.

In a recent survey on the matter, specific products were observed to be growing considerably, such as share class hedging (hedging the liabilities or share classes of the fund), and look-through hedging (a hybrid hedging methodology that helps hedge the asset at the level of the share class in one unified process).

In terms of asset and liability hedging, could you outline the different requests that you receive from your clients and the product trends that you see emerging?

Mark Hogg, RBC I&TS:

Currency hedged share classes that consider the fund basket of currency exposure for hedging purposes are becoming more common and, in some cases, are overtaking traditional currency hedged share classes that only mitigate the exposure between the fund and the share class base currency denomination. We are also seeing an increase in the use of Non Deliverable Forwards (NDFs) as an effective tool to mitigate currency exposure to emerging market currencies. We expect this trend to continue, particularly as the ASEAN passport initiative gathers momentum.

Marc Tuehl, HSBC:

We have seen a sharp rise in the demand for passive asset hedging, mainly from asset owners who have spread their assets across a handful of investment managers. Each investment manager is handed a specific investment mandate and in their course of business create FX exposures that each investment manager hedges independently. This tends to produce random results that can distort the objective measurement of a mandate's performance. In the new regulatory environment, investors and board directors demand transparency and clear accountability for each step in the investment process. Client investment committees now also work very closely with their operations teams, who are often responsible for managing the risk on the liabilities side (share classes).

Jay Moore, BBH:

I see three main trends emerging.

The first trend occurring in the market is a move toward outsourcing. We see investment managers closely scrutinizing their hedging services to decide if they should manage the program in-house or use an outsourced offering when hedging is not a core competency for which they are compensated.

Secondly, at BBH, we have seen clients, large and small, need assistance when it comes to program design and calibration. For many of the managers we work with, FX hedging may be the first and only foray into foreign exchange, making the quality of our services all the more important to their success.

Finally, the third trend is the need for more transparent, higher quality execution.

The final position of ESMA on their UCITS share class consultation paper is not expected until the end of year. Given that potential product restrictions could be imposed at share class level, we observed that Asset Managers have put various product developments on hold until the final decision of ESMA. For example, launch of duration hedging and passive FX exposure products are currently being postponed. As an Asset Servicer, what is your position?

Marc Tuehl, HSBC:

According to the consultation paper, ESMA's view is that currency hedging at the level of a share class could be considered compatible with the principle of a common investment strategy. This means the objective of currency share class hedging is to ensure that investors in the share class receive nearly the same result of the investment strategy, even though the exposure is obtained through a different currency. Employing a standard passive currency share class hedge could help with being fully compliant with the guidelines of the paper.

Jay Moore, BBH:

While there is significant client interest in the ESMA discussion, at BBH we have not seen any particular slowdown in product launches related to passive hedging, which may suggest optimism that hedging will remain acceptable and appropriate.

In my view, even if ESMA ruling were to prevent portfolio hedging at the share class level, new funds may emerge that would provide the hedged equivalent of existing investment strategies. While the ultimate result will largely be the same, efficiency may be lost, which could translate to higher costs to investors.

Mark Hogg, RBC I&TS:

We believe that ESMA's final ruling will confirm currency hedging at the level of a share class as compatible with the principle of a common investment strategy.

Whether ESMA will deem overlays not linked to currency to be incompatible with the UCITS framework remains to be seen. We do see some arguments in favour of share classes that provide investors with systematic hedging against other forms of market risk, for example interest rate risk.

Such share classes will need to be clearly demonstrated to participate in the same investment strategy of the sub fund and not to conflict with the principal of a common investment strategy.

Currently two FX execution models coexist for FX hedging: trades are either executed through a principal model where the execution desk is the counterparty or through an agent where the FX desk or platform will look for the best quote with multiple counterparties. With Markets in Financial Instruments Directive II (MiFID II) and the potential best execution requirements, the market seems to be evolving toward agency execution in order to produce more transparency. How do you position yourselves toward your clients on this topic of transparency in execution and pricing?

Marc Tuehl, HSBC:

When comparing agency to principal execution, in both of these cases it is important to recognize that price discovery is just a single element of best execution. When considering best execution, credit and access to liquidity need to be taken into consideration, particularly in dislocated markets. Any best execution policy must be fit for purpose in both normal and adverse market conditions.

In line with the 2014 Financial Conduct Authority (FCA) Thematic Review 14/13 on Best Execution, we know that benchmark execution and transaction cost analysis (TCA) may be an appropriate method for demonstrating transparency and applying greater control over FX execution. For the most part, when executing as principal, we reference an independently published FX benchmark—currently the WMR fix—although we anticipate the use of alternative benchmarks going forward.

Mark Hogg, RBC I&TS:

There is a place for both models in the future market landscape. Agency programs that can facilitate a clear audit trail of seeking risk prices in competition can be an appealing "best execution" tool on the surface, but average execution quality can suffer when in a large size, with predictable positioning, or in constrained liquidity environments. By comparison, principal execution models permit a more dynamic approach to liquidity sourcing, risk management, and price construction while still delivering upon a transparent best execution mandate.

A principal model is also more efficient to document and administer in comparison to negotiating and maintaining a large panel of bilateral FX trading relationships with the associated legal documentation and credit considerations.

Jay Moore, BBH:

In addition to our principal execution business, BBH developed an agency execution offering in 2012 to work alongside our currency administration business in anticipation of, among other things, our clients' needs for a higher standard.

By creating what we believe are the conditions that our clients would include in their definition of "best execution" we can better align with our clients' interests. In addition to the importance of trading experience, these conditions include access to multiple liquidity providers, the ability to negotiate actively in a non-captive structure, and anonymous trading on behalf of our clients.

However, for both principal and agency models, FX hedging faces a unique challenge as accurate forward FX rate data is more difficult to come by, making TCA much more challenging.

With respect to risk monitoring and reporting of FX hedging activities, market players are using more and more hedging analytics tools. This allows them to gain greater control and understanding of the underlying effects of their hedging process on performance, as no hedging policy will completely eliminate the FX risk. Deloitte recently developed Deloitte Hedging Analytics (DHA), a tool that monitors several FX hedging Key Performance Indicators (KPIs) and conducts a precise performance attribution of the different hedging impacts. We value DHA as a crucial step toward more transparency for the clients and more control over the risks linked to this process. As a service provider, do you concur on the need to demonstrate the quality of your hedging process with these solutions? In addition, do you receive requests from your clients for more transparency in the reporting of the performance of the passive currency overlay program?

Jay Moore, BBH:

While the standard reporting offered by any currency administrator provides evidence that it has fulfilled its service obligations, only those who can provide implementation and performance details can differentiate themselves. This differentiation comes from both the systems that produce reports and from the expertise to offer interpretation and insight to use that information properly.

There are a number of implementation decisions that influence performance and each decision should be made with the intention to optimize performance. As with any investment strategy, the realized results should be measured in multiple dimensions including return and risk (tracking error) with the relative differences fully explained. Understanding how these implementation decisions translate to performance provides insights for future operational or trading adjustments.

Mark Hogg, RBC i&TS:

Our goal is always to design a program that is both effective and efficient in the long term by ensuring there are no structural risks that would lead to a persistent bias in the process or hedge performance.

We agree that a thorough understanding of the risks and the ability to attribute and measure the individual components of performance are essential to long-term success.

Marc Tuehl, HSBC:

Offering client access to sound KPIs, which allows them to evaluate the efficiency of a hedge program, is critical to a good currency overlay service, whether passive or dynamic.

We provide comprehensive client reports in relation to FX execution, cash flows, hedge performance, and tracking error in order to help our clients satisfy these demands. Some of our clients engage with a third-party TCA provider to measure execution costs and can use specific tools that allow for independent analysis of the hedging efficiency.





How can FinTech facilitate fund distribution?

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FinTech is more than a buzz word. It is a game changer in the operating model of asset managers, distribution intermediaries and service providers. New investor behaviors are the driver of change and the investment management ecosystem must further increase efficiency and provide a better customer experience. Luxembourg asset servicing firms have a major opportunity to help asset managers and distribution intermediaries to succeed in the change.



Industries are constantly evolving but incremental changes are hardly noticed. Sometimes however, industrial sectors undergo radical changes, where the process of incremental evolution is significantly disrupted by outside technological, demographic, regulatory, or economic forces. In this article we seek to describe the impact of FinTech on the distribution model of the asset management industry and the strategies to be adopted by incumbent actors. Today the FinTech surge is starting to reshape the financial sector on a global scale with a flourish of new actors attracting significant attention from markets, customers, and investors. Several driving forces can be identified:

- **New technologies have emerged**

- *Machine learning* will enhance prediction-based portfolio management techniques.
- *Digital investment platforms* and robo-advisors will become more and more popular, especially in execution-only-driven Direct-to-Consumer (D2C), and will support investor education about products and their related risks.
- *Peer-to-peer (P2P) lending* is a technical innovation as such and is also on its way to become an alternative asset class.
- In the long-term, *Blockchain* has the potential to make trading and post-trading processes much more efficient, improve transparency and audit trails, and eliminate intermediaries.
- Throughout the emergence, it is important to remember that increased digital interaction of online platforms will increase *cyber risk*.

- **The re-wired investors** - The new generation of investors will redefine the service level expected from asset managers by imposing more interaction with the brand in order to ensure they share the asset manager's values. There is also a strong need for online and enhanced execution platforms including market insight and wealth reporting as well as social investment interaction with peers. The access to socially responsible investment and hedging capabilities will be valued over performance. All this is of course expected at low cost.
- **Big Data and analytics** make sense of data and can produce descriptive and predictive analytics on investor behaviors, performance measurement, market intelligence or risk metrics. Big Data is a reality and offers a lifetime opportunity for investment management actors to make sense of the zettabytes of information at their disposal to create added value and digital wealth reports, market intelligence and peer comparison insights to the end investor.
- **Uncertainty around FinTech regulation** - Regulation in investment management is still ongoing. The historical ecosystem is subject to a systemic shift via AIFMD, UCITS V, MiFID II, AMLD IV, CRD and CRR, and PRIIPS—to name a few. While investment management actors are struggling to regulate the existing operating model, FinTech innovation introduces additional regulatory gray areas (such as new payment entrants and Blockchain).
- **Emergence of RegTech** - The concept of RegTech has emerged to propose solutions to the market to gain efficiency in non-subjective and labor intensive regulatory processes.

In light of the discussed drivers, we have identified practical areas where the Luxembourg market players could seize opportunities with FinTech innovations. Luxembourg has a very strong investment fund and private banking sector efficiently working together for the prosperity of the market place. Transfer agents, order management platforms, central administrators, and custodians have a major role to play in the FinTech change. Luxembourg actors must actively drive FinTech innovation locally and engage with disrupters, modernizers and enablers in order to be ahead of developments, adapt their operating models with agility and avoid imposed innovation from abroad.

All of these actors sit on an impressive amount of client, market, and portfolio data. With enhanced data management capabilities offered by FinTech, Big Data is no longer a buzzword for investment management but offers the possibility to assist asset managers to respond to investors' needs and further increase efficiency in operations. Luxembourg asset servicing providers have the necessary scale and technology to develop and offer white labelling services to their asset management clients and their intermediaries.

Product management and marketing are core functions of asset managers. These areas are subject to a strong need for technology which requires the scale or focus that all asset management houses do not necessarily have. Luxembourg asset servicing actors can play a key role in this area to give asset managers access to white labelling technology in the form of online order management capabilities, risk metrics, and performance attribution online reports, as well as investment advisory algorithms based on investment patterns and investor behavior, digital payment capabilities, and market insight reports.

The mid and back end of the investment management value chain is the core activity of transfer agents, custodians, order management platforms, and fund administrators. Blockchain is the most disruptive innovation in this area. Its shared ledger and smart contract based technology can theoretically disintermediate order management, recordkeeping, ownership verification, settlement and clearing,

payments and corporate actions. However, we believe that the disruption will not happen in a "big bang" mode and that a hybrid asset servicing model will be implemented by the historical asset servicing providers to leverage the benefits of Blockchain. In the more immediate future, Luxembourg service providers have a key role to play in further developing the automation of reconciliation processes, order aggregation, management and clearing industry standards and online KYC services. In order to avoid the co-existence of different order management models using different Blockchain applications, Luxembourg actors should launch a joint industry initiative to create a harmonized Luxembourg Blockchain asset servicing brand.

Luxembourg should also create a digital passport industry initiative to further enhance efficiency in investor identification. We also see considerable room for offering managed services to investment funds in a one-stop-shop model. Asset servicers can seize the opportunity to offer bundled fund services to asset managers in areas such as fund setup and liquidation, fund distribution and registration support, operational tax management, Know Your Customer/ Anti-Money Laundering/Combating the Financing of Terrorism (KYC/AML/CFT) and, last but not least, RegTech. RegTech is the concept of using data management and other FinTech innovation to provide efficient and cost-effective regulatory services to asset managers and their intermediaries. RegTech will never become a "push the button" regulatory compliance solution, but will offer the opportunity to create efficiency in labor intensive and non-subjective regulatory readiness tasks. A few examples on where RegTech could be an opportunity for asset servicers are AIFM reporting, European Markets Infrastructure Regulation (EMIR) and transaction reporting in general, regulatory and tax watch, Solvency II look-through reports, regulatory health check tools, case management tools and risk data warehouses. The Luxembourg ecosystem should join the venture to be at the forefront of RegTech innovation. Helping asset managers to navigate the regulatory changes adopting the latest technologies will further strengthen Luxembourg's competitive advantage in the asset management industry.

We are convinced that algorithmic-based robo-advisory tools will be very successful in the retail area in the context of evolving and execution-only driven D2C. Institutional investors also show interest in this technology, as it will allow them to offer it to their execution-only end clients. Luxembourg has all the necessary requirements to play an active role in this segment. A local market exists in second and third tier asset managers' appetites for white-label robo-advisory technology and execution-only services offered by local wealth managers. The FinTech environment in Luxembourg can rely on one of Europe's strongest IT infrastructures and the local establishment of FinTech actors.

To conclude, within the next few years, we foresee the advent of a flourish of new companies in the sector with technological solutions streamlining the current operating model and addressing the needs of a new generation of investors. In order to stay successful incumbent firms will need to adapt to this new competition by either developing their own technological solutions, cooperating with FinTech companies or absorbing them in their business model. Asset servicing firms have a major opportunity to aid asset managers in this technological shift. Luxembourg, as the world's second largest investment fund domicile has a once-in-a-generation opportunity to reimagine and modernize its distribution and asset servicing model to address market and operational challenges.

Luxembourg's investment management ecosystem should join forces to explore industry initiatives in terms of enhanced online trading platforms, white-label data analytics, managed services, RegTech, Blockchain, or digital distribution passports.

To read more on the impacts and drivers of FinTech on fund distribution, consult the whitepaper produced by Deloitte for ALFI.

To the point:

Luxembourg's investment management service providers should take a proactive approach and use Fintech and Regtech innovation to offer white-label solutions to their asset management clients and their intermediaries by:

- Applying data analytics to the vast amounts of available data in order to improve investor segmentation, provide market intelligence, and facilitate D2C connectivity
- Optimizing processes in areas such as cash processing, settlement, reconciliation, and tax management
- Offering one-stop-shop management services for investment funds

To conclude, within the next few years, we foresee the advent of a flourish of new companies in the sector with technological solutions streamlining the current operating model and addressing the needs of a new generation of investors

Serious games

Leveraging gamification methods in asset management



Pascal Koenig
Partner
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Deloitte

Herodotus tells us that the first games were invented by the Lydians, an Indo-European civilization of Antiquity. We learn that dice, jacks and ball games were not created for leisure but rather to survive a terrible famine.

To stave off their racking hunger, they would play games for one entire day and eat the following day. The Lydians were thus able to survive for 18 years because of games. The first simulation and military training (kriegspiel) games appeared in the late 18th and early 19th centuries. Serious games only came into their own with the development of the video game. By means of this technology it was possible to combine a playful interface with the learning, simulation, training and communication objectives pursued by serious games.

The work of Julian Alvarez classifies serious games according to three main objectives:



Those that seek to convey a message (whether educational or marketing or a combination of the two)



Those that seek to improve the learning or motor skills of users



Those that have a training or simulation objective in a virtual environment that reproduces a potential situation

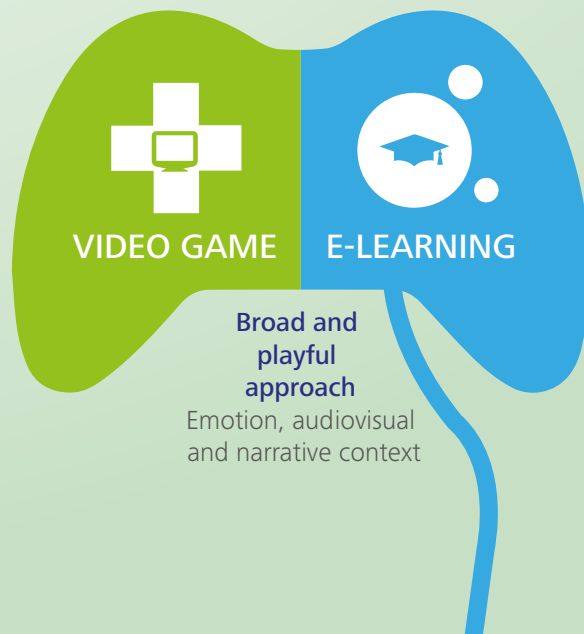


Studies (particularly those conducted by Idriss Aberkane¹ in the field of cognitive science) reveal that games have a remarkable ability to engage long-term memory. By way of an example, players of Super Mario 64 were able to recall the game's spatial layout with great precision even though they had not played in 10 years. A second critical factor is that games stimulate mental modularity by requiring numerous tasks to be performed simultaneously. Moreover, games are defined as dopaminergic (dopamine being a chemical substance associated with pleasure and reward), and although the addictive nature of a classic video game is regrettable, in the case of a serious game the motivation spiral will come into play. Researchers have also underscored the fact that games largely call on intuition, a source of pleasure, but are also very much based on action (the work of Bergson and Berthoz shows that "our mind is designed for action").

¹ Use of the video game for educational purposes" (2005)

Rules, game playing,
score, competition

Learning objectives



VIDEO GAME

E-LEARNING

Broad and
playful
approach

Emotion, audiovisual
and narrative context



CONTENT

- Learning objectives
- Technical issues
- Association with everyday reality

SCENARIO

- Game logic
- Management of game levels
- Determination of avatars
- Game objectives

DESIGN

- Management of interest levels
- Game mechanisms (competition, win/loss, reminders etc.)
- Design of avatars and environment

Natixis Global Asset Management offered Deloitte and Redcom (digital agency) the opportunity to design a game as part of an annual event with a major audience (a plenary session attended by around 100 people). The aim of the game is to understand the client path for a new investment up to the point of subscription. The objective for the players is to collect a maximum number of investments from a diverse range of targets, while limiting the risks specific to the investor.

Five stages were defined to identify and classify the client, assess the specific risk (reputational, operational, fraud, etc.), propose an asset allocation strategy to meet the investor’s needs, and distribute the relevant marketing documents based on the investor profile. The final score determining the winner is not simply an addition of the subscriptions collected, but rather a calculation based on a model that accounts for various parameters, such as:

- The amount invested per target
- The risk incurred by not collecting sufficient information regarding the target
- The misunderstanding of client risk
- An appropriate asset allocation

STEP 1: Client Identification **STEP 2:** Classification of client **STEP 3:** Risk assessment **STEP 4:** Allocation **STEP 5:** Distribution of documents

| | STEP 1: Client Identification | STEP 2: Classification of client | STEP 3: Risk assessment | STEP 4: Allocation | STEP 5: Distribution of documents |
|------------------------|--|--|--|---|---|
| <i>Rules</i> | • Request information from your target | • Classify your client as pro or non pro • Possibility to interrogate your client’s financial situation | • Identification of the target’s global level of risk | • Determine the appropriate asset allocation according to the client profile | • Distribute the relevant marketing documents |
| <i>Tools/ Criteria</i> | • Questions • Your CRM • Public databases | • Descriptions of target • Information gathered in step 1 | • Descriptions of target • Information gathered in step 1 and 2 | • Client investment guidelines | • Step 4: asset allocation |
| <i>Issues</i> | • Asking questions will reduce your risk linked to “know your client” • Information gathered from this step could be useful in step 2 | • Penalties for wrong responses | • Penalties on your scoring will be applied for wrong responses | • Best allocation → client invests 100% • 2nd best allocation → client invests 60% • Inappropriate → client invests 30% | • Penalties if inadequate documents are given |

To “spice up” the game, breaking news (investigations, stock market crashes, etc.) and regulatory flash questions are launched at the discretion of the game master.

The factors for the successful use of games are multiple. Firstly, technical knowledge (in this case, understanding the client, asset allocation, etc.) must be closely associated with the daily experience of players. The gamification of the learning process should be heightened by the quality of the graphics, a facilitated understanding of the game’s mechanisms and the introduction of strategic choices and factors of chance. The fact that a time limit is set for the game adds an element of competition that increases the tension.

This initial adaptation of the serious game to asset management opens up new horizons. Indeed, as part of the plenary session, we found that using a serious game transcends the initial training purpose and serves as a means to enhance team building. A roll-out via network management will enable existing e-learning training methods to be reexamined. One very interesting topic is the implications of gamification for the client relationship: how to draw and retain clients and differentiate ourselves.

This is quite a serious matter, because according to a Gartner study²: “by 2015, 40 percent of the top 1,000 global companies will use gamification to transform their commercial operations.” The study reveals that gamification will generate nearly half of business innovations with success essentially depending on design quality: 80 percent of current applications based on gamification will fail to meet their objectives, mainly due to inadequate design. Over the longer term, as design techniques improve and organizations endeavor to define clear objectives, the use of games will have a significant profit impact for companies, providing them with a powerful means to further their public appeal.

² Gartner, Inc. has revealed its top predictions for IT organizations and IT users for 2013 and beyond. Gartner analysts presented their findings during Gartner Symposium/ITxpo, October 21-25 in Orlando. Additional information about Gartner Symposium/ITxpo in Orlando, is available at www.gartner.com/symposium/us.

There are several applications of this for our asset managers and asset servicers:

- To draw people to events and discover new investment processes
- To retain people by demystifying regulations and proposing asset allocations based on timelines and risk levels
- To differentiate themselves through innovative, if not off-beat, design

Now is the time to enter the world of serious games.

The appeal of the gaming event



The point of view of **Emmanuelle Portelle**, Deputy Manager of Compliance, Risk Management and Internal Audit, NGAM

NGAM asked Deloitte and Redcom to design and develop a serious game that focused on client knowledge by including all obligations related to the Anti-Money Laundering (AML), Know Your Customer (KYC), and The Foreign Account Tax Compliance Act (FATCA) regulations and international sanction programs. 100 compliance and risk professionals from our management companies based in Europe and Asia, as well as a few representatives from US management companies, prepared and worked together in a spirit of play. Aside from the undeniable team building, the groups were confronted with cases that referred to several regulations from a variety of jurisdictions.

We hope that an online version will help our internal control and compliance officers to assemble their sales and client servicing teams so that they develop the necessary reflexes, and raise awareness concerning all the regulations to be considered, while enabling them to analyze and assess the risks of non-compliance with these increasingly complex and restrictive regulations.





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- MAD II / MAR - 2 JUN
- CMU - 30 JUN
- AIFMD II - 28 JUL
- MiFID II and MiFIR - 15 AUG
- ETF update - 22 SEP
- Basel III and Solvency II for asset managers - 3 NOV
- EMIR - 17 NOV



Operations & Techniques

- Derivative Financial Instruments
- Introduction to Valuation - 12 MAY
- Opportunities and threats of Digital for the investment management industry
- 15 SEP
- Derivative Financial Instruments
- Valuing Complex Instruments
- 13 OCT
- Emerging Markets in Investment Management - 20 OCT



Investment Funds Introduction

- Investment Fund Governance
- Developing a Risk-Based Oversight Framework - 21 APR
- Introduction to Investment Funds
- 16 JUN
- Private Equity, Property Funds, Real Estate and Infrastructure Funds - 8 SEP
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For access to the sessions do not hesitate to contact deloittelearn@deloitte.lu

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