IAFEI QUARTERLY

40th Issue | 2018 April

The Finance Function in the Digital age

What CFO Needs to Get Right

CFO Global Survey

Firms Slow to Adopt Fintech; Optimism at All-Time High

Artificial Intelligence (AI) in Finance
Six Warnings from a Central Banker

Business or Emotion?
The Role of Successful CFO with Emotional Intelligence

LETTER OF THE CHAIRMAN

Dear Colleagues,
with pleasure I'm introducing and presenting to you the IAFEI Quarterly 40th issue.

With this number we are achieving a symbolic but significant result as a proof of the strengthening journey that IAFEI is following. I take the occasion to thank the Chief Editor Mr Helmut Schnabel and everyone involved in the best success for the constant improvement of our Quarterly.

I'm happy to highlight that we are now realizing partnership between IAFEI and important worldwide players already visible in this Quarterly and on our website. The contribution of these partnerships will certainly increase IAFEI offer in favour of its members.

One more time we are witnessing to a troubled worldwide economic phase, especially for political tensions and anti-historical decisions, such as protectionist measures by the reactivation of custom duties, sabotaging the principle of the "free trade" and taking back the time clock to 30/40 years.

I believe it's dutiful and responsible for the CFO to point out the need to guarantee appropriate working conditions and respect of the worker rights all over the world, and it should be greater homogeneity in regulations and tax rules.

All together, we should co-operate to guarantee the right development of commercial transactions and markets, for the growing of employment level and the economic growth in developing countries.

We should work for a fairer and more equitable future with the final goal of improving the living conditions of populations and mitigating inequalities, that on the other hand, are increasingly broader. The going back to the duties does not really seem a harbinger of good wishes for the future.

Good luck with your work to everyone,

Yours sincerely

Fausto Cosi
IAFEI Chairman

LETTER OF THE CHIEF EDITOR

Dear Financial Executive,

You receive the ***IAFEI Quarterly XL th Issue****.*

This is another issue of the ***IAFEI Quarterly****, the electronic professional journal of IAFEI, the International Association of Financial Executives Institutes.*

This journal, other than the IAFEI website, is the internal ongoing professional information tool of our association, destined to reach the desk of each financial executive, or reach him, her otherwise, at the discretion of the IAFEI member associations.

This issue is the tenth one under the regime of the New Start for the IAFEI Quarterly. This new start has been backed up by the IAFEI Board of Directors decision of October 13, 2015, to establish an Editorial Board consisting of now 10 IAFEI representatives from all continents.

The IAFEI Global CFO Survey Quarter 1, 2018, included in this issue, reports that firms are slowly adapting to advances in financial technology. The survey also finds record optimism among CFOs, fuelled notably by tax reform in the USA. Past results show that the CFO Optimism Index is an accurate predictor of hiring plans and overall GDP growth.

More IAFEI member associations should contribute articles to the IAFEI Quarterly.

Therefore I repeat our ongoing invitation, to all IAFEI member associations, and to each of their individual members, to send us articles for inclusion in future IAFEI Quarterlies.

With best personal regards

Helmut Schnabel
Chief Editor

TABLE OF CONTENTS

IAFEI QUARTERLY 40TH ISSUE, APRIL 2018

Page

02. **LETTER OF THE CHAIRMAN**
by Fausto Cosi

03. **LETTER OF THE CHIEF EDITOR**
by Helmut Schnabel

04. **TABLE OF CONTENTS**

06. **SURVEY OF CFOS ACROSS THE WORLD, FOR THE 1ST QUARTER 2018**
By IAFEI and a Group of Partners, among which Duke University, Durham, N.C., USA, Duke The Fuqua School of Business, and Grenoble Ecole de Management, France. The Survey was running from February 13 to March 2, 2018

European Union

11. **THE CONSEQUENCES OF PROTECTIONISM**
By Benoît Coeuré, member of the Executive Board of the European Central Bank, panel contribution at the 29th edition of the workshop "The Outlook for the Economy and Finance", "Villa d´Este", Cernobbio,6 April 2018

France

15. **THE BOARD - CFO RELATIONSHIP**
By Olivier Hubert, alter cfo partners, www.altercfo.com. The author, is a French professional who made Asia his place of practice. He assisted in putting together the Vietnam CFO Club, member of IAFEI, and also, the Cambodia CFO Club, member of IAFEI

Germany

19. **"WITH THE STRATEGY 2025 IN THE STARTING POSITION "**
Interview with Missis Melanie Kreis, CFO of Deutsche Post DHL Group, Germany, from Börsen-Zeitung, Frankfurt am Main, Germany, April 7, 2018, article provided by GEFIU, Association of Chief Financial Officers Germany, the German IAFEI Member Association

Germany

24. **ARTIFICIAL INTELLIGENCE (AI) IN FINANCE: SIX WARNINGS FROM A CENTRAL BANKER**
Speech at the Deutsche Bundesbank Symposium "Banking Supervision in Dialogue", Germany, 07.03.2018, Intervention at the 2nd Annual FinTech Conference, Brussels, Belgium, 27.02.2018, By Prof. Joachim Wuermeling, member of the Executive Board of the Deutsche Bundesbank Eurosystem/German Central Bank

Germany

27. **GREENER FINANCE - BETTER FINANCE? HOW GREEN SHOULD THE FINANCIAL WORLD BE**
Speech at the Deutsche Bundesbank Symposium "Banking Supervision in Dialogue", Germany, 07.03.2018
By Dr. Andreas Dombret, member of the Executive Board of the Deutsche Bundesbank Eurosystem/ German Central Bank

Italy

33. **THE FINANCE FUNCTION IN THE DIGITAL AGE: WHAT CFOS NEED TO GET RIGHT**
by Mauro Marchiaro, Senior Managing Director Accenture, Italy, and by Riccardo Volpati, Managing Director Accenture, Italy, article provided by ANDAF, the Italian IAFEI member association

Italy

37. **TAXATION OF DIGITAL ECONOMY IN ITALY: WHAT YOU NEED TO KNOW**
By Piergiorgio Valente, Chairman of the International Tax Committee IAFEI, April 2018, article provided by ANDAF, the Italian IAFEI member Association

Philippines

37. **IS THE ACCOUNTING PROFESSION READY FOR THE FUTURE?**
By Conchita L. Manabat, chair of the advisory council of IAFEI, member of FINEX, the Philippines IAFEI member Association

United States

37. **BUSINESS OR EMOTION? THE ROLE OF SUCCESSFUL CFO WITH EMOTIONAL INTELLIGENCE**
Interview with Joshua Freedman, USA, interviewed by Paolo Fanti, Andaf Emilia Romagna Vice President and Responsible for the CFO Managerial Skills Development Programme, Interview provided by ANDAF , the Italian IAFEI Member Association

PRESS JOURNAL ARTICLE

45. **DON`T STRESS ABOUT IT. FOUR FINANCIAL STRESS INDICES**
Chart of the Week, for the Week Ending 04/06/18. By Payden & Rygel, Investment Management, Los Angeles, USA

PRESS JOURNAL ARTICLE

46. **"WHAT HAPPENED?"**
Key Macroeconomic Events and the Market Reaction for the First Quarter of 2018
Chart of the Week, for the Week Ending 03/29/18. By Payden & Rygel, Investment Management, Los Angeles, USA.

47. **IAFEI PARTNERS**

48. **IAFEI EDITORIAL BOARD**

"SURVEY OF CFOs ACROSS THE WORLD FOR THE 1ST QUARTER 2018"

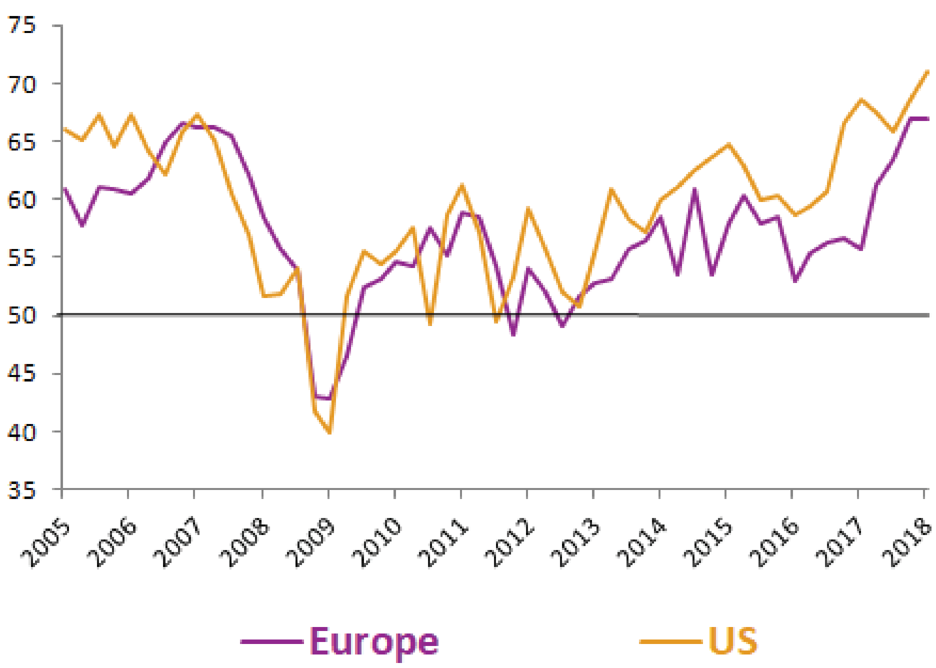
FIRMS SLOW TO ADOPT FINTECH; OPTIMISM AT ALL-TIME HIGH

BY DR **JOHN GRAHAM** PROFESSOR OF FINANCE AT THE FUQUA SCHOOL OF BUSINESS AT **DUKE UNIVERSITY**, USA, AND DR **PHILIPPE DUPUY** ASSOCIATE PROFESSOR OF FINANCE AT GRENOBLE ECOLE DE MANAGEMENT, FRANCE, AND BY IAFEI AND OTHER PARTNERS. SURVEY OF CFOS ACROSS THE WORLD, FOR THE FIRST QUARTER 2018.
THE SURVEY WAS RUNNING FROM 13TH FEBRUARY TO 2ND MARCH 2018.

Firms are only slowly adapting to advances in financial technology even when they know it will affect their business models, according to a new survey.

The survey also finds record optimism among CFOs, fueled notably by tax reform in the US. Past Results show the CFO Optimism Index is an accurate predictor of hiring plans and overall GDP growth.

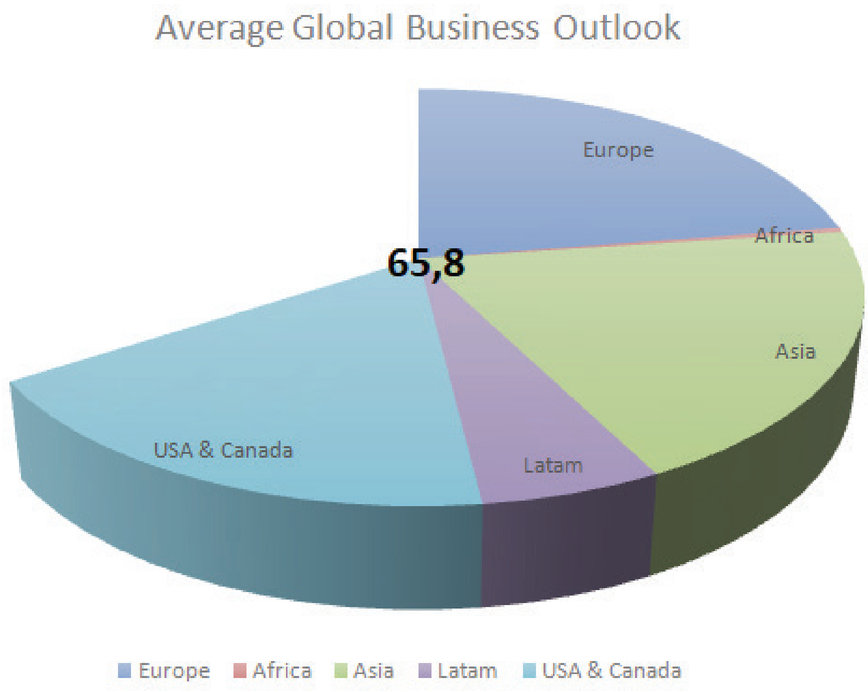
CFO survey: Optimism index



OPTIMISM IS UP AROUND THE WORLD, ANTICIPATING STRONG GLOBAL ECONOMIC CONDITIONS

The Optimism Index in the **U.S**. increased to 71 on a 100-point scale this quarter, an all-time high. The extremely high level of business optimism is tied to the recently passed corporate tax reform. Our analysis of past results shows the CFO Optimism Index is an accurate predictor of future economic growth and hiring, therefore 2018 looks to be a very promising year.

Optimism in **Europe** remains high at 67 this quarter. **UK** CFOs have lower optimism at 54. Capital spending is expected to grow at about 5 percent in 2018, and employment should remain flat. For the third consecutive quarter, and only the third time ever, the top concern among European CFOs is attracting and retaining qualified employees, followed by regulatory requirements, government policies and economic uncertainty. More than one-fourth of



GDP weighted Average Global Business Outlook
(World Bank GDP constant prices in USD)

European CFOs say the lower US tax rate makes the US a more attractive place to invest.

Optimism is **Asia** fell from 66 last quarter to 61 this quarter. Economic uncertainty, access to capital, difficulty attracting qualified employees, low employee morale, and currency risk are top concerns in the region. Capital spending is expected to grow about 10 percent and employment 3 percent, in 2018.

Latin American optimism continues to rebound in most countries, up to 70 in **Mexico**, 69 in **Chile** and 62 in **Brazil**. Optimism fell to 54 in **Peru**. Economic uncertainty is the top concern among Latin American CFOs, with 54 percent of firms listing it as a top four concern. Other concerns include weak demand, government policies and productivity. Capital spending is expected to grow 6 percent and employment 3 percent in 2018.

Business optimism in **South Africa** jumped to 59 this quarter, up from 42 last quarter. **Nigerian** optimism remained relatively flat at 62. Median capital spending and median employment should each increase by about 5 percent in 2018. The biggest concerns for African CFOs are economic uncertainty, governmental policies, currency risk, volatility of the political situation, and access to capital.

Tight labor market, Top Concerns

The proportion of firms indicating they are having difficulty hiring and retaining qualified employees remains at a two-decade high, with 45 percent of CFOs calling it a top concern, up from 43 percent last quarter. The median U.S. firm says it plans to increase employment by a median 3 percent in 2018. The tight labor market continues put upward pressure on wages. Wage inflation is now listed near the top half dozen concerns of US CFOs.

U.S. companies expect to pay higher wages, with median wage growth of about 3 percent over the next 12 months. Wage growth should be strongest in the tech, energy and service/consulting industries.

After difficulty finding the right employees, the next largest concern among U.S. CFOs is the cost of benefits, with health care costs expected to rise by more than 7 percent next year. Concern about government policies, regulations, and data security are the next biggest concerns.

Corporate America Slow to Respond to Fintech

Many CFOs say innovations such as cryptocurrencies and the blockchain technology that underpins them will not affect their businesses. Among those who do see disruption ahead, few are responding quickly.

Blockchain is widely expected to disrupt many business models over the next decade as a means of verifying ownership and allowing instant, secure, and low fee transactions. But 78 percent of U.S. CFOs say they don't expect to be affected or aren't sure how they'll be affected by blockchain. Seventeen percent say their firms will be affected but haven't yet adapted their business model in response. Another 4 percent say they are working to adopt blockchain, and only 1 percent say they have already adopted blockchain technology. Only 3 percent of CFOs said they had a professional understanding of blockchain.

More CFOs said they have a good or professional understanding of big data (53 percent), advanced analytics (52 percent) and artificial intelligence (48 percent).

27 percent of firms said they have already reduced finance workforce or will within 5 years. However, more than 70 percent of firms said they do not expect to cut finance employees because of fintech advances.

In the rest of the world, nearly 20 percent European CFOs say they understand blockchain technology well, up from only 8 percent who said they did two years ago. Thirty-seven percent say they are working on or already conduct big data analysis, about the same as two years ago. Thirteen percent of Asian CFOs say they understand blockchain technology well, and 36 percent say they are working on or already conduct big data analysis. One-in-five Latin American CFOs say they understand blockchain technology well, and 30 percent say they are working on or already conduct big data analysis. Only 5 percent of African CFOs say they understand blockchain technology well, while 35 percent say they are working on or already conduct big data analysis.

Large Effects from US Tax Reform

Sixty-six percent of U.S. CFOs say corporate tax reform is helping their companies, with 36 percent saying the overall benefit is medium or large. Some benefits of tax reform are already being felt, while others will unfold over the next several years. Among other things, US companies say tax reform will lead to greater profitability, investment, hiring, and wages. Forty-four percent of US companies plan to increase wages more than they would have without tax reform. Thirty-eight percent plan to increase employment and 36 percent will increase domestic investment. Thirty-one percent will increase cash holdings. Among companies with defined benefit pensions, 29 percent will increase pension contributions.

Among companies that plan to increase investment, 53 percent say the reduced corporate income tax rate is the reason why. Another 44 percent indicate immediate expensing of investment will fuel investment.

The immediate expensing of investment only lasts for five years, however, and 37 percent of companies indicate they will shift investment so it will occur within the next five years, hence a portion of the increased investment is 'borrowing from the future'.

Due to tax reform, the effective (or average) tax rate for U.S. companies is expected to fall by about 5 percent, from 24 percent to 18.8 percent.

Table 1: During the past quarter, which items have been the most pressing concerns for your company's top management team?

	Europe	Latin America	Asia	U.S.A.
Economic uncertainty	**27.6**	**54.4**	**35.9**	**16.0**
Currency risk	21.9	17.6	23.1	3.7
Weak demand	15.2	38.2	26.1	16.5
Government policies	31.4	32.4	16.1	30.5
Access to capital	22.9	23.5	31.0	17.3
Regulatory Requirements	33.3	26.5	13.9	30.5
Difficulty attracting / retaining qualified employees	**39.0**	**14.7**	**29.7**	**45.3**
Employee productivity	11.4	30.9	27.0	23.9
Rising wages and salaries	12.4	5.9	14.9	23.5
Employee morale	12.4	5.9	26.6	12.8
Cost of borrowing	9.5	25.0	17.1	10.7
Data security	**20.0**	**11.8**	**10.3**	**30.0**
Geopolitical / health crises	11.4	5.9	8.1	3.3
Deflation	1.0	0.0	0.0	0.4
Rising input or commodity costs	16.2	11.8	10.3	13.2
Cost of benefits	8.6	13.2	5.5	33.3
Corporate tax code	7.6	16.2	17.6	18.9
Inflation	3.8	0.0	9.4	6.2
Other	12.4	13.2	3.9	2.5

Table 2: Relative to the previous 12 months, what will be your company's PERCENTAGE CHANGE during the next 12 months? (mean by region)

	Europe	Latin America	Asia	U.S.A.
Revenue	**4.5**	**10.3**	**9.5**	**7.0**
Inflation (Change in prices of own-firm products)	2.8	4.3	4.5	3.0
Capital spending	**7.0**	**6.1**	**11.9**	**11.0**
Technology spending	**4.0**	**7.5**	**8.5**	**9.0**
R&D spending	2.4	5.4	8.0	3.0
Advertising and marketing spending	2.5	5.0	10.5	3.5
Employment – full-time	-0.1	3.5	3.0	3.0
Wages and Salaries	2.4	5.0	5.3	3.9
Health Care Costs	1.1	5.8	6.0	7.2

About the survey:

This is the 88th consecutive quarter the Duke University/CFO Global Business Outlook survey has been conducted. The survey concluded Mar. 2, and generated responses from more than 600 CFOs, including nearly 300 from North America, 63 from Asia, 106 from Europe, 86 from Latin America and 47 from Africa.

Contact: **philippe.dupuy@grenoble-em.com**

THE CONSEQUENCES OF PROTECTIONISM

by **BENOÎT COEURÉ,** MEMBER OF THE EXECUTIVE BOARD OF THE EUROPEAN CENTRAL BANK,
PANEL CONTRIBUTION AT THE 29TH EDITION OF THE WORKSHOP
"THE OUTLOOK FOR THE ECONOMY AND FINANCE",
"VILLA D´ESTE", CERNOBBIO, 6 APRIL 2018

In the two decades before the financial crisis, trade growth was a major contributor to higher living standards worldwide, with world imports growing at roughly twice the rate of output. The integration of many emerging economies into global trade, notably through participation in global value chains, boosted incomes and lifted millions of people out of poverty.

Since the crisis, however, trade has provided noticeably less support to economic growth. Trade growth has barely kept pace with output growth, and has even lagged behind it in a number of years. As a result, the current economic expansion in the euro area has been driven largely by domestic demand, supported by substantial monetary policy accommodation.

More recently, world trade has shown tentative signs of renewed vigour. Last year, world goods trade grew by more than 5%, the strongest rate for seven years, against less than 4% for world GDP. Yet, the nascent recovery in trade is at risk of being derailed by the introduction of impediments to global economic integration. There are signs that the anti-globalisation sentiment that has become more pervasive since the crisis has begun to be translated into actual policy measures.
Many commentators have expressed concerns that the tariffs recently announced by the US administration represent the first step towards a "trade war", potentially leading to a broader reversal of globalisation. Retaliatory measures have already been announced by some economies.

These steps are taken despite the benefit of trade for aggregate welfare being one of the rare points of consensus for economists. In a recent poll in which economists were asked whether the announced tariffs would improve Americans' welfare, the respondents were split between disagree and strongly disagree. [1]

At the same time, the benefits of globalisation have not been spread evenly, neither across nor within countries, something that economists have not given sufficient consideration for a long time. While textbook economics suggests that lump sum transfers from the winners of trade can ensure that all are better off, such transfers – or adequate training and educational measures – have not happened in sufficient scale to compensate everyone.

According to a separate survey, only 40% of people in the United States think globalisation is a force for good for the world.[2]

Protectionism is not the right answer to these challenges, however. It is unlikely to solve the distributional

1. See University of Chicago, IGM Economic Experts Panel: https://goo.gl/ZUYBnZ
2. See World Economic Forum: https://goo.gl/C9ezwL

consequences of globalisation while it is certain to reduce aggregate global living standards. There are no winners in trade wars, just different degrees of losers.

But to defend openness by listing its aggregate benefits is no longer fully convincing. The question of the distribution of those benefits and the disruptive effects that come with them has to be answered. Economists and policymakers therefore have a responsibility to propose and design policies that help those not benefiting directly from globalisation. I have previously spoken about the need to make globalisation efficient, enduring and equitable.[3]

Today I would like to share a central banker's perspective on potential structural changes to the current global trade regime – one where restrictions to trade are managed through multilateral agreements.

I would like to flag two main implications should impediments to the free movement of goods and services increase significantly. The first is the effects higher tariffs would have on growth and inflation in the near to medium term. There are a number of important channels to consider, including the direct impact of tariffs on prices and growth, changes to financial conditions and effects on expectations and confidence. The second main implication is the possible impact on long-run potential output growth, and how that may influence the conduct of monetary policy.

Implications for the short to medium term

Let me first look at the channels through which increases in tariffs may affect output and inflation in the short to medium term.

For illustration, I will use the results of simulations carried out by ECB staff using both the ECB's global model and the IMF's multi-country model. As with all models, the uncertainties involved mean precise estimates from these scenarios should be treated with caution, but they are useful to explain the different channels at work.

To illustrate the potential effects of rising protectionism, I do not want to dwell on the specifics of the tariffs currently being discussed.
This would miss the bigger picture. I rather want to consider a hypothetical scenario where the United States raises tariffs on all imports of goods by 10 percentage points, and its trading partners impose the equivalent on US exports.

According to our model simulations, such a scenario would have significant adverse effects on the global economy, including, and in particular, on the economy that raises tariffs in the first place. Specifically, real economic activity in the United States could be up to 2½% lower than in the baseline in the first year alone. The reasons are essentially threefold:

3. See Cœuré, B. (2017), "Sustainable Globalisation: Lessons from Europe", Revue d'économie financière, 125, April

First, if domestic and imported goods cannot be easily and readily substituted, higher import prices increase firms' production costs and reduce households' purchasing power. These effects weigh on consumption, investment and employment, resulting in a material overall negative impact on GDP.
Second, in addition to the direct adverse price effects, the uncertainty about growth prospects is likely to cause consumers to delay expenditure and businesses to postpone investment.[4]

Much will depend on how consumers and businesses react, but ECB simulations suggest that such uncertainty and confidence effects could account for around one-third of the overall effect in the first year. In addition, financial investors react to uncertainty by selling equities, reducing credit and demanding higher compensation for risk. This in turn reduces wealth, increases the cost of investing and further discourages demand.
And third, economic activity declines as US exports are hit by the tariffs abroad, which is only partially offset by lower imports.

In short, even though one may argue about the relative contributions of each of these channels, and the overall effect on economic activity, qualitatively the results are unambiguous: an economy imposing a tariff which is retaliated by other countries would clearly be worse off. Its living standards would fall and jobs would be lost.

The effects on other economies would primarily depend on their size, trade openness and how much they trade with the tariff-imposing country. Naturally, the economies that have the closest trade relations with that country would be the most negatively affected.

But the effects could also be material for those economies that, despite having a less direct exposure, are particularly integrated into global value chains. For example, one estimate puts the share of global value chain-related trade at more than half of exports from many South East Asian economies.[5]

The erection of trade barriers threatens this integration, with potentially serious negative consequences for those countries and probably for the global economy as a whole. Only a few open economies with little exposure to the tariff-imposing country may gain as a result of increased competitiveness in third markets.

In other words, the overall scenario is clearly a net negative for the world economy as a whole. According to ECB staff simulations, world trade in goods could fall by up to 3% already in the first year after the change in tariffs and world GDP by up to 1%. Euro area GDP would also decline, but by less than in the US.

4. See e.g. Bloom, N. (2009), "The impact of uncertainty shocks", Econometrica, 77(3): 623–685

5. See WTO (2017), Global Value Chain Development Report 2017

These developments would ultimately also weigh on prices and wages. Although import prices would likely rise as a result of the increase in tariffs – with the sign and scope depending on the exchange rate reaction as well as the choices made by foreign exporters about their profit margins – consumer price inflation and wage growth are likely to decelerate as the effects of lower aggregate demand and higher unemployment can be expected to prevail, both in the United States and globally.

Perceptions of a measurable deterioration in current trade relationships could therefore potentially dent the confidence and animal spirits that are currently driving the strong economic momentum – and that policymakers worldwide have succeeded in restoring after many years of actively counteracting the effects of the crisis.

The impact could be even worse if the deterioration in trade relationships would be compounded with a weakening of the international financial regulatory agreements that were reinforced in the wake of the global financial crisis and have made the global financial system safer.[6]

These are not just theoretical considerations. While the effects of any tariffs on output and inflation may take time to materialise, falls in equity prices in response to the US announcement to impose a tariff on steel and aluminium, and prevailing uncertainty on the scope of any retaliatory measures, have already contributed to tighter financial conditions.

The S&P 500 index fell by more than 1% on the day of the US announcement of its intention to impose steel and aluminium tariffs. Equity market prices fell more markedly in countries with large current account surpluses. In Germany and Japan, for example, the major stock market indices were down by more than 4% on the day after the announcement. The US decision on 22 March of further tariffs on Chinese imports exacerbated market concerns, with the S&P 500 down by nearly 5% on the day after the announcement. Industrial sectors directly affected by the tariffs were amongst the biggest losers.

Such movements appear more pronounced than would be consistent with the direct economic effects of the measures announced to date. They seem to anticipate the effects of retaliatory measures and price in some chance that the scenario I described earlier may occur. And by fuelling uncertainty among market participants, fears of a "trade war" have added to the volatility already witnessed earlier this year in equity markets. None of this supports growth and employment.

Longer-term influences

6. See Cœuré, B. (2017), "The perils of isolation", speech at the Council of Foreign Relations, New York, 19 April

Besides short-term cyclical factors arising from a potential transition to a more protectionist regime, there are likely to be longer-term effects on the economy too. Trade openness supports growth in productivity and hence the long-run potential output of our economies.

Competition from trade, and the benefits offered by larger markets, can encourage a more efficient allocation of labour and capital across sectors and across firms. This improved allocation supports innovation and hence productivity. This is why the EU Single Market is at the heart of the European integration process.

These effects are also borne out by the data. According to one estimate, EU GDP per capita would be as much as a fifth lower in the absence of the integration since 1950.[7]

This is supported at the microeconomic level as well. Data collected by the Competitiveness Research Network confirms that European firms that export are more productive and pay higher wages than non-exporting firms in the same sector. Moreover, this is not simply because exporting firms are more productive in the first place, but also because firms become more productive through exporting. Firms in their first year of exporting post greater productivity gains than similar businesses that do not export.[8]

Barriers to trade would undermine this virtuous process and thereby cause both productivity and potential output to decline. The potential growth rate of advanced economies has already slowed over recent decades, reflecting a number of factors, including the ageing population, as well as declining productivity growth.[9]

So to sum up, why does protectionism matter for central banks? First, because a "trade war" scenario would add to global uncertainty at a time when some central banks have only just begun the process of unwinding the unconventional policy measures put in place following the global financial crisis. And second, because a further adverse structural shock to productivity may lead us to be more often constrained in the longer term by the effective lower bound on nominal interest rates and to increase the need to resort to unconventional policy measures.

Source: BIS Central Bankers Speeches

7 See Badinger, H. (2005), "Growth effects of economic integration: evidence from the EU Member States", Review of World Economics, 141(1): 50–78.

8. See ECB (2017), "Firm heterogeneity and competitiveness in the European Union", Economic Bulletin, Issue 2/2017.

9. See Nerlich, C. and J. Schroth (2018), "The economic impact of population ageing and pension reforms", Economic Bulletin, Issue 2/2018.

Conclusions

Let me conclude.

Greater global economic integration has boosted living standards worldwide and lifted millions out of poverty. Yet, its distributional impacts both across and within countries have not been adequately addressed, a fact that ultimately provides the political motivation for the protectionist moves we observe.

Winding back globalisation is the wrong solution to address these concerns. A retreat from openness will only fuel more inequality as import prices rise, goods become dearer and real incomes fall. It would deprive people of the undisputed economic advantages that trade and integration bring and thereby exacerbate economic hardship for the poorest in society. And it would breed distrust among nations, making for a more unstable international order.

The distributional and social effects of greater economic integration should rather be addressed by targeted policies that achieve fairer outcomes. This requires a strong political and institutional landscape which can ensure that the geographical scope of policy action and political debates coincide with the scope of market integration. This is a landscape which in Europe is best provided by the European Union.

By allowing Member States to recover some of the state functions that have been eroded by globalisation, the European Union is a vehicle that brings the benefits of economic openness to the greatest number of its citizens while protecting them against untrammelled global forces. It represents the most progressive model we have for taking back control of globalisation by addressing people’s concerns over open markets and fair competition – doubts that individual countries on their own cannot dispel.

Thank you.

THE BOARD - CFO RELATIONSHIP

BY **OLIVIER HUBERT**, ALTER CFO PARTNERS, WWW.ALTERCFO.COM. THE AUTHOR IS A FRENCH PROFESSIONAL WHO MADE ASIA HIS PLACE OF PRACTICE. HE ASSISTED IN PUTTING TOGETHER THE VIETNAM CFO CLUB, MEMBER OF IAFEI, AND ALSO, THE CAMBODIA CFO CLUB, MEMBER OF IAFEI

In this whitepaper, we first describe the role of the board of directors and how it impacts the CFO's role. Then, we discuss the relation between boards and CFOs and how CFOs can best meet board's expectations. Lastly, we provide our views as to whether a CFO should seat or not on its company board, and what are the challenges to move from CFO to board member.

Role of the Board

A combination of economic, technologic and governmental pressures has reshaped that role and directors' expectations have been raised.
Following the global financial crisis in 2007 and 2008 and several cases of corporate fraud, global legislation and regulation of corporate governance strengthened significantly, especially with respect to public companies.

As a result, boards of directors are facing more complexities and uncertainties. If their main responsibilities were to oversee the company management and to give advice as how to drive future growth, shareholders and stakeholders are now also expecting non-financial measures of corporate value, especially in relation to enhance companies' image and reputation in their industry and in the society.

As a result board duties now require overseeing the "tangibles" as well as the "intangibles".

Moreover, to cope with rapid technological change, boards have to deal with additional disruptions.

Businesses are becoming multi-channel eco-system aiming at improving customer experience and enhancing product and service deliveries. Social media dynamics is certainly prompting organisation to take a different view as how openly they communicate; we believe there will be no more room for hiding things. Investors and stakeholders are asking for full transparency of the business operation and performance.
Holding a board seat turns to be far from a sinecure. Company directors are more and more under scrutiny from their stakeholders. Directors must provide effective oversight of their organization performance and must perform efficient risk management to ensure sustainability of the organisation. They must address business resilience and tactics to trade the reward-risk equation.

As a result of the above change, board's workload and responsibilities are increasing significantly and boards are delegating more responsibilities to committees, to individual, and to the CFO, whose role is in parallel logically evolving significantly.

Role of the CFO

The CFO portrays the "face" of the company's sustainability to third parties who count essentially on the CFO to get an unpolished reality of an organization's ability to deliver on its long term-commitment.

Traditionally being viewed as a financial gatekeeper, the first responsibility of the Chief Financial Officer is to manage the organisation financial risks in order to drive growth. He is in charge of the financial guardianship of the organisation such as financial planning, cash and funding management, records and assets safeguarding to ensure assets are preserved and risks are minimized.

With the evolving role of the board described above, the CFO becomes the CEO's business partner and the board's advisor to lead the corporate strategy. CFO responsibilities require planning the company's resources intelligently to ensure the organisation long term growth and sustainability.
Within today's rapid-change context, CFOs must adapt to new challenges and complexities and be involved in the management, measurement and reporting of sustainability efforts of their companies. They are playing a crucial role in the overall business strategy, integrating financial and non-financial performance dimensions into managerial decision-making. More than anybody else in an organisation, the CFO is justified in probing into all areas of the business to understand customers, operations and the main business functions.

The CFO can connect the dots by providing an understanding of how the different parts of the organisation interact together along the chain value and where the risks are. A CFO has a unique capability to unlock the potential of the board. He masters the numbers, has a good understanding of the businesses, and is part of the management team. He becomes naturally fully part of the C-suite process and is one of the key persons to drive the debate in the boardroom.

Relationship Board - CFO

The CFO and the CEO are the key managers who interact with the board of directors. The CFO owns most of the financial data relevant to the board; both share an important relationship built on trust. Our view is that CFOs must have access to their board and its committees. On the other way around, board and committees should also have access to the CFO. It is necessary to build a strong relationship between the CFO and the board, without affecting the relationship between the CFO and the CEO that is crucial to the success of the organisation.

When dealing with risk management, boards are expressing common concerns. Externally, economic outlook and competition, regulations are key matters. Internally, succession planning, strategy execution and internal control play an important part. It's the CFO duties to maintain up to date information on the way those risks are apprehended.

Practical TIPs

Our experience with boards shows that there are often different perceptions from both side on how much time CFOs spend on risk management issues. Below some tips, as how CFO's can reduce these gaps and optimize their interaction with boards.

Demonstrate the risk impact on the strategy
A CFO's approach will be too narrow if he approaches risks without linking them to the organisation strategy. Identifying and assessing risks and their business impact allows boards to quickly assess the challenge faced by organisation.

Be pro-active, suggest action plan to mitigate risks
An action plan should detail various options to minimize risks impact, and how it will help the business to recover quickly if an incident happens.

Rate your risk
Use a proper methodology to assess and to rate risk impacts. Risk assessment exposure is a function of i) the risks consequences (to be scaled

from insignificant to critical levels) and ii) the risks likelihood (to be scaled from rare to common level). Such analytical tool allows you to weight and to categorize risks exposure. Then, distinguish minor risks that may be acceptable from the most critical one to which board attention must be drawn in priority.

Roll over risk rating

Revisit regularly the risk dashboard with the board and roll over the risk management plan. Some risks may have moved from a low priority to high priority and vice versa.

Provide benchmark as how your competitors are addressing those risks

Investigate as how your competitors have dealt with similar risks. One can learn quickly from its competitors and built competitive advantage from the way those risks are managed.

Establish transparent relationship with the Board and CEO

CFOs report to the CEO and both CEO and CFO must be aligned on the organization vision and strategy execution, although boards tend to expect CEO's to be passionate for growth and CFOs to be cautious about new ideas. We believe the ambivalence of a risk-averse CFO with an optimistic CEO to be a source of constructive synergies. CFOs can have a major role in building boards support for their CEO and earn buy-in from board members. The trust between both managers is essential to the success of the strategy implementation. In parallel, the CFO has a duty to make disclosures to the board, especially for material company events.

Is the CFO required to disclose if a CEO is not keen to discuss a problem? Would it damage the trust between them? Disagreements can always be managed with open communication. Our view is that any form of bad news can always be delivered professionally. CFO and CEO may define and implement a procedure to report to the board, so there is no surprise. A CFO should also be clear that the content of any discussion with a director will be disclosed to the CEO, so there is no hidden message.

While reporting to the board, we believe appropriate that any report should be circulated first to the CEO for review, improvement, but the final version must be left to the professional judgment of the CFO.

Save the board members' time

Whether formal or informal, plan in advance your meetings with the board, set a proper agenda and send them the necessary documents in advance. Do not overload them, be factual and send them the essentials. You may provide additional data later if needed.
Take advantage of informal meeting, such as dinner, cocktail to engage in discussion, and always follow up.

Be careful when dealing with directors and put yourself in their shoes to anticipate what they want to hear.

Use technology such as video conference, Skype, if all board members cannot attend a meeting.

Should a CFO be a Board Member?

As a strategic overseer of the company, including its management, a board might handicap itself if it appoints its CFO as a board member. The board's mandate is different than management's one. We believe that CFOs must definitely physically participate in board meetings, but in certain circumstances a CFO on the board of directors [understand: with a board seat] undermines the ability of the board to challenge the management. Our view, essentially for big organisation, is to maintain the CFO off the board, but to keep the CFO in the boardroom. In most cases CFOs are better placed to explain what's going on and how to interpret financial information. The board cannot make good decisions without the CFO being involved.

We observe a general trend in corporate governance that separates the powers between boards and management team.
Following the financial crisis and the introduction of the Sarbanes-Oxley Act in the US, and similar legal framework in other countries, there is a strong push for greater board independence, with the requirement that the majority of public-company directors be independent, with certain exceptions indeed. Boards are now more eager to appoint directors who do not have connection to current management.

Can a CFO be on the board of other company?

Board seats are excellent places to broaden business strategy and leadership skills as long as it is not too time consuming and does not drift a CFO's interest and focus away from his current job.

The fact that a board member is not a full-time employee of the organisation he oversees and can only dedicate limited time to his duties, requires synthetic thinking and ability to look at a company from the big picture.

CFOs are instinctively detail-oriented; they approach problems in a careful and methodical way looking for the best solution. They tend to gather as much information as possible before making a decision. One of the most challenging aspects of the transition from CFO to board member might be refraining from getting into too much details and coming up to speed with the technical aspects of the business.

Irrespectively, board diversity can be source of competitive advantage. Organization need independent none-executive director with financial expertise, who can also bring a different perspective on the competitive environment and change that are affecting the environment. That explains an increasing demand to attract outside CFOs to corporate boards.

Author
Olivier Hubert
olivier.hubert@altercfo.com

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White Paper #3 - The Board - CFO relationship
March 2018

altercfo

"WITH THE STRATEGY 2025 IN THE STARTING POSITION"

THE CFO OF DEUTSCHE POST DHL GROUP ABOUT: THE GROUP EXAMINES OPTIONS FOR THE STREETSCOOTER, POSITIVE EXPERIENCE WITH NEW LEASE ACCOUNTING, "IN A VERY GOOD SITUATION" AS TO NET CORPORATE DEBT.

INTERVIEW WITH **MISSIS MELANIE KREIS**, CFO OF DEUTSCHE POST DHL GROUP , GERMANY, FROM BÖRSEN-ZEITUNG, FRANKFURT AM MAIN, GERMANY, APRIL 7, 2018, ARTICLE PROVIDED BY GEFIU, ASSOCIATION OF CHIEF FINANCIAL OFFICERS GERMANY, THE GERMAN IAFEI MEMBER ASSOCIATION

Missis Kreis, the Streetscooter is a success story for the Deutsche Post World DHL Group. The Group even creates a new unit Corporate Incubations, under the leadership of Jürgen Gerdes, who up to now has been responsible for the post, e-commerce, and parcel. Which strategic options are you examining for this business of the future? Are there plans for an initial public offering ?

With the Streetscooter we were driving for quite some time below the radar umbrella. And even today, the anglosaxon investors are still often surprised, when I tell, that we operate with roundabout 5.500 self produced vehicles in our supplier fleet. That one is looking at, how others in the business are valued and which potential one can expect, is clear. But our focus is presently on expanding the internal utilisation, and on the external sale of the vehicles.

In financial circles there are first estimates about the evaluation of more than 1 billion €. What do you say about this?

As a matter of principle we do not comment on market rumours and on speculation.

Which role at Deutsche Post DHL Group does play the subject of digitalisation?

It is our objective, to steadily improve processes and products. This is also an important theme for the finance area. And there it is a natural step, that we now utilise digital possibilities. Here we try, to test new technologies in defined projects. At present a pilot project is running in the area of forwarding. With the help of blockchain, the various participants in the shipping of freight are switched together. The ordering company, the carrier, the recipient of the freight, and the shipping company can thus communicate with each other. By way of the blockchain, a central solution is being built for all participants in the transaction, to which all acting parties have access, without knowing each other.

At the foreign exchange rates, there lately have been some changes. What does the present exchange rate situations mean for your business ?

As a matter of principle, and for a globally active group like Deutsche Post DHL, fluctuations of exchange rates are part of the daily business. Here the effects on the various business units do vary, and therefore our ways for action do vary as well. There is for instance our express division, at which the large part of the costs is in a hard currency in US Dollar, as for instance for the flying business. If a local currency devalues permanently against this hard currency, then we have to reflect this with our annual price adaptations in the respective country. This procedure is established in the express industry, and therefore we can make the customer understand this. So here we have effects, if the currency situation changes, but we can get along well with this.

And in the other areas?

In the supply chain business usually the costs and revenues are in the same local currency. But then we have here the translation effect, that the local net result in the group currency €uro may be worth more or less - this we presently experience, as an example, at the British pound. Here we can do little at the pricing side. Presently, against this background, we see a disparity between what we report, and what is effectively generated as organic growth.

In which way?

In 2017 we have reported for the group a sales growth of 5,4 %, but organically it was 6,8 %.
When looking at the fourth quarter only, the difference was even larger - 4,5 % reported growth, versus an organic plus of 8 %. But for us as a global group, active in 220 countries, this is part of the normal business.

But when one is now looking at the example British pund. Here the phase of weakness will continue, how are you steering against this ?

In such a situation one has to think about other measures. One example would be the stronger utilisation of the pound exposure on the purchasing side. With this the pound overhang could be reduced.

An important theme for the Deutsche Post DHL Group is the loss carry forwards. Is the group profiting from this lately especially in the USA. What, against this background, does mean the US tax reform for you ?

We still have significant tax loss carry forwards in miscellaneous countries, but here the vtwo largest countries are Germany and USA. With the positive business development in the last years we therefore could account for more deferred taxes, which is positive for our effective tax rate. In 2017 at the end of the year the US tax reform came, which for us had a one off negative effect, because by the lowering of the tax rate, the loss carry forwards which we could account for in the balance sheet, were worth less than before.
This, alone in itself, did result in an effect of the order of size of 5 %, or of 150 million €. Against this stood a positive business development in other areas, so that our tax rate, forecast for this year to be at 13 %, was almost reached with a rate of 14,3 %.

And with which effects are you calculating beyond 2017?

It is extremely difficult to forecast, which effects the developments in the USA will have on our trade volumes. We expect, that the one off charges in 2017 on the finance side reflect the essential effects.

The Deutsche Post regularly gives very good forecast for the business development, and this with a view for several years. What is the advantage of this?

We have made good experiences with clearly defined forecasts - also as it relates to the internal discipline. And our investors do really appreciate that we not only say what we shall do effectively in the coming years, but that we calso connect these activities with concrete targets for results.

At present you have a view to the targets for 2020, how will things develop?

In 2018, we shall work on our Strategy 2025, and we expect to communicate this next year.

One had the impression about the Deutsche Post, in the last years, that growth was mostly generated from an increase of efficiency. When do you expect to have sustainable organic growth?

This I view a bit differently, when looking at the numbers for 2017. The macro situation was very dynamic, and we have seen again, that we benefit strongly from the structural e-commerce growth. This one sees especially in the very dynamic volume development in the parcel and the express business. And we expect, that this trend will continue. And this dynamics of growth is supplemented by increases of efficiency.

At e-commerce, one is immediately thinking of Amazon, an important customer, but also a competitor. How do you live with this situation of tension?

Amazon, first of all, is a longterm very good customer with whom we are cooperating successfully in many areas. Germany has become the second most important market for Amazon, and to this we have contributed with our qualified and innovative offer. But it is not surprising, that Amazon says, that is must as a corporation also have itself the foot in the water, in order to understand, how the logistics market functions. It is important, that Amazon is only an e-commerce customer, and that our growth there has a good basis.

Deutsche Post DHL Group, at a Glance

SALES, billion €	2016	57,3
	2017	60,4
EBIT, billion €	2016	3,5
	2017	3,7
Net Profit, billion €	2016	2,6
	2017	2,7
Number Employees	2016	508.000
	2017	519.000
Rating	BBB+	Fitch
	A3	Moody's

Express is booming, PeP is flourishing thanks to e-commerce. What still has to be done in the carrier business and in contract logistics ? Are these the levers for the future?

In the carrier business, we have a challenging phase behind us, in which we have tried, to implement a too complex IT solution. In 2015 we have decided to steer differently. This internal theme happened at the same time as the challenging years in the area of air freight, with lower growth than in the past. In 2017, the market has then grown very siginificantly.. The freight prices have risen strongly, and for an agent like us this is first of all a challenging situation. Because then one always has a time lag, until one can pass on the increased purchasing prices to the customers. From this resulted a strong pressure on the gross margin, not only at us, but in the entire industry. Here it is very enjoyable for me, that in the course of the last year we could clearly move on in the right direction, which should continue in 2018. But it is also clear, that the carrier business must provide a significantly larger contribution to our 2020 objectives, than in 2017.

And the contract logistics?

The Contract logistics is the only area, which is not a network business. Ordinarily, there are local contracts, but in the past years, the responsible board member has pushed a standardisation. This "best practice sharing" has been a good experience for us, and in the meantime we have arrived at a margin of 4 %, with which we are at the lower end of our target of 4 to 5 % for this business.

E-commerce produces siginificant growth?

Yes. For instance also smaller dealers, who cannot immediately afford their own warehouse, can benefit from our international network of distribution sites. We are predetermined, to offer to them Whole-Package solutions. A large potential I do also see here in the bundling of our services across all business areas: From the transport across border lines, over customs on the imports, warehouse stocking and further on to delivery.

Deutsche Post DHL Group,

Shareholder Structure

20,6% KFW - Bank

79,4% Free Float of wich 14,2% - points Small Shareholders

Market Capitalisation, as of April 13, 2018

45,0 billion

Your finance strategy includes also special dividends, when you have too much cash. Has this not been the case in 2017?

We have, in the spring of 2016, with our first own stock repurchasing programm, executed our finance strategy in this regard. This has been terminated in 2017, and we have expensed for this 911 million €. At present we are building up liquidity, and when we shall have reached a reasonable volume, we shall deal with the question, what to do with it. Our regular dividend policy is that we dividend out 40 to 60 % of our Group net result. There we then have also leeway, in order to reflect things like for instance an increase of the tax rate. For 2017, we have proposed an increase of the dividend from 1,05 to 1,15 €, this would be a dividend payout rate of 52 % of net profit.

The dividend continues to be tax free?

This goes back to the originai structure, that the dividend is paid out of the tax purpose deposit account, and this will be so also this yea..

Are you thinking about a stock dividend?

Last year we have received authorization from our stockholder meeting for a a stock dividend. At the present time I see no reason, however, to make use of this authorisation.

How far have you got with your funding, step by step, of your pension obligations?

Here we have made during the last two years much progress. In the spring of 2016 we have funded our German pension obligations with 1 more billion €, and thus we are now in Germany at a funding ratio of 60 %. With this we are good by comparison to the other Dax German Stock index member corporations. At the end of 2017 we have made a funding of 495 million € in Great Britain, and there we are now at a ratio of 98 % - there the regulatory framework requires, other than in Germany, a funding ratio of 100 %. Great Britain and Germany are our 2 largest countries with regard to defined benefit pension schemes. Group wide we are now at a funding ratio of 75 %. Our total obligation is now relatively stable at 17 to 18 billion €, and we now still have a net underfunding of 4.3 billion €. Should interest rates rise, then the funding rate would rise further.

Amazon, first of all,
is a longterm very good customer

Which consequences has the long low interest rate phase, for instance for the pension obligations?

Through the discounting, the pension obligations become bigger. And if then the assets do not increase in the same way, then the underfunding becomes bigger. This we have, for instance, massively seen in Great Britain, and we were then confronted, like many other corporations, with an underfunding situation Therefore we have funded in Great Britian further more roundabout 500 million €.

Deutsche Post AG, 36,46 Euro Share Price as of April 13, 2018, German Stock Exchange Xetra

Index Price Chart, Index-base as of January 2, 2017 = 100

-Black line: Deutsche Post AG Share

-Blue line: DAX German 30 Companies Large Cap Index

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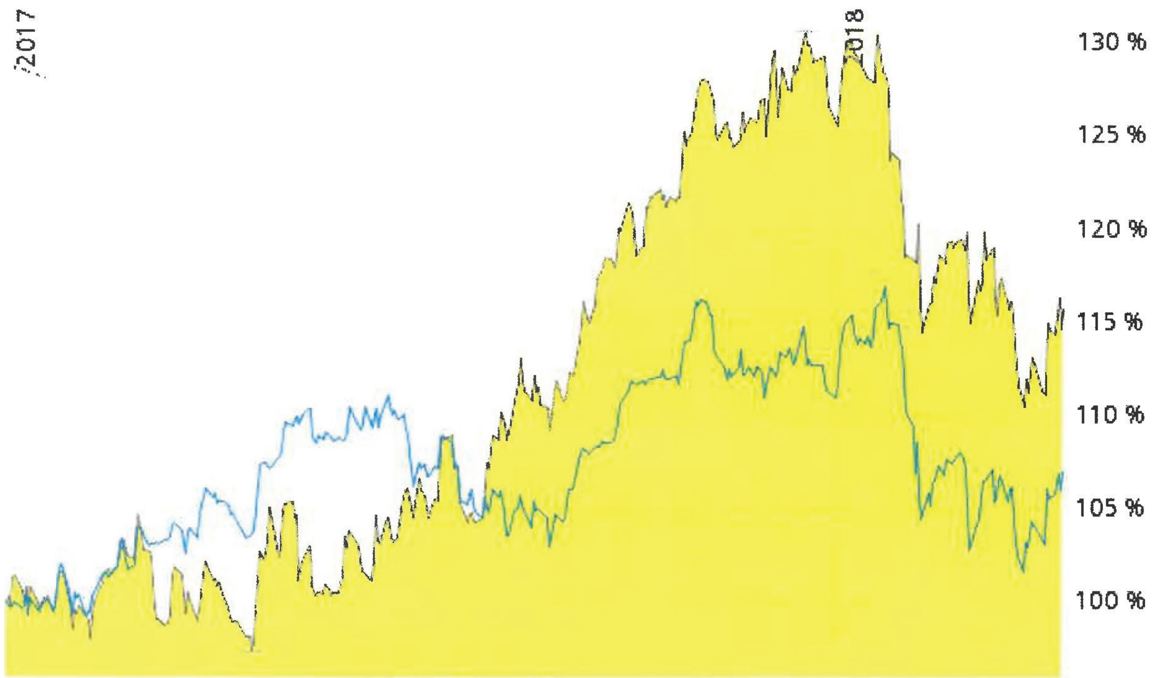


Are there plans, beyond the funding of pension obligations, to further tap the capital market?

We are presently in a very good situation, as regards the net corporate debt, therefore we have planned nothing here.

In the markets, spin offs, de-mergers, are liked to be seen. Is this a theme for you?

A few years ago this was a theme when talking to investors, but presently this is not playing a role. Even the divestment of Williams Lee, last year, was hardly taken notice of. Presently, there is rather more the view, that our position as global all encompassing logistics group is a great strategic advantage in view of the growth rates in e-commerce.

The Deutsche Post DHL does already apply in the current business year - and thus one year earlier - the lease accounting as per IFRS16. What is your experience with this?

We have the first two months in the new accounting world in our books. And it has functioned unbelievably well. It is a far reaching and very complex change, which we had to apply in all countries and in all divisions.. But after the first weeks I am now very confident, that we shall meet the target well in the first quarter. The ratios have confirmed to be in the order of size, which we had computed in our simulations.

What does this mean?

We do still assume, that we shall have roundabout 9 billion € of additional leasing obligations and assets in the balance sheet. The Ebitda for the full year will increase by 2 billion €, because a large part of the expense of material will be changed into depreciation.

On the Ebit level we expect an effect of 150 million €. What is decisive, though, is that at the Free Cash Flow nothing will change. The change will thus strongly shake up our numbers, but at the end it is still only an accounting standard, which is changed. Through this we do not earn 1 € more, and we also do not have 1 € less in cash.

Then there is still the question about what this is all about.

It increases in any case the accounting work, but if it also increases transparency? Already before the accounting change we have publiched our leasing obligations in the attachments to the accounts. We have not utilized leasing, in order to simplify our balance sheet, but it is part of our business model.

We have made good experiences with clearly defined forecasts - also as it relates to the internal discipline

As an example, when I in the supply chain business win a customer contract for 4, 5 years, and when I then need a warehouse, in order to service the customer, then normally I am leasing a warehouse for the maturity of the contract. We therefore have many "operating leases", and we never have made a secret of it.

What significance has the European Union General Data Protection Regulation, EUGDPR, for the Group, which will become applicable in May 2018 ?

There one will have to see in many regards, how this will be lived in the day to day practice. There are welcome aspects, like the basic idea, that one gives more insight to those, who are impacted by the utilisation of their data. But in executing this, this might bew very complex. We need in all cases a European harmonisation, and we would have wished relievements for the corporations, which for their entire group already have an own data protection code which has been discussed with and approved by the authorities.

The interview was made by **Lisa Schmelzer,** Börsen-Zeitung.

About the Person:
The Explainer

Lately, **Melanie Kreis** wanted to explain to her older daughter, why interest and compounded interest do make sense - compounded interest calculation was the subject in her Math class. This was difficult for her, " because in the present situation this is a rather theoretical concept, which, though, has functioned for centuries, but things at present do work differently". She has then moved the explanation of the interest actions to a later date, admits the CFO of the Deutsche Post with a twinkling of her eyes. Other than that, Kreis, since the fall 2016 responsible for the finance area, has no difficulties, to explain something in an understandable way. Through her, one understands quickly, which consequences the long low interest rate phase has for the pension obligations of the Group. Also about the drawbacks of the changing over to IFRS16 she gives understandable information, and with this special subject some months ago she even excited the large group of journalists at a press conference. About the blockchain technology speaks the 1971 born manger in such a way, that also the layperson understands, what is behind it. She herself is rather not so much "techoriented", admits the master of physics, but she is fascinated about the possibilities which the new technology is offering.

Kreis belongs to the board of management of Deutsche Post since October 2014, and was first responsible for human ressources. Her career the mother of two daughters started in 2004 at the logistics group, before she was at McKinsey, there also the Deutsche Post chairman Frank Appel has worked in the nineties.

From Börsenzeitung, Frankfurt am Main, Germany, April 7, 2018.
Responsible for English translation: **GEFIU**, the Association of Chief Financial Officers Germany,
Translator: **Helmut Schnabel**

ARTIFICIAL INTELLIGENCE (AI) IN FINANCE: SIX WARNINGS FROM A CENTRAL BANKER

SPEECH AT THE DEUTSCHE BUNDESBANK SYMPOSIUM "BANKING SUPERVISION IN DIALOGUE", GERMANY, 07.03.2018, INTERVENTION AT THE 2ND ANNUAL FINTECH CONFERENCE, BRUSSELS, BELGIUM, 27.02.2018, BY PROF. **JOACHIM WUERMELING**, MEMBER OF THE EXECUTIVE BOARD OF THE DEUTSCHE BUNDESBANK EUROSYSTEM/GERMAN CENTRAL BANK

Don't miss out on the opportunities of AI in finance …

AI in finance could impact on the functioning of our financial system in a profound way. Some suggest that AI is enhancing the power of the human brain in the same way that electricity enhanced the power of the body 150 years ago. Hence, it could become a big thing in finance.

Artificial intelligence and big data are currently the strongest and most vivid innovation factors in the financial sector. Using AI in finance may trigger dramatic improvements in
many businesses. AI elevates the role of data as a key commodity. Used wisely, big data make outcomes more reliable and may improve financial mediation. Process chains can be
organised in new ways. "The scope and nature of banks' risks and activities are rapidly
changing," as a recent Basel Committee analysis puts it.

This evolution towards increased use of non-human intelligence is not something that has just occurred in the last few years. The first invention of neural networks, a central pillar of most AI systems, dates back to the year 1943.

Until a few years ago, the main users of big data and AI in the area of finance were certain hedge funds and high-frequency trading firms. In recent times, the application of AI in finance has begun to spread widely, via "normal" banks, FinTechs and other financial service providers, to the general public.

Since 2011, HFT has accounted for about 45–50 % of all trading in US equities. The figures for the main European indices are in the same region (with about 40 % for German DAX futures). Taken together with all other "normal" algorithmic trading activities, we currently estimate the amount of algorithmic trading to be in the realm of 80–90 % of the entire trading volume for equities (and somewhat less but still very high in other market segments).

A single normal trading day generates about 3–6 million data points about prices, order deletions and modifications in DAX futures alone. No human can analyse these amounts of data simply by looking at them in an Excel spreadsheet. More sophisticated and sometimes also AI-driven techniques are necessary to do the job.

AI profoundly changes the functioning of our financial system in at least three areas: products, processes and analysis. This is true for both front office functions (eg customer business, trading) and back office functions (eg executing trades, risk management, market research). Special-purpose AI can solve specific problems, eg in customer engagement, financial management or cybersecurity.

Applications focused on market operations cover various core areas eg trading, portfolio composition, backtesting and validation of models, market impact analysis, modelling trading of large positions and stress testing. Dynamic portfolio adjustment, depending on the macro environment, may be strengthened by AI.

With the help of AI, various human shortcomings in dealing with finance can be mitigated. As behavioural finance has taught us, biases, inertia and ignorance lead to the malfunctioning of markets. AI allows humans to reach out beyond their intellectual limits or simply avoid mistakes.

… but beware of the risks

But opportunities are always accompanied by risks. As regards the financial system, if too much trust is put in "intelligent" systems, the stability of financial markets may be at stake. The workings of AI can be a mystery; it can trigger loss of control, make fatal errors, and have a procyclical effect due to its mechanistic functions. Pattern recognition has its limits. This can be dangerous particularly in crisis scenarios. An autopilot would never have been able to land a jet on the Hudson River. Nor can algorithms stabilise in periods of financial stress.

Looking at the recent turbulence in equities and the market for VIX-related financial products, it can be concluded that the events of 5 February share many similarities with a "flash crash". Unfortunately, as with the original flash crash of May 2010, we have only limited knowledge about the direct drivers that triggered the event. It can be assumed that algorithmic market participants were quite active during the relevant period. But as to which strategies were applied and to what effect, we have no knowledge so far. The rise in volatility in the S&P 500 then nearly instantly affected the VIX industry, making it not the cause but more the first victim of this market event, with losses up to 95 % on assets. We do not expect this phenomenon to disappear in the future. On the contrary, more of these flash events are to come.

AI is still in its infancy. Continuous processes for the entire AI lifecycle still have to be defined and scaled for business needs. That means that AI must be embedded in the process of acquiring and organising data, modelling, analysis and delivering analytics. The skills gap, particularly with regard to data science and machine learning expertise, is the foremost challenge. At this stage, non-human intelligence is far from replacing the human brain in any respect. Computers are like school pupils dividing numbers mechanically without having understood what they were doing.

Consumers should take care: they remain the risk-takers

What makes this development so significant is the fact that it is not just occurring at the level of systemic institutions, markets and stock exchanges. With robo advisers, for example, AI can directly influence and control the daily financial decisions of customers and ultimately their personal wellbeing. Society has barely begun to understand the economic, ethical and social implications of AI.

While client interaction is made more convenient by mobile banking, chatbots or virtual customer assistants, banks can find out more about customer habits and provide them with tailor-made financing.

Consumers may be rated by AI when applying for a mortgage. Pooling data points from internal transactions, social networks and other sources provides a more meaningful picture of banks' borrowers. But denials may be hard to understand. It may become even harder to challenge a decision made by algorithms.

The proper functioning of the applications is not a given. Simple flaws, cyberattacks and criminal behaviour render the systems extremely vulnerable. Consumers should be cautious. They need to be protected. Laws may have to be modified to cover new threats. Responsibility and liability in the case of malfunctioning machines have to be clarified.

FinTechs should not ignore the legitimate concerns of society and supervisors

Agile tech companies are driven by an admirable energy and inspiration. By nature, they take risks. They create an idea, build a prototype and try it out immediately in the real world. Regulation, supervision, obligations and requirements must make them extremely nervous.

But the wellbeing of society depends on rules. The public demands cybersecurity, data privacy, consumer protection and financial stability. FinTechs should not brush aside the concerns of their stakeholders. Business can only flourish if it is broadly accepted by citizens.

FinTechs usually pick up specific elements of the work chain of finance or create new features. Using technology, they modularise and customise products as a third party or standalone provider.

FinTechs are part of the finance sector but are not necessarily supervised. As long as they carry out tasks for supervised entities, these institutions are responsible for the behaviour of the FinTech.

AI needs new forms of supervision

"Artificial intelligence" may sound glamorous from a technological perspective, but in banking supervision, the well-established principle of "same business, same risk, same rules" has so far proved to be a sound standard for innovations. Whether they employ AI themselves or outsource it to FinTechs, from the supervisors' point of view responsibility remains
entirely with the bank.

For German supervisors, IT governance and information security nowadays are equally as important as capital and liquidity requirements.

All financial institutions should address the risks posed by new technologies. Banks have to implement effective control environments needed to properly support key innovations. This includes the requirement to have appropriate processes for due diligence, risk assessment and ongoing monitoring of any operations outsourced to a third party.

The European MiFID II includes the requirement that firms applying algorithmic models based on AI and machine learning should have a robust development process in place. Firms need to ensure that potential risks are considered at every stage of the process.

Regulators increasingly have to apply AI-supported analytical methods themselves to recognise vulnerability patterns, scan lengthy reports or analyse incoming data.

In any case, we must strike a balance between financial stability and avoiding barriers for potential new entrants, products and business models. Alongside technological progress, regulators have to constantly reassess the current legal framework, supervisory models and resources.

Central banks should embrace AI

Central banks have access to huge amounts of very valuable data stemming from market operations, supervision, payments and statistics. They are well positioned to tap the benefits of AI so they can enhance their ability to fulfil their mandate for price stability and the stability of the financial system.

Machine learning is already being used at the Bundesbank in different narrow segments. The experiences of all users have been good without exception. While monitoring the technical progress, we are currently discovering further use cases and defining our AI foundation, strategy, organisation and processes.

Here is a list of examples, which is by no means exhaustive:

In risk management, neural networks assess and evaluate the financial soundness of the markets. Market research is supported by adopting web mining techniques and machine learning in content analysis, topic modelling and clustering of relevant articles. In statistics, machine learning enables new methods for data quality management, eg in the context of securities holdings or the classification of company data. Furthermore, the informational content of seasonality tests is assessed by a random forest machine learning technique. For our IT user help desk, the handling of routine requests via automated chatbot responses could be a useful support measure. We use social media data to detect trends, turning points or sentiments. Machine learning methods can be applied for variable selection purposes in econometric models.

ANNEX: Use case – monitoring of real estate markets

An interesting data source is internet platforms. For example, some rental and housing platforms have the potential to improve the analysis and monitoring of real estate markets via the provision of information such as list prices and structural and locational characteristics of the property market at a disaggregated level.

This is mainly based on the assumption that these data contain information on the expectations and interests of economic agents with respect to future decisions. In such contexts, a wide range of topics or "search strings" are often potentially relevant. This can result in many different, highly correlated time series.

Furthermore, the "textual analysis" method is increasingly applied in research, as large amounts of "unstructured" information on businesses and the economy are available electronically on the internet. In order to operationalise textual data for econometric analysis, machine learning algorithms can be helpful. Learning methods can be applied to classify textual documents into different categories which can then be used to draw statistical inferences.

Deutsche Bundesbank
Communications Department

Wilhelm-Epstein-Straße 14, 60431 Frankfurt am Main, Germany
Internet: www.bundesbank.de | E-mail: info@bundesbank.de
Tel: +49 69 9566-0 | Fax: +49 69 9566-3077

DEUTSCHE BUNDESBANK
EUROSYSTEM

GREENER FINANCE - BETTER FINANCE? HOW GREEN SHOULD THE FINANCIAL WORLD BE

SPEECH AT THE DEUTSCHE BUNDESBANK SYMPOSIUM “BANKING SUPERVISION IN DIALOGUE”, GERMANY, 07.03.2018, BY DR. **ANDREAS DOMBRET**, MEMBER OF THE EXECUTIVE BOARD OF THE DEUTSCHE BUNDESBANK EUROSYSTEM/GERMAN CENTRAL BANK

Introduction

Ladies and gentlemen

May I wish you a very warm welcome to our Bundesbank symposium entitled “Banking supervision in dialogue”. I am delighted to have the honour to open this, the 20th event of its kind.

Some of you might be wondering what has become of the good old Bundesbank symposium on its 20th anniversary. Have we really come here to talk about greenhouse gases, melting polar ice caps and dying species rather than credit risk, own funds and the banking union? Has the Bundesbank adopted a “devil may care” attitude?

On the contrary, ladies and gentlemen. You see, over the past 20 years the Bundesbank symposium has always made a point of discussing topics which drive the financial community. And I would like to use the last such symposium during my term of office at the Bundesbank to shed light on a matter which is – quite literally – of existential importance: climate change and the role of the financial community.

It’s a topic which is becoming increasingly palpable, not least since the Paris climate agreement, which was endorsed back in 2015 and has since been ratified by nearly every country in the world. This global commitment to take action to curb climate change was the culmination of decades of effort and an achievement which many thought was scarcely

possible. The global accord was presaged by the sobering and devastating realisation that climate change is man-made and can only be mitigated if all of humanity works together.

Successful though the agreement may have been, the true significance of the UN climate conference in Paris has not yet dawned on everyone, it would appear. For most people, it is still nothing more than an abstract arrangement to keep global warming below 2 degrees Celsius compared with pre-industrial levels and to pursue efforts to limit the temperature increase even further. But there's one thing we all need to be aware of: if the global community is even half-way committed to hitting the ambitious target of 2 degrees Celsius, there will need to be some far-reaching changes to the economic systems as we know them. And as for the time frame, the later we get started, the deeper our intervention will have to be. And we shouldn't expect the planet to make things any easier for us.

Quite specifically, this means we'll need to be ambitious – far more ambitious than before. And we'll need to take a systemic view of the matter in hand. Every area of the economy will need to adjust by correctly pricing the externalities of climate change and internalising them. And those adjustments mean more than simply trimming our CO_2 emissions. They will transform the entire way in which we do business and affect the path along which the economy and society are progressing.

Specifically, I see three control loops in the economy which can be used to tackle climate change. First, the general issue of the green energy of the future – this is an area in which we have already come a long way. Second, the matter of green transport systems – regrettably, progress is still very vague here. And the third climate change challenge is sustainable and green nutrition – this is a topic where we still do not have many robust projections about how developments could play out.

There is no doubt that the financial sector is also affected in every one of these control loops. Banks and savings banks, in their capacity as providers of credit for the real economy, will not be left unscathed by the impending greening process in the economy. And that brings us to the subject of our symposium here today and to the topic of my opening speech.

I imagine you will all be more or less familiar with the term "green finance". In essence, it's about the way in which the financial sector responds to climate change, and how it can help mitigate its impact and promote ecological sustainability – for instance, by channelling funding into environmentally friendly technologies and economic sectors – while also capitalising on their growth. For me, green finance is more than anything "patient finance", if you will – a financial world which looks primarily at the long-term repercussions of its actions. So it's nothing less than a paradigm shift. Will we succeed in overcoming short-term thinking? Will we succeed in prioritising long-term investment over short-run trading opportunities? Don't we want to be "buy and hold" shareholders rather than high-frequency traders? Today's event aims to raise awareness about all these questions.

But there is at least one other aspect which is of paramount importance, and especially so from the perspective of banking supervision. That is the risk which climate change and the transformation of the economy might present for the financial sector – and the matter of how far financial institutions will need to adapt to shield themselves from that risk.

And last but not least, we as central bankers and supervisors need to face up to the question of the role we are able to, and intend to, play in transitioning to a green financial system. These

three topics – the risks facing the financial industry, the opportunities for the financial industry, and the role of supervisors – are the subject of my speech here today.

The risk perspective: what are we talking about, exactly?

Let's begin by taking the risk perspective. Mention climate change and the first thing most people think about is natural catastrophes: storms, heatwaves, droughts, floods and hurricanes. You might remember that last year's Atlantic hurricane season was one of the worst on
record. Catastrophes on that scale mainly inflict widespread human suffering, of course, but they also present economic risks, or "physical risks", as they are known. And those risks can affect every one of us: individuals, government budgets, insurers, and other financial institutions.

We are already seeing the costs materialising on the balance sheets of non-life insurers and reinsurers today. They add up to more than US$200 billion for the 2017 hurricane season. That is why these costs usually make the headlines. But natural catastrophes can have a direct impact on banks and savings banks as well if the assets they finance – be they real estate, production facilities or tradables – are affected. Indirectly, this might disrupt value creation and delivery chains, having a knock-on effect on customers. And there is nothing to say that weather and climate-related losses of this kind will still be insurable if climate change continues to dramatically increase the likelihood of natural catastrophes and the expected amount of losses.

But we need to think one step further. Besides the direct impact of climate change, there are yet more risks which we need to bear in mind, because the shift towards a lower-emission, "greener" economy is itself a source of potential risks, which go under the somewhat unwieldy name of "transition risks".

The background to this is as follows. To make this transition, potentially disruptive technological advances and far-reaching changes in climate policy are called for. These developments will leave hardly any economic sectors unscathed. And it is safe to say that these upheavals will force market participants to reprice many assets.

Does the term “stranded assets” mean anything to you? To hit the 2 degrees Celsius target, we will need to curb the amount of carbon dioxide we emit worldwide. At a rough estimate, our CO_2 emissions are probably not much more than 1,000 gigatonnes away from exhausting our budget. However, the CO_2 content of the known fossil fuel reserves still in the ground is far higher – something like three times as much. What this means is that much of these reserves will need to be left untapped. And the problem is that many businesses' valuations depend to a significant degree on the future anticipated value of such fossil fuel reserves. But if those reserves are out of bounds, as it were, they are effectively worthless, making them “stranded assets”. The loss in the value of these assets puts the companies' very survival on the line. As a case in point, the market capitalisation of the major US coal businesses has contracted by roughly 60% over the past five years, and by around 90% over the past ten. And that was against the backdrop of the US equity market as a whole racing from one record to the next.

And that's just one example of many I could mention. Depending on how quickly and unexpectedly the transition and the resulting repricing process take place, they may well have a huge bearing on the stability of entire sectors of the economy. So it will mainly become an issue whenever businesses and investors are unable to plan for the long term because they need to be in a position to respond to short-term policy impulses. This poses the risk of cliff

effects, which can trigger disruptions and financial losses that then affect the financial system and its stability.

Climate risks in the German banking system

Let's now jump straight from theory to practice. To what extent would German banks and savings banks be affected by a shift to a lower-emission economy?

At first glance, the amounts lent by German institutions to sectors emitting especially high levels of CO_2 appear insignificant: loans of €1 million or more granted by German banks to coal mining companies currently amount to no more than just under €1 billion in total. However, loans to coal mining companies can make up 1-2% of individual institutions' issued loans of €1 million or more. So caution is warranted here after all.

Furthermore, we must not forget that the greening process will have a much wider knock-on effect. If we include loans to just those firms involved in the extraction of crude oil and natural gas and in the processing of coal and mineral oils, this boosts the volume of loans of €1 million or more granted by banks to almost €20 billion. Individual institutions have issued up to 6% of their loans of €1 million or more in these sectors.

If we add energy suppliers, this figure goes up once again. Around 60 institutions issue more than 10% of their loans of €1 million or more to the sectors I have just cited. At some, volumes even exceed the 20% mark.

You can see what I'm getting at – this is a chain that could keep going for quite some time. The big question now is, what can we infer from these figures?

Let me start by saying that, even based on this relatively rough-and-ready overview of the situation, there is no way we can rule out significant risks for individual institutions. That said, there are some caveats.

First, the data that I have provided are of low granularity. This makes many correlations unclear. And many of the borrowers included in the calculation are conglomerates that make only part of their profits in energy-intensive industries.

Second, there is a significant degree of uncertainty with respect to how the greening process will pan out, and thus with respect to which sectors would be affected and in what way. Just take the automotive industry, for example. It's all but impossible to predict the extent to which individual manufacturers or national automotive sectors will be affected by the economic transition. What climate policy measures will be introduced – emission limits, bans on vehicles, free public transport? Which technical standards will become the norm in the area of sustainable mobility? How far will car manufacturers succeed in playing a leading role in these technologies?

In other words, we find ourselves in uncharted territory. The situation is unclear: searching for historical time series on probabilities of default and losses given default is pointless, while established risk models can only help so much. So we are faced with uncertainty.

How banks can deal with risks

So the next question is this: what needs to be done?

If you take only one thing away from my speech, it should be this: it's not enough to examine the issue of greener finance through the lens of corporate social responsibility. Potential climate-related risks need to be taken into account as part of risk management. In other words, banks and savings banks need to know just how much they themselves, their customers, and their customers' business models, could be affected by climate-related risks, and they need to be aware of the risks that this entails for their financial exposures.

We don't need to reinvent the wheel to do this. Even though the sources of risk that we are dealing with are new, their effects also fall into the established financial risk categories of credit risk, market risk and operational risk.

But we shouldn't oversimplify things either. It isn't enough to have your risk managers log up the exposures to a few high-emission sectors and find that they are manageable when looked at in isolation. Greening is a complex process – it is far from over and will give rise to transmission mechanisms that we are only now beginning to understand.

Historical data and established statistical procedures cannot be used as they normally would. Scenario analyses could serve as a useful tool for raising awareness of problems. Furthermore, we need to start a discussion about best practices in the financial system. By bouncing ideas off each other, we can come up with new risk measurement approaches and evaluate them in terms of their effectiveness and benefits.

How banks can profit from the transition

Ladies and gentlemen, climate change is quite rightly viewed primarily as a challenge. However, we must not forget that, in addition to the aforementioned risks that the transition to a greener economy poses for financial institutions, there are considerable opportunities. In this context, green finance can be so much more than the opportunity to present a green image.

That's because the economic transition will, of course, also open up new business areas for banks and savings banks. In all of the major social upheavals of the previous centuries, it was people from the financial sector who supported change and often helped shape it. And that's what is needed once again now.

The opportunities are clear to see if we look at the investment required: the level of global investment needed to hit the 2 degrees Celsius target set out in the Paris agreement is estimated to run into the tens of trillions. The European Commission anticipates that additional annual investment of €180 billion will be needed in the European Economic Area in order to achieve the Paris climate targets by 2030.

So what we're talking about here are major projects in fields such as energy supply. But even everyday financial services such as residential property financing could be affected if sustainability standards play a greater role here. We're also talking about funding technical progress and innovation. Think, say, of energy generation, transmission and storage, of e- mobility or efficient recycling.

Finally, we have seen retail demand for green investments increase significantly in recent years. Between 2006 and 2016, the volume of sustainable investment in Germany, Austria and Switzerland went up more than twelvefold – from around €20 billion to over €240 billion.

So you see, there's a wealth of potential here. I believe that the challenge is to guide the transition in a responsible manner and help shape it.

What do I mean by that? Credit institutions that want to play a role in financing green investment need to either gain or expand their expertise in relevant areas at an early stage. Because noble as your intentions may be, you have to make sure that you do not fall victim to typical innovation risks. Wherever technologies and innovative products are hyped, there is a risk of distorted valuations and of sudden price corrections. Only true experts can keep an eye on possible dangers, on the one hand, while catering for their customers' future expectations and requirements, on the other. Both these skills are necessary for financial institutions if they want their business to benefit from the economic transition.

How green do supervision and regulation need to be?

I have talked at length about what climate change and the economic transition mean for your work. But what do they mean for regulation and supervision? In other words, how green do regulation and supervision need to be?

Before I go any further, let me put your minds at ease – just like you do not need to completely reinvent the wheel in the field of risk management, nor do we banking supervisors when it comes to prudential requirements. The Minimum

Requirements for Risk Management, or MaRisk, and the corresponding European rules already require institutions to take into account all material risks to which they are, or could be, exposed. So on this score, we have already covered the new sources of risk, too.

But there is no doubt in my mind that the onus is very much on supervisory authorities to raise institutions' awareness of climate-related risks – especially in the early days. And we are doing our bit to achieve that by running today's symposium. What is more, I can well imagine instances where climate-related risks are also raised at supervisory meetings with credit institutions.

I am a firm advocate of the idea that supervisors and central banks themselves should strive to perform a special function as a role model and catalyst. This means, for example, helping to forge a deeper understanding of how the mechanisms behind the risks work. It was for this reason that the "Network for Greening the Financial System" was established only a short time ago. This network will serve as a platform for a group of central banks and banking supervisors from around the world to exchange views on climate risks for the financial sector, regulatory issues and green bonds, to name but three topics. Whatever supervisors strive to achieve, I believe it is particularly important for us to establish a consistent taxonomy and uniform definitions as the basis for credible standard setting in the area of green finance.
Klaas Knot will tell you more about this in just a few moments.

So we're not coy about playing our part as supervisors in the decarbonisation of banks' balance sheets. Yet there are other demands being placed on banking supervisors and regulators which I am keeping a very close eye on, because I consider them to be dangerous.
In the debate surrounding the implementation of the Paris climate targets, some have suggested using the prudential framework to actively steer financial flows away from emissions-heavy sectors to more environmentally friendly ones. More specifically, there have been demands recently for banking regulation to include special rules that tip the regulatory scales against environmentally unfriendly "brown" investments or in favour of "green" financial assets on banks' balance sheets – via capital requirements, for instance. This has been dubbed the "green supporting factor".

However, sustainability in the sense of environmental friendliness does not necessarily go hand in hand with reduced risk – I already mentioned innovation risks earlier on in my speech today. And that is also why capital requirements should be calculated on the basis of just a single factor – the riskiness of the exposures in question. Financial market regulation in general and banking supervision in particular need to be focused on their core tasks and remain geared to risk. Watering down the regulatory mandate would create conflicts of interest and ultimately lead to risks to financial stability – and surely that cannot be what we want.

The European Commission today unveils its action plan on sustainable finance. It is important for us that promoting the greening process does not take place through the back door via financial market regulation and banking supervision. This is something we will watch out for when the action plan is implemented.

Instead, policymakers can use other, traditional instruments such as tax incentives to foster the development of green economic sectors. This approach is more effective and limits unwanted side effects for financial stability.

Conclusion

Ladies and gentlemen, the Paris agreement is a strong political commitment to climate protection. It is now a matter of ensuring that climate protection goals are integrated into the market economy. The greening process will only ever be successful if market mechanisms function in the right direction: behaviour that is sustainable needs to pay off; behaviour that harms the environment and future generations should no longer be worthwhile.

Climate change is first and foremost – but not exclusively – a topic for policymakers. Financial institutions, too, have a duty to address climate change and climate policy issues as part of their risk management operations. It is crucial to plan ahead and engage with the topics of climate change, climate policy and climate risks early on – remember, I said we find ourselves in uncharted territory. But there are opportunities, too. In their capacity as providers of credit to the real economy, banks and savings banks can capitalise on the greening process whilst also helping to shape it.

Supervisors and regulators need to be aware that they share responsibility and need to set an example, while at the same time heeding the perimeters of their mandate. Specifically, it would be wrong to misuse regulation and supervision as a means of promoting economic development. And so I fail to see any merits in proposals to introduce a green supporting factor that weakens the focus on risk. What I do think might be worth considering, however, are disincentives for "brown" finance – but only via traditional instruments such as tax rules.

Ladies and gentlemen, I would like to use my final words at the last Bundesbank symposium during my term of office to make an urgent appeal: climate change affects us all – and the clock is ticking. The longer we wait, the higher the costs and the more dramatic the consequences will be. I would encourage you, and all of us, to take action.

With these words, I will now draw my last speech at the Bundesbank symposium to a close. Over the last four years, I have spoken at this event on the topics "What is good regulation?", "Digitalisation and what it means for the German banking sector", "European deposit insurance" and "Basel III". It was an honour to speak here alongside such respected figures as Danièle Nouy, Stefan Ingves, Sabine Lautenschläger, Felix Hufeld and Klaas Knot.

Of course, it's too early to bid a proper farewell at this point. I do, after all, still have around seven more weeks of my tenure left to serve before I leave the Bundesbank. Although it was my own decision and long-term plan not to extend my term of office, I will be leaving with a heavy heart. I wish my successor in banking supervision all the very best and will always be on hand to offer help and advice if they so wish. There will always be a special place in my heart for the German banking industry, where I have spent 33 years of my career since my time as a banking apprentice.

As a departing member of the Bundesbank's Executive Board, I will not be adopting a "devil may care" attitude – and nor should we when it comes to taking care of our planet.

Thank you.

Deutsche Bundesbank
Communications Department

Wilhelm-Epstein-Straße 14, 60431 Frankfurt am Main, Germany
Internet: www.bundesbank.de | E-mail: info@bundesbank.de
Tel: +49 69 9566-0 | Fax: +49 69 9566-3077

DEUTSCHE BUNDESBANK
EUROSYSTEM

THE FINANCE FUNCTION IN THE DIGITAL AGE: WHAT CFOS NEED TO GET RIGHT

BY **MAURO MARCHIARO**, SENIOR MANAGING DIRECTOR ACCENTURE, ITALY, AND BY **RICCARDO VOLPATI**, MANAGING DIRECTOR ACCENTURE, ITALY, ARTICLE PROVIDED BY ACCENTURE, IAFEI PARTNER

It is a very exciting time to be a CFO. Over the past decade, we have been observing the gradual evolution of Corporate Finance to an increasingly strategic and value-creation oriented role. But after years of incremental improvements, digital is making it all happen now, in full, and at unprecedented speed. We see extraordinary momentum across all industries. The willingness to pursue operating model transformation in Finance and in the whole Enterprise has never been higher, and with very high expectations on productivity and quality, driven by digital technologies. Preliminary outcomes from a very recent research conducted by Accenture, involving more than 900 Finance leaders from all industry sectors globally, shows that 77% of CFOs agree that their remit is expanding to include stewardship of the digitalization of the entire enterprise(1).

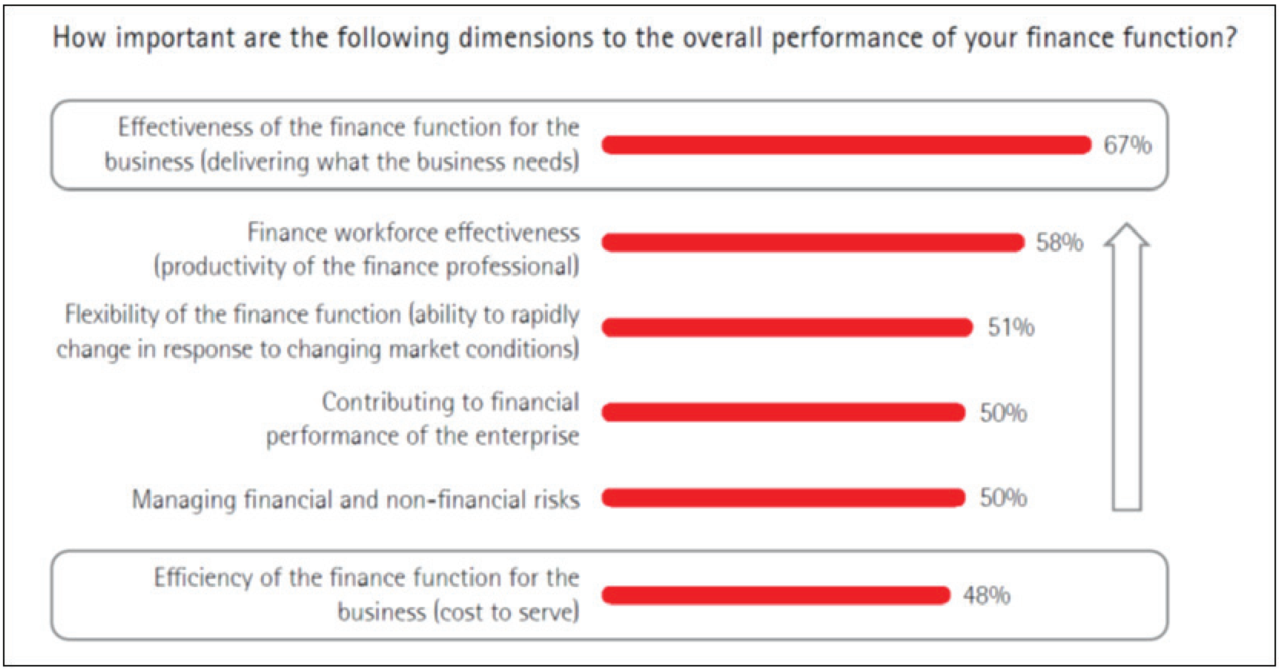
That is indeed a very large majority, but as the consensus grows stronger, it will be more and more critical for CFOs not to underestimate some key requirements for digitalization to be successful, as well as some fundamental change implications that come with it. When assessing perception of current state, research shows there is still room for improvement: only 40% of CFOs surveyed are already leading enterprise-wide transformation, only 37% are using real-time data on a frequent basis and, even more importantly, less than half are starting to see success when driving efficiency through digital (45%)(1).

This evidence suggests that the next few years will be crucial for Finance leaders to fulfill their growing aspiration. But while getting started on the journey might seem the top priority at this stage, making sure that all key aspects of the transformation have been dealt with through a comprehensive approach might end up being the ultimate reason for success or failure.

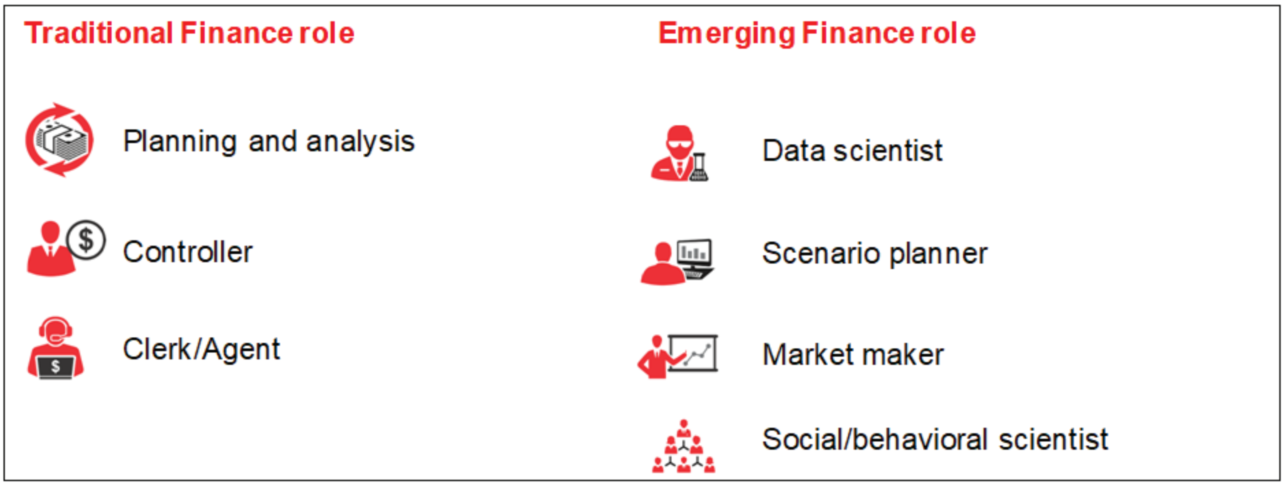
People: talent will still be the core enabler. In the forthcoming Autonomous (highly unmanned) Finance Operations model, automation is seen primarily as a driver for increased productivity and cost saving. As Artificial Intelligence gathers pace together with the robotization of routine activities, transaction oriented jobs are disappearing. And what will not be automated will be sourced through collaborative platforms in the form of Liquid Workforce[2].

In fact, a headcount reduction of 30 to 50 percent over the next five to 10 years is anticipated, according to Accenture's estimates[3]. Due to this, the shape of the Finance organizational will shift from a pyramid to a diamond. Even more important, the Finance Department will soon be populated by totally different professionals than it is today, such as Data Scientists and Robotics/AI experts.

In other words, it is not all about reducing the headcount of the finance department. Research shows that, as strategic focus in most companies has been shifting from cost to growth, Finance will increasingly be assessed more in terms of effectiveness than efficiency.



That means that the Finance organization's talent needs will change rather radically. First, having the right people in place as digitalization occurs is a must-have to reap cost and productivity benefits. On one end, even in the Autonomous Finance Operations model, exception handling will require a selected group of highly qualified professionals. And at the same time, additional human expertise, such as robotic process automation, will be required for the new operating model to maintain its effectiveness overtime. Of course, the Finance department is not supposed to suddenly turn into a bunch of tech gurus, as knowledge about some of the most break-through and evolving innovation will still be sourced from external providers. Nevertheless, the CFO might need to establish a certain degree of in-house competence that goes well beyond traditional finance skills. Organizations will require a smaller number of resources who can handle everything at once. Resources skilled not only in technology, but also in advisory and consultative capabilities—and who can coordinate responses to the internal customer's inquiry in full, in a world of pervasive consumerization and increasing service level expectations.



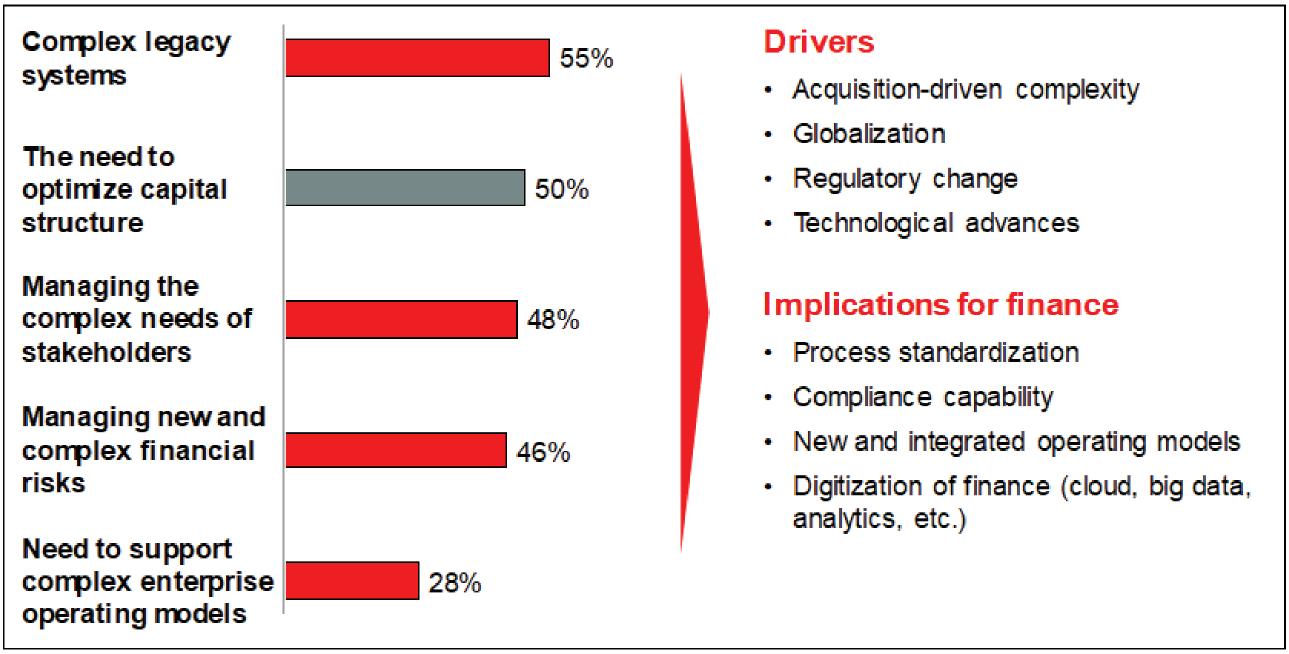
For the above reasons, change impacts should not be underestimated. For the digital transformation benefits to be truly achieved, a clear organizational view on what part of the team could be reskilled to master new roles (e.g. process experts, complex exception handling), what talent should be brought in from the market (e.g. Data Science, RPA, AI), as well as an actionable and realistic approach to redundancy management should be defined early on, along with the digitalization strategy, business case and roadmap.

Big data analytics: it's all about business judgement (time and again). The digital revolution is leading to enormous data abundance. Customers engaged through digital channels offer unprecedented transparency when compared to traditional channels. At the same time, IoT boosted the amount of data generated by business operations along the entire value chain.
As business data increases and becomes more accessible, Finance can capture the opportunity to leverage analytics to drive better business outcomes.
Non-financial data, if processed through appropriate analytic algorithms, can provide a new lens for the CFOs to read business performance, with a new "Augmented Finance" logic. However, research shows that only a minor portion of the available information is currently being exploited for such purposes.
A recent study shows that in traditional sectors like Oil & Gas, for example, around 36% of industry players are already investing in big data and analytics, but only 13% use the insights to drive their approach towards the market and their competitors[4].
A global study conducted by Accenture in 2017 shows that most of the Finance function's time is still spent on data gathering as opposed to value-adding analytics, and automation of data supply is still seen as a challenge[5].

These discrepancies highlight the fact that companies have not always embedded big data and analytics completely in their systems, but are just applying them piecemeal. And what's even more striking, achieving full potential is not a given even when enabling technologies (cloud, in-memory, etc.) are already in place.
Finally, as big data and analytics open new opportunities, some new challenges are also faced by executives: ensuring "Digital Trust" is one of them. Wherever regulatory scrutiny strikes next, one thing is certain: corporate indifference to data and digital ethics can increase reputational risk and create unwelcome headlines.
The recent Cambridge Analytica scandal was not the only major digital ethics related issue that occurred in the recent past: a few years ago, for example, Uber's pricing algorithm, based on supply and demand, failed to consider extraordinary circumstances and quadrupled fares during a hostage crisis in Sydney[6].

So, how can CFOs rise to the challenge in such rapidly evolving scenario, making sure that analytics do generate incremental business value? While technological innovation is for sure a must, you might soon discover that there is no "new" answer to that question. In the old hypothesis-driven times, amid data-scarce environments, applying sound business judgement to a limited set of relevant information was key to make good business decisions. How does that change now that we have big data? Is business judgement out of the picture? Clearly not. You still need that precious ingredient, but instead of applying it to ad-hoc analyses to draw business-relevant conclusions, you now need to use it to define what predictions, insights and underlying algorithms can be industrialized to crack most relevant business issues on a daily basis. In other words, CFOs are required to know what business decisions will benefit the most from a robust data-driven approach, and steer the analytics journey to fulfill those needs. Even in the time of big data, it is far more valuable to leverage analytics to maximize frequency and accuracy of a limited set of highly relevant insights than just increasing reporting reach.

Complexity: take a zero-based approach. As digital business models open the way for unprecedented possibilities, taking a zero-based approach to complexity is key for CFOs to define the point of arrival for the Finance organization, as well as for the whole Enterprise. Complexity has always been a challenge for CFOs, and it still is amid volatile, uncertain and fast-changing business environments. For traditional businesses such as Utilities, for example, the introduction of new digital-intensive businesses (e.g. electric mobility, connected home, etc.) that co-exist and often need to interact with traditional commodity businesses (which are also undergoing digital transformation to an increasing extent) results in a dramatic spike in complexity to be managed. Research shows how complexity is widely recognized by CFOs as the most critical challenge in their roles(7).



Embracing digital technologies without slashing organizational and business process complexity would likely result in missing a big portion of the digital opportunity. This means primarily rethinking the way technology can enable simpler, more agile business models, with a higher degree of process standardization.

When starting a digital transformation journey, part of the issues that the CFOs should address should not only be about what could be done better and more efficiently (given current operating models), but also how the whole operating model could be revised in order to reduce process waste and strip out low value-added activities.

From this perspective, some key operating model dimensions such as the degree of centralization (Global Business Services model), as well as the degree of insourcing (e.g. liquid workforce as opposed to in-house teams), could be reassessed to transition towards a leaner and more effective Finance function.

Notes and Sources

(1): Source: “Preliminary findings from “2018 CFO in the New Research”, Accenture 2018
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TAXATION OF DIGITAL ECONOMY IN ITALY: WHAT YOU NEED TO KNOW

BY **PIERGIORGIO VALENTE**, CHAIRMAN OF THE INTERNATIONAL TAX COMMITTEE IAFEI, APRIL 2018, ARTICLE PROVIDED BY ANDAF, THE ITALIAN IAFEI MEMBER ASSOCIATION

Introductory Remarks

March 2018 saw some key developments in international taxation claiming to overhaul what business taxpayers used to know. Centre of the interest is taxation of the rising digital economy. Thus, on 16 March 2018 the OECD released its long-awaited Interim Report “Tax Challenges Arising from Digitalization”, closely followed by European Commission’s “Digital Tax Package”, published on 21 March. However important at international level, these initiatives are far from being the first in this direction at global level. The primary approaches have been, as usually, unilateral, i.e. by national legislators and hence with local effect.

The reason for national and international legislators’ devotion to tailoring tax regimes for the virtual world is that the latter seems to constitute a real threat to states’ taxable bases – and hence to their tax revenue, resources and subsequently sovereignty. The existing international tax framework was designed for a brick and mortar economy with rigid borders among tax jurisdictions and clear links between business activities and national territories. But the digital economy comes to question such givens proposing activities performed everywhere the web reaches but nowhere in a substantial manner. The links used until now are not sufficient any more, making the strict frontiers fade away. As a result, respective income cannot be adequately taxed.

In view of the risk of reduction of tax revenues and in lack of any concrete re-action at international level, several national tax legislators decided to proceed with unilateral actions. Representative examples are the UK, Israel and India. Italy followed their steps at the end of 2017, introducing the web tax and expanding the definition of permanent establishment to virtual economic presence. Such intention of the Italian government to establish its taxing rights on income from digital activities allegedly connected to the Italian territory was already clear in a series of tax audits over the masters of the web (Amazon, Google, Apple, Facebook).

In light of the above, the business world needs to familiarize with the newly introduced legislation, understand its implications, prepare to comply with any new obligations and take actions to manage any new risks. For this purpose, this article is a short overview of the new Italian regime, taking into account the recent international developments.

Italian Web Tax

To begin with the web tax, it has been envisaged in the Italian Budget Law 2018 and will come into effect in 2019, provided that implementing legislation shall have been issued to detail certain practical aspects. The scope of the web tax includes digital transactions that fulfill three conditions:

- they relate to supply of services via electronic means, i.e., the internet or other networks; and

- they involve Italian residents or Italian permanent establishments of foreign entities; and

- the respective service provider effects over 3,000 transactions in a given calendar year.

In more detail, the condition of supply via electronic means limits the web tax to services rendered in automated manner with the use of information technology without or almost without human intervention. In addition, the tax applies only to business-to-business (B2B) transactions, since it requires that the recipient of the service earns business income. Finally, the tax is primarily targeted to large multinationals with considerable income from digital business activities, as can be derived from the aforementioned quantitative threshold. Nevertheless, it might well affect small and medium enterprises as well that perform high volumes of low value transactions. Notably, the application of the tax does not depend on the location of the supply of services.

In terms of practical application, it is provided that the web tax shall be withheld by the service recipient at a rate of 3% on the service fee (without VAT) at the time of the payment thereof. The amount so withheld must be remitted to Italian Tax Authorities within the first 16 days of the next month from the payment of the service fee. The invoice of the transaction shall include the amount of the web tax as well as indication of application of exemption, in case the service provider does not exceed the quantitative threshold set.

If the above define the framework of the new tax, they leave a number of questions to be answered in future legislation and specifically in a Ministerial Decree to be issued by the end of April 2018 and other implementing rules at the discretion of the Revenue Agency. According to the authorizing Budget Law, such implementing legislation shall (i) define further the objective scope of the tax, i.e. the services to which it applies, and (ii) detail tax compliance issues and exemptions. In any case, future legislation shall also have to clarify how the quantitative threshold shall apply, especially in border-line cases. Most importantly, specifications are needed on how the web tax will apply in conjunction with other income taxes, i.e. whether the latter will apply following deduction of the former or not. Such information is critical to understand and apply the new tax. Nevertheless, no clarifying provisions have been issued until the beginning of April 2018 and the Italian political scenery renders their publication within the set timeframe rather arguable.

Italian Virtual PE

While the application of the web tax in Italy is doubtful, the extension of the Italian definition of permanent establishment to digital business activities is in effect from 1 January 2018. The relevant national legislation has been amended to qualify as permanent establishment a significant and continuous economic presence on Italian territory, structured in such a way as not to evidence physical substance on such territory (art. 162(2)(f-bis) of the Income Tax Code). The provision's wording raises immediately two important questions:

(i) What is "significant and continuous economic presence" and

(ii) What type of structure aims not to evidence physical substance in Italy.

Despite the pending questions, the vagueness of the rule may not be expected to hinder its application in this case. Yet, the discretion of decision permitted to the Italian Tax Authorities makes such application uncertain for businesses and with potential harmful implications for digitalization of the Italian market.

Some indications on the first above notion could possibly be drawn from the international arena and in particular the work of the OECD and the European Commission. The OECD has published the 2015 Final Report on Action 1 of the BEPS Project and the 2018 Interim Report, with an overview of relevant national regimes. In this respect, significant economic presence should be evaluated on the basis of (i) revenue-related criteria, (ii) user-related factors, such as number of users and (iii) digital-related factors, such as local domain name. Nevertheless, the recent European Commission's proposal seems to deviate from the above, since it does not make reference to digital-related factors but to number of contracts concluded between service providers and users. Consequently, the initial uncertainty can be multiplied by reference to the international arena and therefore further legislative intervention is critical to ensure tax compliance.

Some Remarks

The legislative actions described herein evidence the strong intention of the Italian legislative body to tax income from digital business activities. Equally clear is though that the translation of the intention into legislation has been problematic and requires further steps. While the web tax framework is still not complete and hence not applicable, the virtual permanent establishment definition is too vague to satisfy legal certainty standards and permit taxpayers' compliance. Resulting uncertainty has been proven to be a major driver of tax avoidance and a significant dis-incentive for business investment.

Implications of uncertainty are then magnified, taking into account that the above measures are unilateral, with effect limited in the Italian territory. Taxation of digital economy is an issue with international dimensions that cannot be dealt with locally. The very nature of digital activity, without borders, demands international measures based on broad consent. It follows that national regimes can claim only limited effectiveness, if at all. Simultaneously, they risk to impair development and digitalization of the relevant market by driving away potential entrepreneurs.

The above are equally true in relation to the "Digital Tax Package" of the European Commission. Even if the Single Market is much broader and stronger than the Italian one, it is still a small part of the global-digital market. The Commission's proposal can inspire EU-wide legislation to tax the digital before an international agreement is reached and while negotiations are ongoing under the aegis of the OECD. Although the reasons for such initiative are more than understandable, it is necessary to consider the potential risks for the sustainable growth of the Single Market as well as the potential reactions of the international community to such European legislation.

Conclusions

Digital economy is an undisputable fact and needs to be urgently addressed. The lack of concrete international measures has provoked unilateral actions at individual state level. Such measures have been recently introduced in Italy and are mainly reflected in the so-called web tax as well as in the establishment of the virtual permanent establishment. The relevant legislation is however highly problematic and requires clarifications to allow its implementation. Until such clarifications are given, businesses with activities in Italian territory should take risk management measures due to arising uncertainty. From an international perspective, although the first steps have been made both by the OECD and the European Commission, there is still a long way to go to identify appropriate rules.

Hopefully, the various international actors will act in parallel towards a concrete international framework, preventing fragmentation.

IS THE ACCOUNTING PROFESSION READY FOR THE FUTURE?

BY DR. **CONCHITA L. MANABAT**, CHAIR OF THE ADVISORY COUNCIL OF IAFEI, MEMBER OF FINEX, THE PHILIPPINES MEMBER ASSOCIATION OF IAFEI

"I'm most grounded on the role of technology. Ultimately to me it's about the human capital and the human potential and technology empowers humans to do great things. You have to be optimistic about what technology can do in the hands of humans."

-Satya Nadella
Chief Executive Officer,
Microsoft Corporation, USA

On March 6, 2018, Rebekah Brown of the Maryland Association of CPAs made a presentation before the joint meetings of the International Ethics Standards Board for Accountants (IESBA) and the International Auditing & Assurance Standards Board (IAASB) Consultative Advisory Groups (CAG) at the Association of the International Certified Professional Accountants conference room in New York.

Rebekah highlighted the hard trends that have affected the accounting profession and the fast speed of changes. Cited was the unprecedented impact of technology on the chain of processes in the accounting and auditing. She spelled out three important fundamentals to keep in mind –

1. Be aware;

2. With awareness, predict what could be the consequences; and

3. Adapt.

After one and a half hours of discussion and workshop, and reflecting on her presentation, I thought artificial intelligence (AI) and cognitive computing have become increasingly smarter and simultaneously available to firms of all sizes. Paperless transactions translate to enormous digital data requiring data storage that should be kept with integrity intact and readily accessible. In no time, almost on time financial reporting would demand almost on time audit or third party opinion.

In the light of such developments, the following queries came to mind –

a. Are professional accountants trained and have the skills to come up to expectations in a high speed digital environment?

b. In the midst of fast recording and big digital data storage, are appropriate standards of reporting, conduct of professional accountants, standards of responsive digital auditing and assurance available?

c. What has to change in how standards are set in a time of exponential change?

This is the global scene and the Philippine scenario is not too far behind. To a retired professional accountant now serving in the CAG for IESBA AND IAASB, there appears to be a huge gap between what was learned in school, adapted in the practice of the profession and what have quickly evolved in the most recent past vis a vis what may soon to be in place. One can only ask, Is the accounting profession ready for the future?

Dr. Conchita L. Manabat is the President of the Development Center for Finance, a joint undertaking between FINEX Foundation & the UP Virata School of Business. A past President of FINEX and past Chair of the International Association of Financial Executives Institutes (IAFEI), she is now the Chair of the Advisory Council of the said organization. She is also a member of the Consultative Advisory Groups (CAGs) of the International Auditing & Assurance Standards Board (IAASB) and the International Ethics Standards Board for Accountants (IESBA). She can be reached at ***clm@clmanabat.com***.

BUSINESS OR EMOTION? THE ROLE OF SUCCESSFUL CFO WITH EMOTIONAL INTELLIGENCE

INTERVIEW WITH **JOSHUA FREEDMAN**, USA, INTERVIEWED BY **PAOLO FANTI**, ANDAF EMILIA ROMAGNA VICE PRESIDENT AND RESPONSIBLE FOR THE CFO MANAGERIAL SKILLS DEVELOPMENT PROGRAMME, INTERVIEW PROVIDED BY ANDAF , THE ITALIAN IAFEI MEMBER ASSOCIATION

Following the worldwide success of the "2017 World EQ Summit" in Dubai with his international network Six Seconds, Joshua Freedman returned to Italy in a Certified Coach Workshop dedicated to the practice of Emotional Intelligence inside of "Fico Eataly World" (the largest agri-food park in the world).

We interviewed Joshua Freedman, asking what benefits and what valuable information a modern CFO can obtain knowing and using emotional "deep data" for better decisions.

Mr Freedman: in your opinion what scenario in business are facing managers in the next decade?

The situation is stuff. We just did a survey of people in 95 countries from entry level to senior manager and across the board: we see that stress and frustration are high. Another research report that people feel more disconnected than ever in history and also stress is higher than ever. At the same time, I think business leaders are increasingly clear that collaboration is essential, but we have an emotional context which is blocking collaboration.

And even where I live, in Silicon Valley, they used to hire a great coder and they add value, but now what they are saying is “What we need is a team: one great coder, working alone, doesn’t really do much for us.” You probably have heard about a project called Aristotle of Google: we had studied for two years what makes a great team. They started with “rockstar” coder and really good data manager and what they found after two years is that the kind of technical competence is irrelevant.

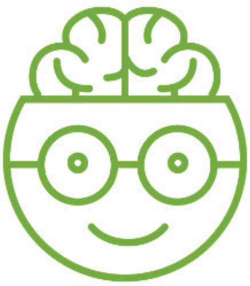
I should say that everybody working there has a fairly high level of competence e so it’s not the technical skills are relevant: in a room full of people who have some pretty good skills been technical good or technical great doesn’t matter. What matters is emotional safety.

Our CFO, who is very competent in numbers, asks: “What does emotional intelligence matter? How it is related to my job?” You know: Cash is King! What is the role of Emotional Intelligence?

If Cash is King, Emotional Intelligence is the Emperor! Honestly, I think it depends on what your job is. If your job is to count coins, then Emotional Intelligence it’s not so important. If your picture of being a CFO is the person who reads a balance sheet and that’s all, you are not interested in what happens to people. But I tell you: I wouldn’t like to hire that CFO. If your job is to lead people, then Emotional Intelligence it’s the most important thing for you. The CFO I’m going to hire is somebody who helps the rest of the team become understand how the finance is affecting our ability to get results. So our CFO is focused on a vision and how to help us to reach that. And obviously he has to be technically competent and come up with the right numbers but that’s not his main purpose. The purpose is to use this financial skills to accomplish something in the world and what creates that impact ultimately is people. And so, if we want to get an understanding of the counting of people is through emotion. Just a concrete example: think about trust like currency. If you could look at the «balance sheet of trust » on your position, you would see where you are losing Human Capital or where you’re creating. I think somebody who really understands finance and also really understands people immediately can apply that acumen at finance: he could say « so, wait a minute: we’re bleeding Human Capital here! We have to solve this problem!».

Harvard Business Review calls it “a paradigm shattering idea,” and research shows it predicts over 60% of work and life success. These skills foster a workplace that attracts great talent and facilitates excellence; and in an era when competitive advantage is hard to find, these competencies set star performers apart. But what is emotional intelligence? And even more importantly, what can you do to leverage this asset?

Emotions can undermine collaboration, fuel dissent, and hamper people’s ability to solve problems. However the opposite is also true: emotions can provide insight, connection, and positive energy that leads to trust, engagement, and true collaboration. The secret is skill with “emotional intelligence” – the capacity to be smart with feelings. So how do you leverage this invaluable asset?



Business Intelligence or Emotional Intelligence? Which is the right question for a CFO in order to reach great goals in business?

The right question is: how do these managers integrate the different aspects of intelligence serving its purpose? How they combine Cognitive and Emotional Intelligence to serve their ultimate goals? I'm thinking about a CEO of a Bank whom I worked with, and obviously, financial acumen is incredibly important for his professional role. But she is in a room full of financially competent people and what do they need from her and she needs to understand is what makes her a very strong leader. this happens when she recognizes: "what my team really needs from me?". The most important goal is to bring your team together. I worked with her and her team a few years ago and then we had the big recession and it was very tough for the bank. But they moved through that pretty smoothly and have continued to grow. And when she told me: "is that because we really worked on being a team, when this horrible situation happened, we were actually able to move forward." Nobody knows when the next crisis is going to come. But what's going to let us move forward even when we could have a new huge storm? Emotional Intelligence in Business means to stay really focused on that kind of strategic investment, that is in the answer to this question: "do we have the trust, do we have the connection, do we have the communication?".

Emotional intelligence ("EQ") is the ability to use emotions effectively – the key competence for relating to people, sustaining drive, and making optimal decisions. I teach people how to increase EQ to be happier, stronger, and more effective professionally and personally.

In this disconnected world, what could be a useful reminder for our CFO?

Remember: people are your job! We say: "Emotions drive people. People drive Performance"! Emotions are what leads people and Emotional Intelligence is "being smarter with feelings".

About the autor

Paolo Fanti, CFO and Business Analyst, is Andaf Emilia Romagna Vice President and Responsible for the CFO Managerial Skills Development Programme

About Joshua Freedman

Freedman is author of "At the Heart of Leadership: How to Get Results with Emotional Intelligence", "The Vital Organization: How to create a high-performing workplace", and "INSIDE CHANGE: Transforming Your Organization with Emotional Intelligence" plus dozens of cases and articles including The Business Case for Emotional Intelligence, The Workplace Vitality Report, and A Hope for Change.

He is coauthor of six validated psychometric assessments including the EQ Leadership Report and the Organizational Vital Signs climate measure, as well a several books and training programs including the Handle With Care EQ Activity Book, the EQ Learning Journal, two volumes of the Self-Science EQ Curriculum, The EQ Leader training, and The Inside Path to Change (used by the US Navy and Marine Corps).

He co-developed Six Seconds' EQ Certification Training which he has delivered on five continents as master-trainer to thousands of professionals seeking practical tools for learning and teaching Emotional Intelligence, and has helped launch emotional intelligence programs and companies in over a dozen countries. More details on the website: www.6seconds.org

Press, Journal Article

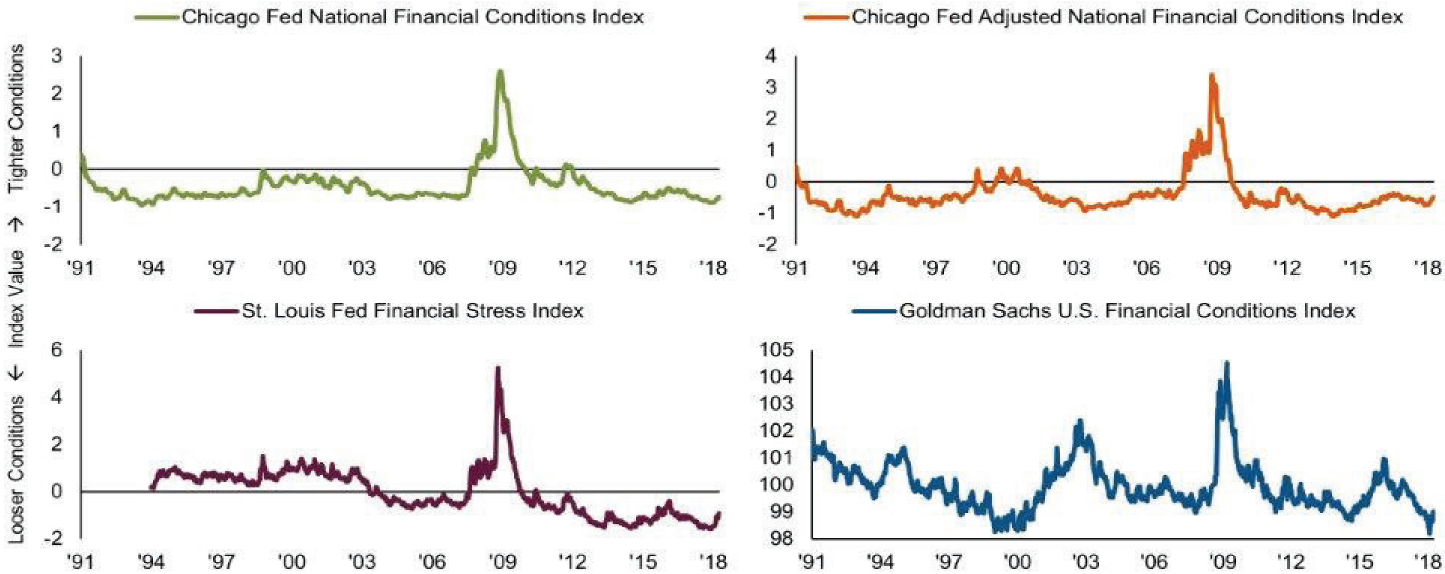
CHART OF THE WEEK

Payden&Rygel
Investment Management

Don't Stress About It

Four Financial Stress Indices

For The Week Ending 4/6/18



Source: Federal Reserve Bank of Chicago, Federal Reserve Bank of St. Louis, Goldman Sachs, Bloomberg

The U.S. Federal Reserve has now hiked interest rates six times since December 2015. As front-end rates rise, traders everywhere worry that "financial conditions are tightening" and that the Fed will overtighten and impede economic activity. But, gauging financial conditions is more complicated than just looking at overnight lending rates. For a broader perspective, we look at four financial stress indices. The Chicago Fed produces two indices that measure financial conditions "in money markets, debt and equity markets, and traditional and shadow banking systems". The *adjusted* index isolates conditions relative to the current economic data. Both of these indices show a negative reading, indicating that financial conditions are still very easy. The St. Louis Fed produces a similar index that incorporates "seven interest rate series, six yield spreads, and five other indicators". This index is also below zero, which "suggests below-average financial market stress". Finally, the Goldman Sachs index—which moves higher in times of stress—actually reached its *lowest* level on record as recently as January 2018. Our advice? Stop *stressing*. Inspect any financial stress index you like: conditions are still very easy.

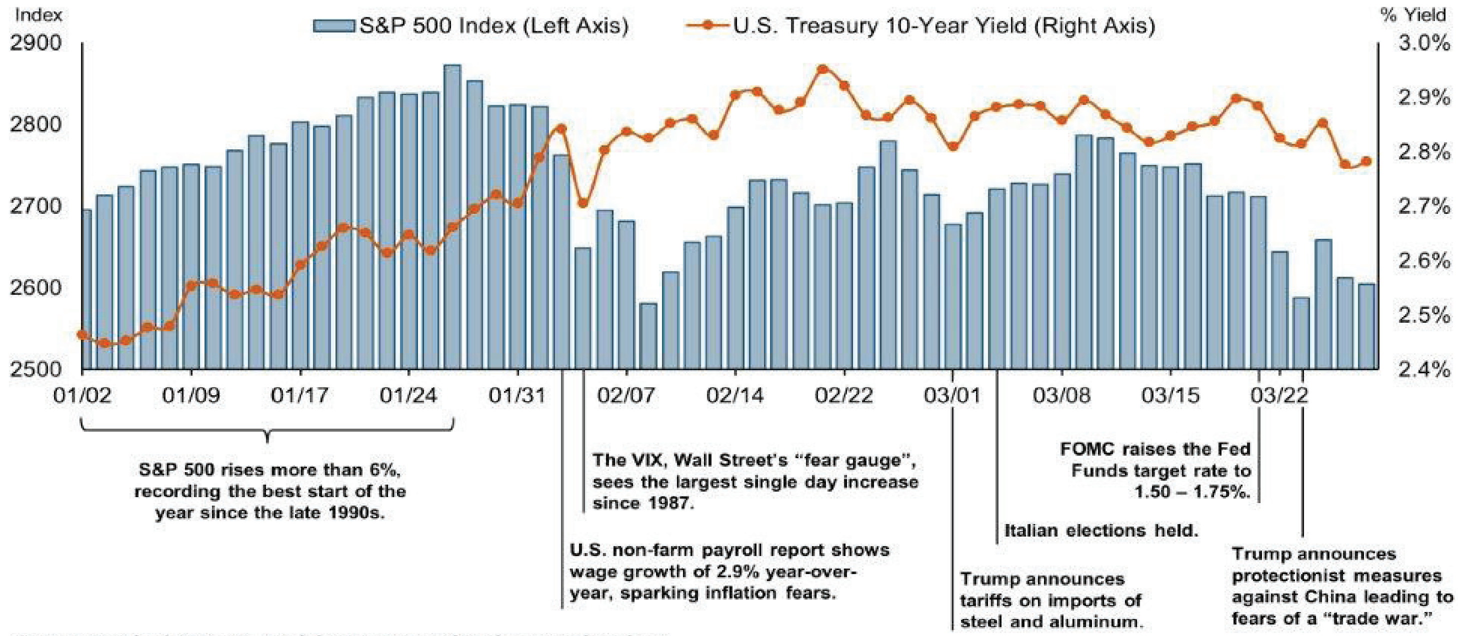
CHART OF THE WEEK

Payden&Rygel
Investment Management

"What Happened?"

Key Macroeconomic Events and the Market Reaction for the First Quarter of 2018

For The Week Ending 3/29/18



Source: Standard & Poor's, Bank for International Settlements, Bloomberg

The S&P 500 Index started 2018 on its hottest win streak since the late 1990s. The International Monetary Fund (IMF) revised up its forecast for 2018 global growth by 0.2% to 3.9%. The January U.S. labor market report showed stellar job and wage growth. With so much good news what could go wrong?!? So far, not much. In fact, in the United States, despite some financial market volatility, economic forecasts have generally improved for 2018. The quarter came to an end with Fed Chair Jerome Powell announcing the Federal Open Market Committee's (FOMC) decision to raise the Fed Funds rate to 1.50-1.75%—a move that was widely expected. The fact that the March move may have been the first of many is still underappreciated, at least by the bond market. Interest rates are rising, though more slowly at longer tenors, even as stocks hold their ground. If growth persists above trend, the unemployment rate falls further, and inflation heads higher over the next couple of years, the path of interest rates will be "steeper" than the market has in mind. What will next quarter's chart look like?

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IAFEI SECRETARIAT Corso Genova, 6 20123 Milan - Italy
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