IAFEI QUARTERLY

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The Premier Global Society of Financial Executives

46th Issue
2019 Dec

Message from the Chairman

Dear IAFEI members,

Season's greetings from the Philippines!

It is my pleasure to present to you the 46th issue of the IAFEI Quarterly, the last for 2019.

2019 has been very busy for IAFEI. A lot of initiatives and projects were explored this year with the hope of expanding our membership and global footprint. Last year, we endeavored to bring more value in being a member of IAFEI.

As we begin the next decade in 2020, let us continue to improve the services that IAFEI provides to your organization. I hope you can do your share, together with the ExCom and Advisory Council, by providing articles to the IAFEI Quarterly and updates for the IAFEI Forum, by significantly contributing to the projects of the Technical Committee and by promoting the advocacies and activities of our global organization to your peers, among others. I believe, these will help us increase our membership.

At this point, I would like to thank all of you for all the support throughout the year and I hope for the same in 2020.

For any suggestions and comments, you may share it through the IAFEI Secretariat at m.vinluan@iafei.org and secretariat.iafei@gmail.com.

A Prosperous New Year to all of us!

Thank you and all the best!

Sincerely,

EDUARDO "Ed" V. FRANCISCO
Chairman

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Intelligent Audit – Getting ready for the next generation compliance controls

by Mauro Marchiaro, Senior Managing Director Accenture, Italy,
and **by Riccardo Volpati,** Managing Director Accenture, Italy

In the fast-changing landscape of corporate digitalization, compliance control activities (commonly referred to as audit) remained rather unchanged for decades. But as new technologies such as AI, RPA and blockchain gain momentum in corporate functions, internal auditing procedures as well as the activity and service mix of external auditors are getting reshaped. In the context of increased regulatory complexity and growing transparency and information requirements, this transformation will not only be aimed at cost reduction, but also at broadening coverage and improving audit robustness and quality.

Large Organizations spend millions of dollars every year on audit services and employ hundreds of people working full time on compliance processes and controls. In addition, internal and external audit costs are expected to grow significantly considering some internal and external factors (e.g. significant percentage of failed inspections carried out by Government watchdog organizations, new regulatory framework and requirements, acquisitions, etc.).

60% of the audit fees are on account of auditor's time in collecting data	20% SEC filers have ineffective Internal controls over financial reporting
Auditor's willingness to develop enhanced audit processes and greater insights identified as a key influencer	58% Auditors and businesses surveyed believe technology will have the biggest impact on audit over the next 3-5 years
One in three audits inspected by PCAOB*, Govt. watchdog fails inspection	39% Survey respondents suggest that PCAOB inspection findings will drive an increase in audit fees.
Leveraging scalable automated testing solutions is identified as the single biggest challenge	Growing demand for data and analytics usage to increase speed and efficiency in audit

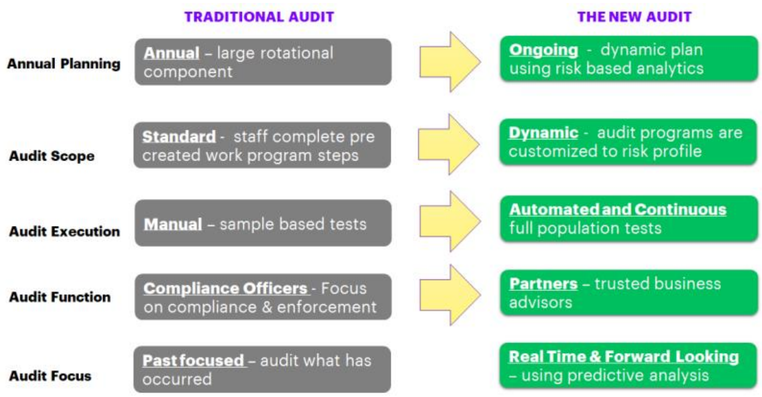
*PCAOB: Public companies accounting oversight board, A government watchdog; Sources: Financial Executives Research Foundation survey; Forbes, Accenture Research

In actual facts, in most Corporate environments the amount of compliance controls to be performed is very material - in the range of thousands of controls – and executed manually, involving many parties and different organizational units (corporate and operations) and leading to high level of complexity and increasing risks of errors.

The digital transformation of Audit can be a bold starting point for the journey of corporate digitalization. As an example, a large Energy Group recently leveraged compliance controls digitalization to focus effort of external and internal audit on high-value added activities, while improving accuracy of controls and enabling continuous audit and monitoring.

Like in any other digital transformation, humans will still remain at the center. New Audit can be considered as a perfect case that would fall into the definition of "Missing Middle" as per P. Daugherty's "Human + Machine" *"While certain job tasks might always be exclusive province of either human or machine, our research shows that many old jobs are transforming, and new jobs are emerging around human-machine teams….The traditional approach has been to view human and machines as rivals, but the binary perspective is overly simplified and neglects the powerful collaboration that have been occurring in the Missing Middle between the two sides."*

Like in Daugherty's "Missing Middle" concept, in the Digital Audit space external (as well as internal) auditors will maintain their relevance when it comes to validating outcomes and robustness of control processes and tools, however the activity and service mix required to get there will substantially change, by being largely delegated to intelligent machines. Additionally, the quality and pervasiveness of controls enabled by the New Audit model will empower their sign-off authority even further, by feeding more structured information and insights.



- technology companies providing pay-per-use solutions to smaller audit firms to smaller audit firms, acting as a link between clients and audit

- financial intelligence firms providing business and financial insight from data collection

Changes in Internal and External Audit

Digitalization of controls will enable Internal Audit organizations to develop new capabilities and opportunities to improve effectiveness of controls. Below some relevant examples:

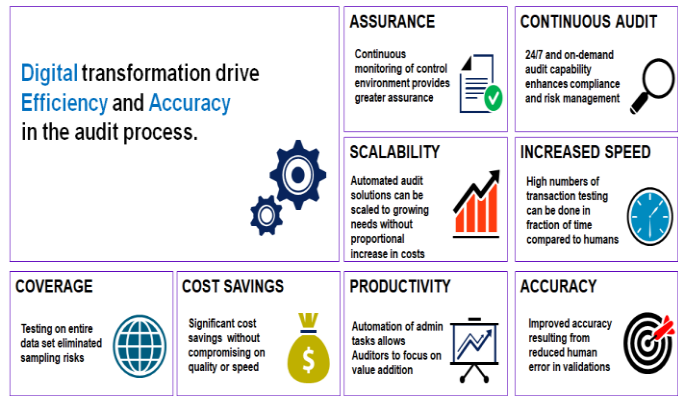
- Enabling process controls to identify problems at point of occurrence
- Increasing the scope of Internal Audit activities moving from a percentage of data (sample) to 100%
- Strengthening teaming with the business to identify and co-create automated solutions
- Expanding capabilities for fraud, overpayment detection or other defined risks and to perform horizontal audits
- Increasing capabilities to measure effectiveness of audit activities

Digital transformation will result in significant reshaping also in External Audit services, pushing auditors to play different roles, adding new services and focusing on more value-added activities and reposition themselves as corroborators of claims made by internal audit. This will require a shift of skills needed by auditors. On one hand the labor-intensive tasks associated with core accounting activities will become executable by intelligent machines, on the other hand new skills will be required including data interpretation and analytics. The auditors will focus efforts on understanding the data to generate insight related to potential risks and gathering audit evidence.

Additionally, disruption in the competitive landscape of audit is expected to bring potentially new and different type of players. A couple of examples:

Digital Enablers fort Intelligent Audit

A combination of new digital enablers including artificial intelligence (AI), robotic process automation (RPA), Analytics and Blockchain will enable the New Audit in the coming years, improving efficiency and accuracy.



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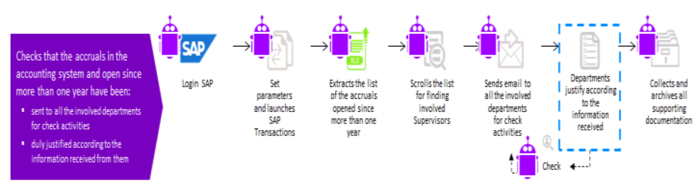
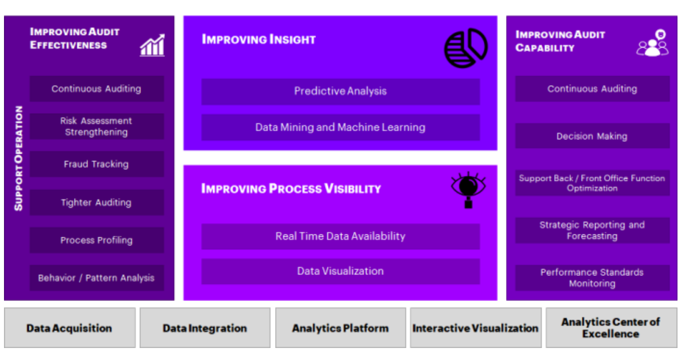
- Robotic Process Automation (RPA) will optimize audit processes by handling rule-based, repetitive, high-volume tasks such as data reconciliation, copy-pasting content and cross-referencing data, extract data from accounting and manage iterations with business users to collect feedback or automate audit and reporting preparation. Automation will involve faster and cheaper audit, enabling increase of frequency of controls and eventually help make the process continuous. Let's describe a basic example that provides a sample picture of how certain controls can be reinvented, resulting in improved robustness as well as lower effort/ cost.



The scope of the control in the above example is to verify monthly all accruals open since more than 1 year. All steps of the process (data extractions from accounting systems, management iterations with business owners to collect feedback, reporting preparation, etc.) can be fully automated, with human user handling exceptions (if any) and focusing on high value added tasks

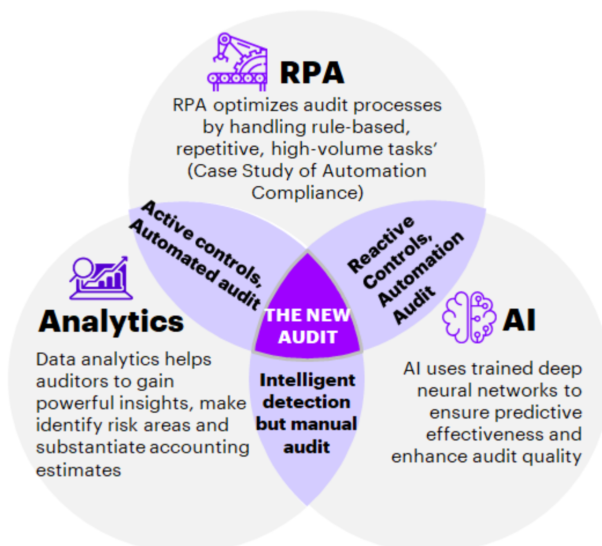
- Artificial Intelligence will use trained deep neural networks to ensure predictive effectiveness and enhance audit quality such as identification of potential outliers or non-compliance against patterns of "normality", identified with data-driven analysis of historical data. AI can work in conjunction with RPA managing high volumes of data. A task involving processing of thousands of documents can take months for a human-only audit team but can be done in a few days with AI, with humans handling exceptions.

- Analytics will help to gain powerful insights from data, identifying risk areas and supporting root cause analysis. Below are a few examples of Audit Analytics main benefits:
    - Continuously capturing exceptions and outliers in data sets from disparate systems, providing information and alerting mechanisms to relevant personnel in an ongoing manner;
    - Obtaining reasonable assurance about whether the financial statements are free from material misstatement, whether due to fraud or error, thereby enabling the auditor to express an opinion on whether the financial statements are presented fairly in accordance with an applicable financial reporting framework
    - Analyzing entire populations of anomalies and potential outliers
    - Enabling predictive views on risk & compliance



The importance of analytics has been recognized by The American Institute of Certified Public Accountants (AICPA), which, after a detailed study of the enablement of continuous audit through analytics, argued that the future audit will encompass an audit module, and/or a monitoring and control layer embedded within the client systems, to ensure a real-time audit of the entered data

- Blockchain or distributed ledger technology, although with lower level of maturity with respect to RPA, AI and Analytics, can fundamentally change in the future the nature of audit due to the capability to automate the tracking and recording of every transactions, enabling grater speed and accuracy in audit activities.



The combination of different digital enablers will be the real game changer to gain unprecedented breakthroughs at speed.

The single Bot does not make a difference in isolation, it's just one of the components in order to achieve the New Audit framework.

Getting ready for the New Audit

Digital evolution of internal and external audit services, although still in its early phase, will accelerate substantially over the next couple of years. CFOs and other Corporate Functions concerned have the opportunity to take advantage of innovation to reap cost as well as improved compliance and lower risk related benefits.

Readiness for the New Audit will require a conscious and activist approach, aimed at ensuring that the audit and the business functions are prepared to change the way they approach and handle compliance controls, with the right information systems and enabling technologies in place. More specifically, this will require them to:

- Evaluate the current state of information systems supporting the audit process

- Assess process and technology maturity in order to identify potential bottlenecks and work with technology providers to address issues as they appear, and identify digital enablers to enable the New Audit

- Plan for the change to elaborate a comprehensive plan with clear objectives and roadmap. The roadmap should address evolution of technology, strong program management governance and change management to ensure a smooth transition to the target model. With the strategy and roadmap in place the company is capable to determine how to reshape the role of internal and external auditor in order to achieve the desired outcomes.

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Accenture Research

OPINION STATEMENT

CFE Tax Advisers Europe response to the OECD public consultation document: secretariat proposal for 'Unified Approach' Under Pillar One

Submitted by CFE to the OECD on 12 November 2019
Endorsed by the Global Tax Advisers Platform

CFE Tax Advisers Europe welcomes the opportunity to contribute to the public consultation on the OECD Secretariat proposals for a 'Unified Approach' under Pillar One concerning the taxation challenges of the digitalising economy. We recognise the initial stage of the new proposals, and that many details are yet to be finalised depending on the direction taken by the members of the Inclusive Framework at political level. CFE would welcome the opportunity to provide more elaborate comments to any new detailed technical proposals in due course.

Key Remarks of CFE Tax Advisers Europe

In responding to the questions posed, we wish to give the following preamble to our reply. We are very much aware of the historic significance of attempting to recognise new taxation rights for jurisdictions, where under present rules no income could be attributed to any nexus not based on physical presence. If the project is successful, it will represent a new departure in the development of global tax policy and the principles it lays down will be used in fashioning future fiscal rules, the need for which we currently do not know. It will become a major precedent.

Considering these circumstances, and in order to make meaningful progress in due course, CFE calls for more clarity and early consensus at political Level as to the outcome of this process, recognizing the consequences of departing from well-established principles of international tax law towards a more complex international tax system which partly introduces formulary apportionment.

For this reason, we are of the view that a number of key elements must be embedded as part of this process and its outcome:

1. **The rights of taxpayers must be respected and ensured as a key bulwark supporting certainty and positive adoption of any new rules** that address the taxation challenges of the digitalising economy. Any new rules should take into account that tax certainty for taxpayers and tax administrations alike are recognised by international stakeholders as a key factor in investment and other commercial decisions, with significant impact on economic growth.

2. Ensuring fairness by recognising new taxation rights for market jurisdictions is an important element of the process, but **the outcome must result in rules which are workable on day-to-day basis for tax administrations, taxpayers and their advisers.** If new income allocation rules are added on top of the existing set of rules that govern the international taxation system, complexity will be even greater.

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3. A related point follows, that **the process needs to take administrative capacity issues at the level of tax administrations and taxpayers as a key consideration in designing the new rules**. Simplicity in implementation and administration of the rules ought to take precedence over other criteria.

4. It is important not to underestimate **the resources needed by tax administrations and capacity issues within tax administrations of developing and/or smaller countries** to deal with multilateral disputes.

5. We also recognise that the agreed rules will need to **assuage countries who have unilaterally introduced or are introducing their own digital services tax rules**, otherwise significant double taxation is at risk.

6. The rules should be framed in such a way that it is clear whether a company falls within the scope of the rules. **A default position that all taxpayers are 'within scope' unless they are subject to an exemption (carve out) is unacceptable, as a matter of certainty**. We believe that the solution should apply only to highly digital businesses.

7. At a minimum, any new rules should only apply where the country-by-country threshold is exceeded (750 million euro), as these rules as designed will undoubtedly result in a significant administrative burden. We also **suggest a profitability threshold in addition to the revenue threshold, in order to qualify more precisely the scope of the new rules**.

8. **The issue of losses needs to be addressed in an equitable manner**. In smaller economies, companies outgrow their domestic market at a relatively early stage. Such companies will undoubtedly incur losses when expanding into new markets. These losses should not only be absorbed in the resident country, while paying tax on profits elsewhere.

9. **Preventing tax disputes, and building international consensus on binding effects of dispute resolution is critical.** These proposals will not work unless there is consensus for all countries to sign up to the binding effect of dispute resolution, which can operate on a multilateral basis and not just on a bilateral basis

   This will inevitably require the development of a brand new multilateral treaty.

10. The security and integrity of taxpayers' data must be assured and computational outcomes should be subject to audit and/or assurance so that issues of conflict, dispute and double taxation can be satisfactorily and economically resolved. For instance, CFE suggests considering a **"one-stop-shop" mechanism to audit Amount A.** Still, further discussions should not underestimate the difficulties in departing from the current entity-based approach and moving to one which uses figures from consolidated accounts, then allocating the resulting tax liability to certain members of the multinational group.

11. **More time should be allowed in order to arrive at workable solutions that will withstand the scrutiny and test of time.** A comprehensive solution should be able to keep within scope the ever-evolving nature of the digitalising business models, resolving the taxation challenges, but equally ensuring the sustainability of the process, which will justify the resources spent by taxpayers, their advisers and tax administrations on making the new rules a reality.

12. Finally, the outcome of this process, from a policy perspective, should recognise that 'value creation' must surely be an equilibrium between two sides of the spectrum: **risks taken by decisions made in the investing countries balanced against any meaningful value derived in market jurisdictions, primarily due to the relative immobility of the purchasers of goods and services.**

Impact Assessment

A comprehensive economic impact assessment is required before taking this process forward, in particular to assess the impact and the combined effects of Pillar One and Pillar Two, as these two projects serve distinct, but concurrent objectives.

Considering the historic significance of this project, much greater information must be ascertained on the serious impact that is to be expected. The impact analysis should establish the economical and administrative- side consequences of this project. For instance, data and research gaps indicate that even for advanced economies, little is known about the nature and scope of residual profits.

1 The IMF for instance, considers the notion of 'value creation' as an incomplete standard by which to assess multinational tax arrangements, IMF Policy Note 'Corporate Taxation in the Global Economy', 2019, p. 18

More generally, existing research demonstrates that the tax burden does not always fall on the taxpayer who is legally responsible for the tax payment:

"In practice, the discussion regarding who bears a tax is often linked to the assumption that the economic burden may align with the legal tax liability. In reality, there can often be large and unintended differences between legal tax liability and ultimate economic incidence. In fact, legal tax liability often bears little relationship to who actually bears a given tax. Moreover, the dynamics whereby a tax burden is reallocated among different actors in the economy are not reflected in tax collection amounts, making economic incidence difficult to analyse".

Research indicates that further studies are required to shed light on the criteria and conditions affecting the allocation of the tax burden, and the related link between tax remittance structure and economic incidence.
Further studies would help to shed light on the ways in which the role of business taxation in the administration of tax systems differs in smaller or developing economies. These important aspects concerning the administration of the tax system and the impact of new tax policy measures merit further consideration from taxation policymakers.

Definition of Scope

CFE recognises the efforts of the OECD Secretariat to identify common features of the initial three-approaches to the taxation challenges of the digitalising economy, in an attempt to define the commonly acceptable elements of business models within scope of the proposed rules. As a rule, the proposals should be framed in such a way that it is clear whether a company falls within the scope of the rules, as a positive obligation, rather than on the basis of excluding certain industries. At present, the Secretariat proposals do not define the precise range of the business models within scope of the newly proposed rules.

In addition, considering the nebulous nature of the concept of 'consumer-facing business' models, which extends beyond technology software companies, it is extremely difficult to define which taxpayers are within the scope, significantly affecting tax certainty. This process should take into account that tax certainty for taxpayers and tax administrations alike is recognised by international stakeholders as a key factor in investment and other commercial decisions,

Which have a significant impact on economic growth.
From CFE's perspective, a default position where all companies are 'within scope' unless they are subject to an exemption/carved out is unacceptable (e.g. as is currently the case for extractive businesses). We recognise the policy intention to bring into scope businesses which derive meaningful value from customer interaction, and who through such interaction create value without physical presence in a market jurisdiction. Where a B2B business model involves sales of consumer products through intermediaries, clarity is required as to whether those are in scope.

Crucially, considering that the new rules would undoubtedly result in a significant administrative burden, these should only apply where the country-by-country revenue threshold is exceeded (750 million Euro), in addition to a profitability threshold. The temporal element of a business presence in a jurisdiction is another important aspect, for example, whether the business has had sustained engagement with the market of a number of years of activity. Such a 'temporal threshold' would ensure maintaining the sustainability of the new nexus rules in an ever-shifting business landscape.

CFE believes that it is important that new laws should be restricted by such thresholds for only very large highly digitalised companies. Any new measures must focus on the formulation of growth-orientated approaches, which leverage on the opportunities of digitalisation for economic growth.

Finally, upsetting the international tax framework without clear economic impact analysis will inevitably lead to adverse outcomes and great uncertainty for all stakeholders. Uncertainty will result in non-uniform application to entities and practices beyond the anticipated scope of the new laws. To mitigate this risk, any new rules should be aligned, as much as possible, with existing international tax principles and practice.

The New Nexus and Profit Allocation Proposals

For instance, the differentiation between routine profits and residual profits, a fraction of which is intended to be allocated to market jurisdictions, remains complicated and a source of potential further conflicts and disputes in allocating deemed residual profits.

2 IMF Policy Paper "Corporate Taxation in the Global Economy" (2019), IMF Publishing, Washington DC.
3 Anna Milanez, "Legal tax liability, legal remittance responsibility and tax incidence: Three dimensions of business taxation", OECD TaxationWorking Papers, No. 32, OECD Publishing, Paris.

For these reasons, clear guidance which will take the form of appropriate revision of relevant soft-law such as the OECD Transfer-Pricing Guidelines is necessary for precise demarcation of lines between routine and residual profits.

We recognise that in order to avoid potential spill over effects, the proposals intend to implement the new nexus rules as a standalone treaty provision, independently from the existing Permanent Establishment ("PE") definition in the OECD Model Tax Convention. However, irrespective of this intention, the relationship between these two provisions (Article 5 of the OECD Model Tax Convention) and the new nexus treaty provision needs to be clearly defined. As the OECD is no doubt aware, the relationship between these two provisions can have significant consequences on the *modus operandi* of the whole tax system, so careful demarcation will avoid taxpayers being subject to double taxation.

More generally, as regards existing transfer-pricing rules and the operation of the Arm's Length Principle, any new rules should be aligned, as much as possible, with existing international tax principles and practice.

Specific Comments Regarding Amounts A, B, C

Specific Comments on Amount A:

Clarity would be welcome on the determination of the deemed non-routine profits, which are at present subject to tax at the residence jurisdiction. According to the proposals, on the basis of global consolidated financial information, a deemed non-routine profit will partly be allocated to the market jurisdiction on the basis of formulary apportionment. To avoid double taxation of such profits in both the residence and market jurisdictions, the taxation right under Amount A should be adjusted to reflect the balance of avoiding double taxation. Typically, if the countries to which profits are allocated under Amount A do not have double tax treaties (and in absence of domestic provisions for juridical double taxation would occur.

In addition, profit attribution on the basis of formulary apportionment could also lead to double economic taxation, which is not at present relieved by double tax treaties.

A "one-stop-shop" mechanism to audit Amount A is also suggested, which would subject the amount to a single review, and be accepted by all relevant taxing jurisdictions.

Specific Comments on Amount B:

CFE understands that the purpose of Amount B is to solidify existing returns under transfer pricing, rather than generating additional revenues for market jurisdictions. In this respect, certainty regarding the baseline would be welcome. As these rules appear to cover a wider range of businesses, clarity would be welcome as to what extent Amount B intends to reward particular industries or regions.

If Amount B becomes established, it has the potential to also apply to smaller companies that fall outside the scope of the rules. This would be acceptable only if it could act as a safe harbour guideline. For example, the globally accepted baseline could be built upon as a template for safe harbour thresholds for smaller companies, to reduce complexity over taxing profits when breaking into new markets.

Specific Comments on Amount C:

There is considerable uncertainty regarding Amount C, in absence of clear political consensus on the scope of the principles underpinning this element, which is in essence a mechanism to adjust the above amounts where the activities justify allocation of additional profits in market jurisdictions. In spite of the elements of Amount C aiming to provide additional certainty and ease of disputes, the calculation of C deviates from the formulary elements under A and goes back to the Arm's Length remuneration under ALP.

Preventing tax disputes and building international consensus on binding effects of dispute resolution is critical.

These proposals will not work unless there is consensus for all countries to sign up to the binding effect of dispute resolution, which can operate on a multilateral basis and not just on a bilateral basis. This will inevitably require the development of a brand new multilateral treaty. It is important not to underestimate the resources needed by tax administrations and capacity issues at level of tax administrations of developing and/ or smaller countries to deal with multilateral disputes.

4 Idem, page 43
5 Para 19 of the OECD Secretariat Proposals for Unified Approach under Pillar One (October 2019)
6 IMF/OECD (2017), OECD/IMF Report on Tax Certainty, updated with OECD/IMF 2019 Progress Report on Tax Certainty, published on 8 June 2019

Addressing the Issue of Losses

The issue of losses needs to be addressed in an equitable manner. In smaller economies, companies outgrow their domestic market at a relatively early stage. Such companies will undoubtedly incur losses when expanding into new markets. These losses should not only be absorbed in the resident country, while paying tax on profits elsewhere. As a consequence, certain "unicorn" companies will come to the end of their loss-making phase when these rules are likely to be rolled out, which will affect countries in which such companies have invested early on, and may potentially not see a return.

Availability of Financial Information

CFE understands that the approach to calculate the amounts A, B and C is to start from the 'top holding' and then dividing the profit, but the primary issue with this approach is the availability and divergence of financial information and the differing accounting rules and standards in different countries. From CFE's perspective, a comparative exercise between jurisdictions seems in order, in order to align the different accounting rules to arrive at similar results.

It is also essential to have a transparent data source, which can be the consolidated financial accounts, but the complexity of drilling down in the profit and loss account to a divisional/ segmented business line should not be underestimated. Companies may not have designed their accounting models/systems to report in such segmented business or regional lines and therefore, it will be important to consult closely with business regarding this issue.

In general, if information is not required in a published set of accounts, then a company will not produce that information. Consultation should also be carried out with relevant stakeholders concerning the development of any system serving as a data source, either to comply with reporting obligations or to justify/verify calculations concerning amounts A, B and C. CFE strongly believes that any systems used in the process must be future proof, i.e. capable of seamlessly moving into a real time environment without a root and branch revision being required.

CFE Tax Advisers Europe is the European umbrella association of tax advisers. Founded in 1959, CFE brings together 33 national tax institutes, associations and tax advisers' chambers from 26 European countries, associated via the Global Tax Advisers Platform (GTAP) with more than 600,000 tax advisers. CFE is part of the EU Transparency Register no. 3543183647-05.

CFE Tax Advisers Europe together with the Asia-Oceania Tax Consultants' Association ("AOTCA") and the West African Union of Tax Institutes ("WAUTI"), established the Global Tax Advisers Platform ("GTAP") in 2013. GTAP is an international platform, representing more than 600,000 tax advisers in Africa, Asia- Oceania and Europe, seeking to bring together national and international organizations of tax professionals from all around the world. The principal aim of GTAP is to promote fair and efficient operation of the global tax framework, including recognition of the rights of taxpayers and advancing global cooperation among tax professionals.

CFE Tax Advisers Europe would be pleased to answer any questions you may have concerning our Opinion Statement. For further information, please contact Piergiorgio Valente, President of CFE Tax Advisers Europe and Chairman of the Global Tax Advisers Platform (GTAP), Stella Raventós-Calvo, Chair of the CFE Tax Advisers Europe's Fiscal Committee, or Aleksandar Ivanovski, CFE Tax Policy Manager at info@taxadviserseurope.org. For further information regarding CFE Tax Advisers Europe please visit our web page http://www.taxadviserseurope.org/ For further information regarding GTAP please visit http://www.taxadviserseurope.org/about-us_gtap/

CFE Tax Advisers Europe is a Brussels-based association representing European tax advisers. Founded in 1959, CFE brings together 30 national organisations from 24 European countries, representing more than 200,000 tax advisers. CFE is part f the European Union Transparency Register no. 3543183647-05. We would be pleased to answer any questions you may have concerning our Opinion Statement. For further information, please contact Piergiorgio Valente, CFE President, Ian Hayes, Chair of the CFE Tax Technology Committee, Stella Raventós-Calvo, Chair of the CFE Fiscal Committee, Wim Gohres, Chair of the CFE Professional Affairs Committee, Aleksandar Ivanovski, Tax Policy Manager, or Brodie McIntosh, Tax Technical Officer, at info@taxadviserseurope.org. For further information regarding CFE Tax Advisers Europe, please visit our web page http://www.taxadviserseurope.org/

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7 Large technology software companies, who mostly sell to other businesses (B2B), may be left out of scope, which might not be the intended outcome of this process.

8 For instance, under Amount A, one could determine the amount of profits made in the market jurisdiction by considering a 10/10 ratio or indeed 20/20 ratio. For example, companies with a 10% profit margin would be within scope, with 10% of their excess residual profits being allocated to markets.

9 "Routine profit is the profit that an independent contractor would be expected to earn, given that it does not share the overall risk of the business. Residual profit is profit earned by the business in excess of this routine profit. It is tempting to equate this distinction between the routine profit and residual profit to the economic distinction between the normal return on an investment and economic rent, even though they would be calculated differently. However, while there is some overlap between the two distinctions, they should not be thought of as equivalent. In sum, therefore, it is possible that the residual profit may be greater than, or smaller than, economic rent of the overall enterprise.", Michael

Global Tax Advisers' Platform

by Piergiorgio Valente, Chairman of the IAFEI Technical Committee

GTAP: 2019 Convention

On 3 October 2019, the Global Tax Advisers' Platform (GTAP) members convened in Turin. Outcome of the meeting was the Turin-Busan Declaration, setting four key priorities for the fair and efficient operation of national and international tax systems.

GTAP was formed in 2013 by CFE Tax Advisers Europe ("CFE"), Asia-Oceania Tax Consultants' Association ("AOTCA") and the West African Union of Tax Institutes ("WAUTI"). Aim is to promote close cooperation of tax advisers around the globe. In fact, the three founding members represent an important number of tax advisers in Europe, Asia and Africa (more than 600.000 tax advisers).

Tax advisers' single voice through GTAP claims a stronger impact to the shaping of taxation worldwide. It is hence important that the business world keeps pace with tax advisers' initiatives and seeks to interact therewith. Fair taxation and effective tax advice are indeed, primarily, to the interest of the business world and of taxpayers. multinational, even if only in terms of taxable transactions. Accordingly, tax legislators have enhanced their cooperation in the context of international organizations and bodies, like the Forum on Harmful Tax Practices (FHTP) under the aegis of the OECD. In the same vein, enforcement through tax authorities is necessarily touching upon various jurisdictions, demanding that tax authorities work together. Indeed, tax authorities are continuously developing their network and exchange of information means, e.g. in the Forum on Tax Administration (FTA).

Under these circumstances, tax advisers took action to strengthen their own links. It was considered that tax advice is no more limited by jurisdictional borders. Effective tax advice is consistent at worldwide scale. In addition, national tax systems are developing in a Common direction, driven by the globalization of the economy and the digitalization of transactions. As a result, tax advisers worldwide share the same question-marks.

The Context

The context within which GTAP has been established is highly demanding and fast-paced. Tax legislators engages in heated discussions over the effective taxation of digital economy and a potential minimum effective taxation. New tools are constantly being elaborated to combat tax avoidance: tax advisers are asked to disclose their advice and businesses to provide detailed information on their business activity.
In such context, it was considered crucial to establish a body that keeps an eye on the tax-relevant developments worldwide and voices the interests of the "other side", i.e. the taxpayer and the tax adviser. This is GTAP's mission.

The Turin-Busan Declaration

The Declaration signed in Turin this October sets four priorities in global tax policy:

1. Tax for Growth;
2. Sustainable Tax Policies;
3. Tax and Digitalisation;
4. Taxpayers' Rights and Certainty in a Fast-Paced World.

These priorities are for the short-term future.

They might sound self-evident. Yet, a lot of work would be needed before they become tax reality, given. Growth and sustainability are often neglected to give priority to short-term policies oriented towards, often aggressive, tax revenue collection and compensation of tax avoidance losses from compliant taxpayers.

1 GTAP, https://taxadviserseurope.org/about-us_gtap/

2 Inclusive Framework on BEPS: Action 5, *Harmful Tax Practices - 2018 Progress Report on Preferential Regimes*, https://www.oecd.org/tax/beps/harmful-tax-practices-2018-progress-report-on-preferential-regimes-9789264311480-en.htm

3 About the Forum on Tax Administration: https://www.oecd.org/tax/forum-on-tax-administration/about/

In the area of digital taxation, there might be wide consent as to the need to find a solution to tax the digital economy; yet the debate is going on already for years without a conclusion. Equally, amidst debates on how best to form taxation in the future, the implementation of new obligations for taxpayers, the increased enforcement activity, certainty and taxpayers' rights risk to be undermined.

Piergiorgio Valente
Charmain, IAFEI International Tax Committee

4 OECD/G20, Inclusive Framework on BEPS, *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalization of the Economy* (May 2019), https://www.oecd.org/tax/beps/programme-of-work-to-develop-a-consensus-solution-to-the-tax-challenges-arising-from-the-digitalisation-of-the-economy.pdf

5 OECD, BEPS Action 12: Mandatory Disclosure Rules, https://www.oecd.org/tax/beps/beps-actions/action12/

6 OECD, BEPS Action 13: Country-by-country reporting, https://www.oecd.org/tax/beps/beps-actions/action13/

7 GTAP, *Towards fairer and more efficient tax systems: the GTAP founders sign the Torino-Busan Declaration*, https://taxadviserseurope.org/blog/towards-fairer-and-more-efficient-tax-systems-the-gtap-founders-sign-the-torino-busan-declaration/

FRANCE and USA

Global slowdown expected

By **John Graham**, D Richard Mead Jr. Family Professor of Finance, The Fuqua School of Business, Duke University and
Philippe Dupuy, Associate Professor, Accounting, Law and Finance, Grenoble Ecole de Management

IAFEI AND A GROUP OF PARTNERS AMONG WHICH DUKE UNIVERSITY AND GRENOBLE EM SURVEY CFOs ACROSS THE WORLD. FOR THE THIRD QUARTER 2019, THE SURVEY WAS RUNNING FROM 27TH AUGUST TO 13TH SEPTEMBER 2019.

- Business optimism remains high in the world but a recession is likely before fall 2020 U.S. Presidential Election.
- No region of the world appears to be on solid enough economic footing to be the engine that pulls the global economy upward

The CFO survey has been conducted for 94 consecutive quarters and spans the globe, making it the world's longest-running and most comprehensive research on senior finance executives. Results are for the U.S. unless stated otherwise.

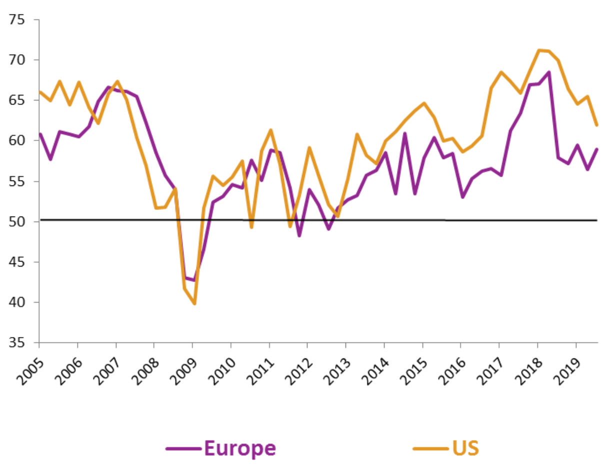
Pessimism Rising

The CFO Optimism Index, which historically has been an accurate predictor of hiring and GDP growth, fell this quarter. Fifty-five percent of U.S. CFOs have become more pessimistic compared to last quarter, far outnumbering the 12 percent who say they have become more optimistic.

Business optimism has not been this low since September 2016, a time when the unemployment rate was 5.0 percent. Optimism fell in all regions of the world, which exacerbates any slowdown occurring in the U.S.

Optimism in the U.S. is 63 on a scale of 0 to 100. Optimism also declined in all other regions: Europe (59), Asia (51), Latin America (57), and Africa (39).

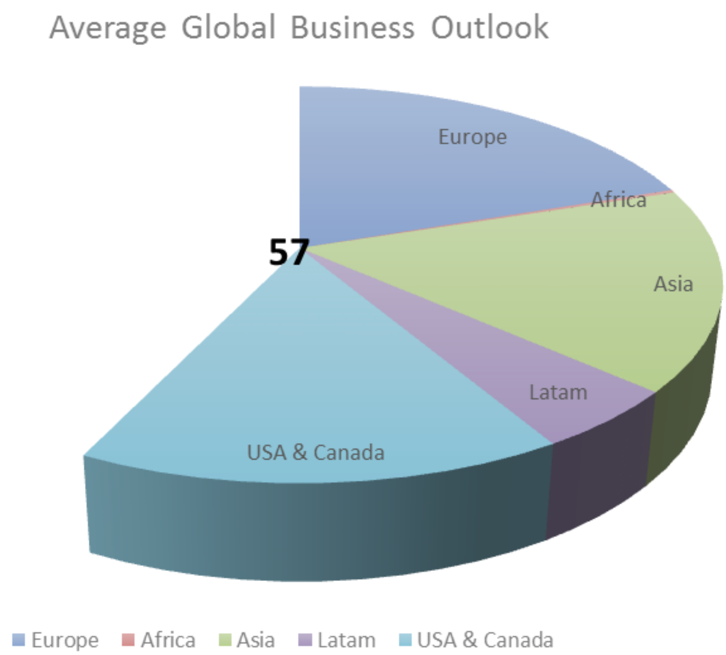
CFO survey: Optimism index



Recession Likely Before Fall 2020 U.S. Presidential Election

More than half (53 percent) of U.S. CFOs believe that the U.S. will be in an economic recession by the third quarter of 2020, and 67 percent predict a recession by the end of 2020. The CFOs' views are consistent with other important indicators, such as the inversion of the yield curve.
Eighty-one percent of African CFOs believe their countries will be in recession by the third quarter of 2020, as do the majority of CFOs in Asia (72 percent), Europe (69 percent), Canada (68 percent), and Latin America (65 percent).For the first time in a decade, no region of the world appears to be on solid enough economic footing to be the engine that pulls the global economy upward. Trade wars and broad economic uncertainty are hurting economic outlooks worldwide.

CFO survey: Optimism index



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

Economic Uncertainty, Hiring Qualified Workers Are Top Concerns

Economic uncertainty has displaced difficulty hiring and retaining qualified employees as the top concern among U.S. CFOs. Recruiting and retaining talent remains the second most pressing concern. Other prominent concerns include government policies, data security and the rising cost of employee benefits.

Concerns are similar in many regions of the world, with some exceptions. Many executives in developing countries are troubled by currency risk, while executives in Europe are concerned about regulation.

CFOs are frustrated about not being able to hire workers with skills that are well-matched to their job openings. Worker shortages are occurring at varying skill levels.

Around the globe, CFOs in many industries list shortages in engineering, information technology, software programming and sales. Manufacturing and mining companies are looking to hire machine operators, mechanics, technicians and drivers. Medical technicians are also in short supply, according to the survey.

Weak Business Spending

Business spending is often weak in the face of economic uncertainty, which is what the survey finds in the U.S., with a less than 1 percent increase in capital spending expected over the next 12 months. Spending is expected to be strongest in Europe (5 percent growth), followed by Latin America (3 percent), Asia (no growth), and weakest in Africa (-4 percent).Executives do not want to be caught unprepared for the next recession like they were in the global financial crisis. There are plenty of warning signs and now is the time to be prudent. Who wants to put their firm at risk by increasing borrowing to fund a major new project when a recession could be on the horizon? It is no surprise that capital expenditures have dried up.

The survey period ended September 13 and generated responses from more than 500 CFOs, including 247 from North America, 54 from Asia, 67 from Europe, 127 from Latin America and 37 from Africa. For more information: philippe.dupuy@grenoble-em.com

Results for 225 U.S. firms (own-firm changes expected during the next 12 months)

	Sept 2019	Jun 2019	Mar 2019	Dec 2018	Sept 2018
Weighted Averages for	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months
Earnings growth*	3.3% Median=5.0%	4.1% Median=5.0%		4.5%	12.8%
Capital spending	0.6% Median=2.0%	3.4% Median=2.0%	8.2% Median=5.0%	1.0% Median=2.0%	5.7% Median=5.0%
Advertising and marketing spending	1.6% Median=1.0%	2.8% Median=2.0%		1.3%	3.6%
Technology spending	5.0% Median=3.0%	4.8% Median=2.0%		4.3%	6.3%
R&D spending	0.6% Median=0.0%	2.1% Median=1.0%		1.4%	2.7%
Employment – full-time	2.1% Median=1.0%	3.4% Median=2.0%	4.6% Median=2.0%	3.6% Median=3.0%	3.9% Median=2.0%
Wages and Salaries	3.9% Median=3.0%	3.8% Median=3.0%	5.1% Median=3.0%	4.2% Median=3.0%	4.8% Median=3.0%
Inflation (Chg in prices of own-firm products)	1.7% Median=2.0%	1.4% Median=1.0%		2.7%	3.0%
Health Care Costs	6.1% Median=5.0%	6.2% Median=5.0%		6.0%	7.8%
Revenue	4.8% Median=3.0%	5.1% Median=4.0%	6.3% Median=5.0%	4.9%	7.5%

* indicates public firms only. All other numbers are for all survey respondents (including private). The reported averages are weighted by revenue or number of employees, so that large firms are weighted more heavily.

U.S. BUSINESS OPTIMISM
Duke's Fuqua School of Business / CFO Magazine Global Business Outlook

	Sept 2019	Jun 2019	Mar 2019	Dec 2018	Sept 2018
	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.
Optimism about the U.S. economy	More opt: 11.8% Less opt: 55.2% No chg: 33.0%	More opt: 19.8% Less opt: 40.1% No chg: 40.1%	More opt: 24.1% Less opt: 36.8% No chg: 39.1%	More opt: 16.6% Less opt: 45.0% No chg: 38.4%	More opt: 43.6% Less opt: 23.0% No chg: 33.3%
U. S. optimism level (0 to 100)	62.6	65.7	64.6	66.4	70.0
Optimism about own company	More opt: 32.4% Less opt: 36.0% No chg: 31.5%	More opt: 44.3% Less opt: 27.0% No chg: 28.7%	More opt: 48.3% Less opt: 21.9% No chg: 29.9%	More opt: 35.1% Less opt: 32.7% No chg: 32.2%	More opt: 48.6% Less opt: 21.4% No chg: 30.0%
Own company optimism level	67.1	68.1	70.4	68.5	71.4

Results for 67 European firms (own-firm changes expected during the next 12 months)

Weighted Averages for	Sept 2019	Jun 2019	Mar 2019	Dec 2018	Sept 2018
	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months
Earnings growth*	3.6% Median=2.0%	2.3% Median=3.8%		6.2%	7.6%
Capital spending	5.3% Median=0.0%	7.1% Median=4.6%	8.5% Median=5.0%	2.2% Median=0%	1.5% Median=2.0%
Advertising and marketing spending	-0.7% Median=0.0%	4.0% Median=0.8%		0.7%	1.0%
Technology spending	2.0% Median=0.0%	3.6% Median=0.0%		3.5%	4.8%
R&D spending	2.9% Median=0.0%	4.5% Median=4.7%		1.7%	2.9%
Employment – full-time	0.1% Median=0.0%	-0.3% Median=0.0%	1.8% Median=1.0%	1.6% Median=1.0%	1.6% Median=1.0%
Wages and Salaries	2.5% Median=2.0%	4.7% Median=3.0%	2.9% Median=2.0%	3.1% Median=2.0%	2.2% Median=2.0%
Inflation (Chg in prices of own-firm products)	1.7% Median=1.0%	4.8% Median=2.0%		1.5%	1.2%
Health Care Costs	0.7% Median=0.0%	3.7% Median=2.3%		1.8%	0.7%
Revenue	2.4% Median=2.0%	8.5% Median=5.0%	3.5% Median=3.0%	5.4%	3.8%

* indicates public firms only. All other numbers for all survey respondents (including private)

European BUSINESS OPTIMISM

	Sept 2019	Jun 2019	Mar 2019	Dec 2018	Sept 2018
	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.
Optimism about the country's economy	More opt: 24.2% Less opt: 45.5% No chg: 30.3%	More opt: 20.3% Less opt: 50.8% No chg: 28.8%	More opt: 26.2% Less opt: 38.3% No chg: 35.5%	More opt: 11.0% Less opt: 54.9% No chg: 34.1%	More opt: 23.6% Less opt: 37.8% No chg: 38.6%
Country optimism level	59.2	56.5	59.5	57.2	57.9
Optimism about own company	More opt: 26.2% Less opt: 35.4% No chg: 38.5%	More opt: 28.8% Less opt: 32.2% No chg: 39.0%	More opt: 42.4% Less opt: 25.1% No chg: 32.5%	More opt: 32.1% Less opt: 33.3% No chg: 34.6%	More opt: 32.3% Less opt: 26.0% No chg: 41.7%
Own company optimism level	64.1	62.2	67.5	64.1	62.5

Results for 38 Asian firms (own-firm changes expected during the next 12 months)

	Sept 2019	Jun 2019	Mar 2019	Dec 2018	Sept 2018
Weighted Averages for	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months	Expected growth in next 12 months
Earnings growth*	1.6% Median=0.0%	3.0% Median=2.1%		6.4%	14.7% Median=5.0%
Capital spending	-0.1% Median=0.0%	4.7% Median=2.0%	11.0% Median=5.0%	10.0% Median=3.4%	4.6% Median=0%
Advertising and marketing spending	4.3% Median=0.0%	3.8% Median=1.0%		3.0%	2.5%
Technology spending	1.6% Median=3.2%	4.5% Median=2.0%		4.6%	4.1%
R&D spending	1.2% Median=2.2%	4.5% Median=5.9%		3.2%	3.8%
Employment – full-time	-0.9% Median=0.0%	2.3% Median=2.5%	3.0% Median=1.0%	2.0% Median=3.0%	3.5% Median=2.7%
Wages and Salaries	1.0% Median=2.2%	3.7% Median=3.0%	6.1% Median=5.0%	2.2% Median=2.0%	4.3% Median=3.0%
Inflation (Chg in prices of own-firm products)	-4.1% Median=0.0%	0.9% Median=0.0%		1.5%	3.6%
Health Care Costs	0.4% Median=0.0%	1.8% Median=0.0%		2.1%	2.4%
Revenue	1.1% Median=3.0%	2.2% Median=-0.4%	10.4% Median=7.4%	5.1%	6.7%

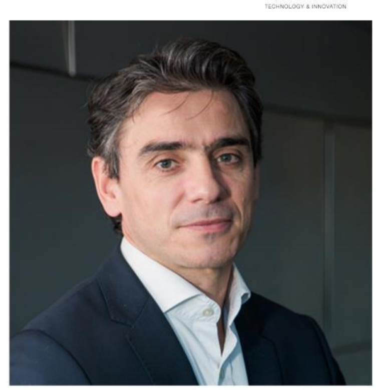
* indicates public firms only. All other numbers for all survey respondents (including private)
** numbers in the bracket are GDP-weighted results

ASIA BUSINESS OPTIMISM

	Sept 2019	June 2019	Mar 2019	Dec 2018	Sept 2018
	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.	Compared to last qtr.
Optimism about the country's economy	More opt: 18.5% Less opt: 61.1% No chg: 20.4%	More opt: 25.9% Less opt: 55.6% No chg: 18.5%	More opt: 47.4% Less opt: 29.6% No chg: 23.0%	More opt: 16.2% Less opt: 64.3% No chg: 19.5%	More opt: 21.8% Less opt: 43.4% No chg: 34.7%
Country optimism level	50.7	53.8	64.9	51.9	59.5
Optimism about own company	More opt: 35.2% Less opt: 40.7% No chg: 24.1%	More opt: 22.2% Less opt: 37.0% No chg: 40.7%	More opt: 60.7% Less opt: 19.3% No chg: 20.0%	More opt: 20.6% Less opt: 50.2% No chg: 29.1%	More opt: 20.4% Less opt: 35.7% No chg: 43.9%
Own company optimism level	58.1	58.6	69.6	58.8	59.8

DUKE THE FUQUA SCHOOL OF BUSINESS
CFO | DUKE CFO GLOBAL BUSINESS OUTLOOK
GRENOBLE ECOLE DE MANAGEMENT

John Graham, D. Richard Mead Jr. Family Professor of Finance, The Fuqua School of Business, Duke University



Philippe Dupuy, Associate Professor, Accounting, Law and Finance, Grenoble Ecole de Management

“To become more efficient, is not easy”

Interview with **Dr. Arno Antlitz**, CFO of the Volkswagen Passenger Cars Brand, article provided by GEFIU, Association of Chief Financial Officers Germany, the German IAFEI member association.
The interview was made **by Carsten Steevens**

The CFO of the Volkswagen Passenger Cars Brand, Germany, about progress at the increase of return and the financing of the electrical strategy.

Mr. Antlitz, producers like Volkswagen are standing before unclear profit perspectives and - in the course of changing over to electromobility - a foreseeable shrinking of demand for combustion engine cars. How do you address this?

The electric vehicles do contribute the core contribution to our strategy towards emission free mobility. It is true, though, as well, that the margins of e-vehicles by comparison to combustion engine vehicles will at first be lower. But over the medium term the enormous economies of scale will help us. Here we have, by way of our platform strategy, with the modular electro tool box (MEB) decisive advantages. We must, however, earn the high advance contributions for the modular electro tool box. Adding to this is the cost burden, to lower the fuel consumption and the CO2 emission of our conventional vehicles.

How can this be achieved ?

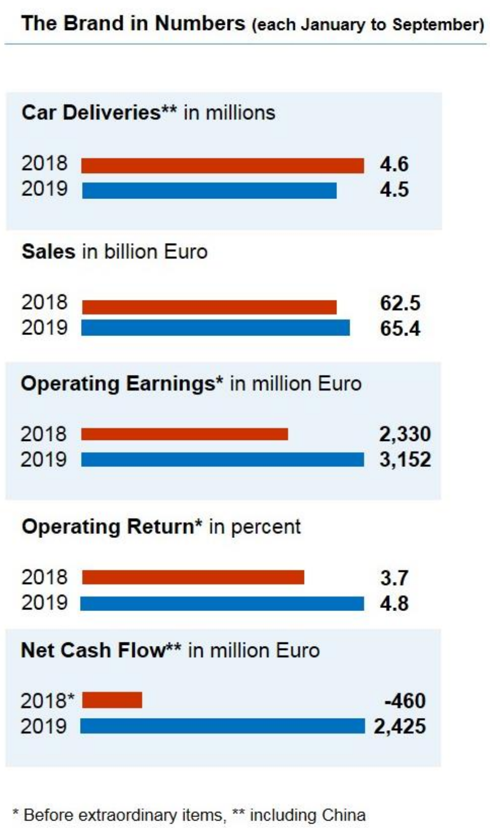
We have recognized this development relatively early and addressed it with our Pact for the Future.

The Pact, which we have set up in 2016 and agreed upon with the company´s labour union council, has two essential objectives: Firstly, to become more efficient and productive. Secondly, the consistent reorganisation of the entire organization, which is necessary, in order to maintain in the electric future a leading position in competition. Here it is also about building new abilities, like software development.

The perspectives for the automobile industry are all other than rosy, many corporations of the industry have issued profit warnings. What then is making you so sure, that Volkswagen will attain its objective, advanced by three years to 2022, of an operating margin of 6 % ?

The basis of our business is the continued stable sales of our broadly diversified and attractive product portfolios - and this in an overall shrinking total market. Since 2016, we have built the financial turnaround on three long term columns: Firstly a broad based product offensive, especially new SUV´s, secondly the Pact for the Future at the German sites, and thirdly the financial turnaround in important regions in the world.

Volkswagen Passenger Cars at a glance



But the circumstances are changing.

Naturally, over such a long execution period also always the framework conditions are changing. For instance, the economic development in Argentina, an important market for us, is not really helpful. But by and large one can say: The product offensive is well on its way, the Pact for the Future and the turnaround programs in the regions are moving forward.

What effect does this have on the business development ?

This you can see very well from our nine months performance numbers: The sales increased by 4,7 % to 65,4 billion €. The operating earnings, before special items, increased by good 800 million € to 3.2 billion € - admittedly measured against a previous year which had been burdened with WLTP (for definition see footnote at end of interview). There is, however, no time for euphoria: The economic framework conditions are not becoming easier. In spite of high cost discipline, the fixed cost of the Volkswagen Passenger Cars Brand in the first nine months have risen by 370 million €, mainly driven by the large product introductions and advance contributions for the modular electro tool box.

What does this mean?

It is of decisive importance, that we further strengthen our competitive position especially in the German works. We must compensate high production site costs, to a much greater degree than up to now, by progress at the productivity.

How far have you got by putting in practice the Pact for the Future agreed upon in 2016 for Germany ?

The Pact for the Future has commenced well. Of the planned savings planned till the end of 2020 by the amount of 3 billion €, 2.5 billion € have been realized by end of September. This is the result of a great team work. The perhaps even more important objective, however, is the attaining of the massive transformation, which we need: We have decided in 2016, to cut back 23.000 jobs, in the German units - headquarter and production sites - by efficiency measures and at the same time re-build 9.000 jobs in future areas like software-development or new digital services.

How are you proceeding here ?

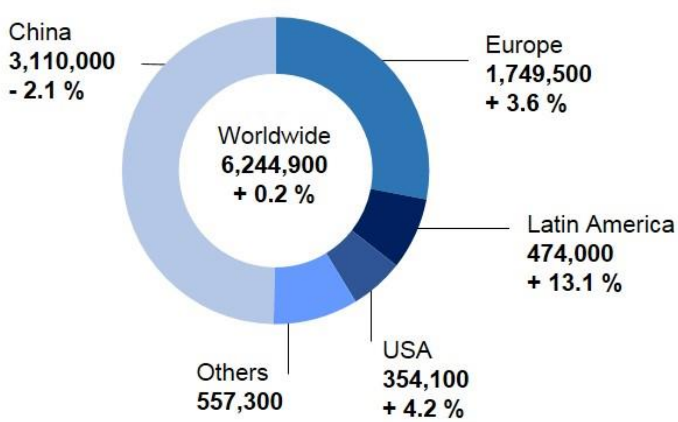
In these two areas we so far have got along roundabout only half way. It is seen daily: To become more efficient, is not easy, and it costs convincing work. The transformation of our organisation is the even bigger challenge. But here lies also the great chance for our Volksawagen Passenger Cars Brand. When the re-building will be achieved - and of this we are convinced - then we have created the basis in order to perform a leading role also in the electronic, software based future.

Performance drivers are the extension of the portfolio of City-SUV´s, improvements at the fixed costs as well as the turnaround in the regions such as Latin and North America as well as Russia. The fixed costs, as you say, have risen in 2019. How do you assess the progress in the other areas ?

The SUV – offensive contributes materially to the increased return of the Volkswagen Passenger Cars Brand. We have markets like the USA, there the share of the SUVs as a percent of total output deliveries is already at 50 %. In other markets we still have chances for growth in this segment.

This provides us with the earnings power, which we urgently need for our investments into the future, regarding digitalization and electromobility. We have spoken about our Pact for the Future. The stabilization of sales and return in the regions, meaning in such important markets like North and South America or Russia, is the so much more important, because the prospects for growth have been dimmed in so many markets due to continued geopolitical tensions.

Car Deliveries (Total Year 2018)



Source: Company

How do you now proceed in the regions ?

In the past, in the regions we invested either heavily, or we were saving for a long time. Today we pursue both levers at the same time: Broadly set up product offensives with new attractive vehicles and investments in marketing on the one hand. At the same time we are working very consistently at cost reductions - with success. In Russia we are already profitable since 2017. As to the turnaround in North and South America we are already on a good way and we are striving for break-even in the coming years. However we have to keep an eye on the overall situation. Here negative developments may happen, due to volatile political situations in some countries and to changes in trade policy.

As to the key word SUV Offensive: Will the Volkswagen Passenger Cars Brand fulfill the increased requirements, which in Europe require a passenger car maximum value of 95 grams CO2 for new vehicles ?

The maximum value for the passenger car fleet for Volkswagen is anticipated to be for 2021 lightly above 95 grams CO2, per kilometer. Because the target value is calculated for the entire weight of the entire vehicles fleet. And here our product mix has been moved towards SUV. Through this, the attaining of the maximum value has naturally not been made easier. But we are confident, that we shall fulfill the CO2 target for the entire vehicle fleet in the coming years.

How ?

We are working consistently at increasing the efficiency of our engines, and we produce, as an example, mild hybrids on a broad basis. The offensive for electrification produces a decisive contribution to reaching the objectives for the entire vehicle fleet.

How far are you with getting away with low volume and low profitability models and variations, and what are your further plans ? It is still about setting free means for investment in your electromobile plans.

At the beginning there was the question: How can we provide exact offers as well in the conventionally powered world as well as in the electro powered world to the customers ? It is clear, that the financial means of every corporation are not endless. Our plans are up to now, to invest in the Cars Brand in the next years till 2023 around 9 billion € into electromobility. This already now is a huge commitment for this technology and our strategy towards emission free mobility. In mid-November during our new planning activity we shall present a new revised plan. Especially the coming years will be once again very intense as regards investments.

Where are the financial means coming from ?

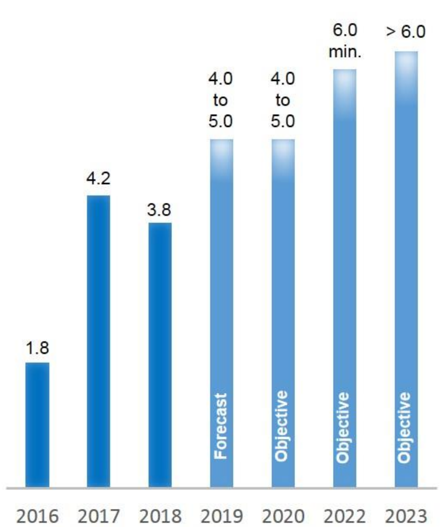
In order to be able to invest with power into the future, we have to prioritise at other segments. As a consequence, we have scrutinised our offers in the conventional segments and stopped the production of various models, for which there existed a smaller demand from customers. In addition to this, we have efficiently reduced the partly unnecessary large variety of our offers within single model families.

We have cancelled engine variations for which there has been small demand only. At all these considerations, however, we have not lost sight of our customers. It is rather about a clearer structure of our offers.

In order to bear the increasing costs for the reduction of the CO2 emissions of your fleet, and in oder to produce the prerequisite steps for changing over to e-mobility, and in order to further increase the level of return, you have announced in March measures for a further improvement of returns by 5.9 billion €. What is the situation about this ?

A material part of the envisaged improvement of the return after 2020 will have to come from the socalled "Roadmap Digital Transformation" (RDT). It constitutes in a way the follow up program of the Pact for the Future., as we have realized, that in order to achieve the transformation, we must once more increase the efforts. Under the roof of the RDT we are bundling the strategic measures for the improvement of the return. The total amount of almost 6 billion € is planned to come by half each from the cost side and from the performance side. At the cost side, the Roadmap is focusing strongly at the indirect areas, where in the coming years through digitalisation of the business processes there will be high savings potentials. These we want to, and we shall, lift up. Next to the costs, however, it is also about the form, how we work together across business divisions. Also here, the challenge is in execution.

Operating Return* (in percent)



* Before extraordinary Items / © Börsen-Zeitung

Will the weak automobile business cycle already soon make necessary further improvements ?

Our plans are, as a matter of principle, made in a robust way and look out far into the future. This we have proven with our Pact for the Future. And they include the framework conditions of the entire economy. Should the already today volatile situation in single markets further exacerbate, then indeed additional improvement might become necessary. We continue to stand up to our medium term objectives, to attain an operating margin of 6 % till 2022. For this, we need the consistent continuation of our electrical strategy and continued cost discipline.

In 2018, the problems at changing over to the emission and fuel consumption test procedure WL TP, caused a decrease of the operating margin to 3,8 %. What is your position after the third quarter re your forecast, to reach in 2019 an operating margin of 4,0 to 5,0 % ?

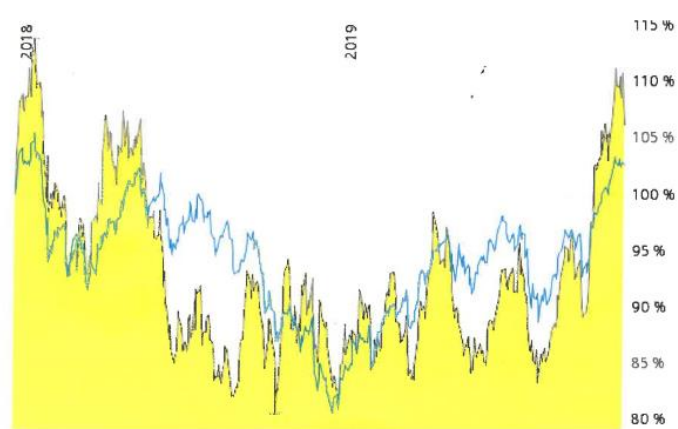
I am confident, that we shall achieve our objectives. After nine months we stand at an operating margin of 4,8 %. In the fourth quarter we expect, though, higher costs through production starts of the important models ID3 and Golf 8, but we continue to expect, that we attain this year an operating margin of 4 to 5 %.

Volkswagen AG, Preferred Shares, 177,32 € Share Price as of November 19, 2019, German Stock Exchange Xetra

Index Price Chart, Index-base as of January 2, 2018 = 100

-Black line: VolkswagenAG, Preferred Share

-Blue line: DAX German 30 Companies Large Cap Stock Index



Which impact has the avoidance of the previous year charges for the result in 2019 ?

The change over to WLTP in the past year has caused great difficulties for us and has burdened the operating earnings of the Volkswagen Passenger Cars Brand with half a billion €. From this experience we have learned. We have cancelled model variations for which there was little demand. An we have optimized processes, capacities and IT systems. The change over to the second step of WLTP went much better.

After the first nine months the Brand with 4,5 million vehicle deliveries is 2,3 % below the previous year level. Which development is to be expected in the final quarter of the year ?

Volkswagen is excellently positioned and is winning, in an overall shrinking market, in a number of important markets, additional market shares - also thanks to the SUV- and electrification offensive. On the other hand we cannot completely de-couple from the overall market development. We anticipate, as does the Volkswagen Group, that the deliveries will essentially remain stable versus the previous year. A success in a market which is shrinking by 5 %.

For 2019 you have announced a positive net cash flow. How will it be at the Volkswagen Passenger Car Brand ?

The Volkswagen Passenger Car Brand has a great potential when it comes to the subject of cash flow, and we are focusing on the cash flow generation. The first nine months of 2019 are an impressive proof for this. Without the charges form the cash depletion in connection with the Diesel subject, the net cash flow of the Volkswagen Passenger Car Brand after nine months was at 2,4 billion €. Here, however, the decrease of the WLTP-caused stocks of cars at the beginning of the year had a positive effect of 900 million €. As there are , for the fourth quarter, high expenses and capital expenditures, we anticipate for the total year a positive net cash flow of over 1 billion €. Overall, we are well on our way. The challenge over the next years in our industry could not be bigger. We are looking forward to this, and we confidently look forward into the future.

About the Person

Cost Optimiser

Since early 2010, Arno Antlitz is member of the managing board of the Volkswagen Passenger Car Brand. The 49 year old master of engineering and business administration, with a PHD, who studied at the technical university Darmstadt, Germany, mechanical engineering and who got a PHD at the university for corporate management in Koblenz, Germany, is as CFO of the Volkswagen Core Brand, which stands for 35 % of the total Volkswagen Group sales, responsible for accounting and controlling.

Antlitz grew up in the Lower Franconia province of Germany. Before becoming responsible in 2005 for the worldwide product controlling of the Volkswagen Passenger Car Brand, he worked from 1999 for the management consulting firm McKinsey. His counseling emphasis was in strategy, organisation- and cost-optimisation.

Footnote WLTP, Source Wikipedia:

*The **WLTP** procedure (**world harmonized light-duty vehicles test procedure**) is a global, harmonized standard for determining the levels of pollutants, CO_2 emissions and fuel consumption of traditional and hybrid cars, as well as the range of fully electric vehicles. This new protocol was developed by the United Nations Economic Commission for Europe (UNECE) to replace the new European driving cycle (NEDC) as the European vehicle homologation procedure. Its final version was released in 2015. One of the main goals of the WLTP is to better match the laboratory estimates of fuel consumption and emissions with the measures of an on-road driving condition.*

From September 2018, measures of fuel consumption and CO_2 emissions obtained under WLTP are the only one with legal validity and are to be inserted in official documentations (the Certificate of Conformity)

From Börsenzeitung, Frankfurt am Main, Germany, November 1, 2019.
Responsible for English translation: GEFIU, the Association of Chief Financial Officers Germany, the German IAFEI Member Association, translator: Helmut Schnabel

SOUTH AFRICA

"Blockchain technology is set to revolutionise currency but what does that mean for business and the banking sector"

Interview with **Chris Becker**, Blockchain Technology Lead – Investec Bank

The interview was made **by Ciaran Ryan**

Listen: To listen to the interview go to: https://cfotalks.com/podcast/31-chris-becker/

CIARAN RYAN This is CFO talks and today I'm delighted to be joined by Chris Becker, he is a blockchain tech lead for Investec Bank. I asked Chris to come into the studio and talk to us about what blockchain means, particularly from a banking and a business point of view. Welcome, Chris.

CHRIS BECKER: Thanks, Ciaran, it's good to be here.

CIARAN RYAN First of all, could you kick off and just explain what blockchain is, it's a term that is thrown around, but I think it's a very misunderstood term.

CHRIS BECKER: I think for most people they shouldn't really be trying to understand what blockchain technology is and how it works. To illustrate, do you know what the simple mail transfer protocol is or the hypertext transfer protocol or TCP/IP protocol?

CIARAN RYAN No, I don't.

CHRIS BECKER: So you use these daily, you use them to download websites, to move information over the internet, to send emails, there's no need to know precisely how they work. I think where a lot of people get confused and stuck is in trying to understand what this blockchain protocol is and how it works. I think we need to think about it in terms of a tool, what does it do, how can we use this thing. So when we start thinking about it and describing it in these terms, what the blockchain is, is an electronic ledger or database that is self-governed and secure. It's an open source protocol of the internet that effectively enables us to move value over the internet. So if you really want to get to it, it's an open source protocol of the internet that allows us to move value over the internet. So in addition to communicating and sending information, we can actually send value over the internet. That's effectively what blockchain is as a tool, that's how we can use this thing.

'We have the technology in order to keep digital information scarce'

CIARAN RYAN You say it's self-governed, that's obviously a crucial part of the technology. Previously when we had these transfer mechanisms they were not self-governed, is that correct?

CHRIS BECKER: If we think about electronic money today and we're going to contrast the two electronic value systems, when you deposit money in a bank and you log into online banking, you'll hopefully see a positive balance, that's reflective of a claim on value that you have in a bank. So when you make a deposit at a bank today you are effectively making a loan to the bank and the balance in your account says you can claim, let's say, R1000 from us in physical bank notes in cash, if you wanted to. When I make a payment, I am effectively asking that bank to move that claim on value from bank A. to bank B. But me, as a client or a user, accessing and logging into the bank systems need to trust that the ledgers that they are keeping are sound, accurate, there's no fraud taking place, that money isn't being created out of thin air, like what happened at VBS Bank, for example, about R1 billion was created out of nothing. So what money is today is electronic government issued money that the banks keep track of, it needs a huge legal and regulatory construct in order to make sure that the banks are sound, that they are not overissuing money, that they are sticking to the laws and regulations because there's no other way of keeping electronic information scarce. So if you are a bank, you can, like VBS did, they ran their biggest loan book in an Excel spreadsheet, and you can create money out of nothing. So you need laws and regulations to prevent that from taking place. You need a lot of law and regulation in order to make sure that the financial system is sound and that end users and consumers of that system are protected. So that's currently how the banking system works. What blockchain does is it introduces a new way of doing things, of having electronically issued money that people can access.

So let's use Bitcoin as an example, if I own Bitcoin I can run a copy of the ledger on my computer at home and keep track of exactly what's happening in this database, in this ledger of value. You can also keep track of it, so when you want to send money to me on Bitcoin, for example, you can submit it to your computer that's connected to mine and both of our ledgers will update almost simultaneously, as well as everybody else's all around the world who are running the Bitcoin protocol. So now suddenly you don't have to trust an intermediary to move electronic value around the world and that's the big innovation of this. It's the first time since the introduction of computing and digital information that we have the technology in order to keep digital information scarce.

CIARAN RYAN I don't know if you know the international writer and investor, Doug Casey, he wrote some time ago that with Bitcoin basically every single individual on the planet can become his own bank, I think for the reasons that you've just described there. I think what is also clear is that banking itself is going through a revolution because of this technology. If everybody has Bitcoin and you can store it on a flash drive and you can be your own bank, we're starting to then look at what is banking itself. It has been described as an elaborate piece of software with some branches and head offices. That may be a bit simplistic, but I think that's kind of where the financial system is going. Maybe you can just outline how you think this blockchain technology or cryptocurrency or both of them together are going to redefine the world of banking and business.

CHRIS BECKER: It's hard to see exactly how that's going to play out, the future is a closed book and when I look at where blockchain technology is today, it feels a lot like the early computers. The first computers were abacuses in China but moving through to the 1800s when Charles Babbage and Ada Lovelace were producing these huge computing systems that filled entire rooms or fast forward into the 1950s I think the first computer that could store memory actually stored it on a punch card, the punch card was like a floppy disk, which was effectively the memory storage device for a computer, it needed about a ton of equipment to store five megabytes of information, to give you a sense. People were critical of that technology at the time, that was the first electronic computer, a ton of equipment to store five megabytes of information, highly inefficient, didn't scale, couldn't do interesting things with it, there was nothing like the internet at the time, there was nothing like mobile phones at the time, all these things still had to be invented and innovated. It feels a lot like where blockchain technology is today, but you can certainly see where this is going.

To your point, what banks are today are effectively large organisations that have systems and technologies that keep track of debits and credits and have businesses like Visa and Mastercard and Bankserv that create interoperability between those technologies and systems. In other words, if you want to move value from one bank to another bank, you need to go through an intermediary in order to affect that value transfer.

CIARAN RYAN And that intermediary is Bankserv, that would be the clearing house?

CHRIS BECKER: Exactly, so what banking is today is there are large systems that keep track of debits and credits, and that move electronic messages around amongst them. So what banking has become, as banking is becoming increasingly digitised, is just software and hardware that can facilitate these types of transactions. But the thing is that none of these technologies that are currently used by the banks are native protocols to the internet. In other words, to illustrate, when you use these protocols that we referred to earlier today, to communicate with other people, what those protocols enable and facilitate is the movement of information, so banks use those internet protocols widely and their clients use those internet protocols to log into an online banking system, which then gives the user access to the private proprietary databases that no one else can get access to, that are closed, that aren't internet protocols. In other words, there were no stateful protocols that could store information that were native to the internet before blockchain. So we could use the internet to communicate and send information between us but we couldn't use the internet protocols to store information, so you had to rely on banks to store information, you have to rely on Facebook servers to store information, you have to rely on all these companies to have effectively walled gardens where information gets stored and you have to ask and request those servers to download your information. That's obviously given rise to a whole host of privacy issues and how data is being used and regulations around that. What public blockchains are, what they introduce to the world are internet protocols that can do that, that can store information. So I don't need to use a company now to store information, I can actually use a protocol of the Internet to store my financial information, to store information about social media, to form agreements with people and store those agreements so that they can be called on and verified that we've signed it hat different parties have signed these agreements and we haven't even scratched the surface around the possibilities of what could be

Stored in these databases and the business models that could evolve from this. So at a high level, stateful protocols for the web is a massive deal, data is probably going to shift from private servers and companies onto these public open source systems and it will be far easier to communicate value, to enter agreements with people, you can minimise trust now in moving value around the world and forming agreements, whether they're loan agreements, legal agreements, whatever it might be. I think it's going to change the way we do things.

Blockchain offers a real-time audit trail on a public ledger

CIARAN RYAN I think this is one area that I certainly have battled with to some degree, imagining a future where all your agreements are stored on an open source blockchain type system and I know that there are certain cryptocurrencies or certain blockchain technologies, which have been developed with that in mind. I suppose one of the ways that I can possibly imagine what you are talking about is that we are talking about a new protocol, so it's like imagining your old postal system, where I want to send a letter to you through the mail and it has to get picked up by the postman and it goes through a transport system to your address and it eventually gets delivered by another postman to your address. What we're really talking about with blockchain is getting rid of the postman and I am just passing my letter onto you straight away. If one extrapolates that and then you look at what effect this is going to have on businesses going forward, legal risk has become a huge issue in a lot of businesses and the reliance on the courts to arbitrate or to decide on who has been offended when there's been a breach in an agreement and I think this is something that chief financial officers are paying a lot of attention to, is legal risk because they are becoming bigger and bigger. Can you just spell out, in broad terms, what kind of relationship can we expect going forward between two parties who enter into an agreement and how is the blockchain going to be able to do that, is it just simply a storage mechanism or is there more to it? It's not just a simple I need to have a look at the agreement I signed with my supplier and call it up, is there something more to it than that and more trust that we can vest in those types of agreements?

CHRIS BECKER: I'm not saying that all information is now going to be stored on public databases, there will clearly be a place for storing information on private closed databases that other people can't access. What you can, however, do now is you can have access to this public ledger where you can prove that something happened in a point in time. So let's say we enter a legal agreement today, we don't want to store that data with an intermediary because if the data is now stored with the intermediary, they face legal risk, they are liable if they get hacked and their systems get breached and the information gets leaked. What we can do is I can store a copy of a legal agreement, you can keep a copy of the legal agreement and we both have things called digital signatures that we can use to sign that agreement and then we can record the signing of that agreement onto the blockchain ledger and once it's entered into the ledger and recorded there and new blocks get built on top of the old block where our agreement has been verified and timestamped and recorded, anyone at any point in the time in future can come back to it and verify that something has taken place. So it's almost like when you have concrete being poured in a road and as a kid you want to go and put a handprint on there and prove that you were there and write your name next to it, and as that concrete hardens people can come back and you can say, hey, look, we were here at that point in time and we did something. That's effectively the concept of a blockchain, it's this censorship-resistant ledger that's public, that we can leverage now in order to prove that something happened in a point in time. So it will change the way that data is stored because clearly the trend is the more data that a company and an entity stores, the more legal risk and liability risk they face. So the business model could change where you effectively disintermediate how data is stored, decentralise the storage of data onto end users who sign agreements and then obviously there needs to be some innovation around how to keep that secure and give people the tools to do that, and then we prove that things have taken place and we just keep track of it, we pour that concrete and we just keep recording information as we move along. That's effectively what a blockchain can do.

CIARAN RYAN At the moment these agreements are very much paper-based, aren't they, and you often see disputes entering court, did you have the special resolution that you required in order to transact. A lot of this is coming out in the Zondo commission of inquiry, no resolutions, there was no authorisation for doing that particular deal. That kind of risk, therefore, would presumably pass away if you had timestamps and you could verify that all of these legal requirements are in place.

CHRIS BECKER: You'll have this real-time audit trail that's on a public ledger, you won't necessarily know

What the bits of information are but if some people want to reveal that they did do something they can now prove it. In fact, in China they found that information recorded on the Bitcoin blockchain can hold up in court as being enough proof and evidence that something did take place. For example, people talk about this, the first Bitcoin block in the head of the transaction of the block, there was this quote taken from a newspaper at that point in time it was something about the UK bailing out the banks and that was timestamped in the blockchain. You can put other bits of information like that, we can say Ciaran and Chris, we can sign a transaction with our digital signatures and we did this interview on this day, in this studio and we both agreed to that, sign it, submit it to the blockchain and record it there for posterity. People don't need to know what that information is because it will be encrypted but if somebody disputes that we had this conversation in the future, I can say hey, but I can decrypt this information, that's what it says, and look, Ciaran signed this transaction, so we did do this.

CIARAN RYAN One of the things you mentioned a little bit earlier and I want to go back to, it's got to do with banking and you're with Investec Bank and Investec is known as a fairly progressive, forward-thinking bank, so they are clearly taking this evolution in technology quite seriously. But you mentioned VBS Bank, for people who don't know VBS Bank was a bank that has effectively gone bust or is under administration and the senior executives in that bank are accused of I think stealing about R2 billion, you said their whole system was managed on an Excel spreadsheet.

CHRIS BECKER: The biggest loan book, yes.

‘We are looking at a vastly changed landscape going forward'

CIARAN RYAN On an Excel spreadsheet, so this comes back to legal tender laws because banks are in effect allowed to create money, provided they meet the Reserve requirements and they have a banking licence they can actually create money. In your opinion, what is the future of banking? When you look at the blockchain technology that you've just been describing and you have these legal tender laws, which allow for the creation of money, does it open the door for new competitors to come in, are we looking at a vastly changed landscape going forward?

CHRIS BECKER: Look, I do think we are looking at a vastly changed landscape going forward.

It's going to be an evolution though, when you study the history of technological revolutions it takes on average 50 years for a real fundamental technological innovation like this to diffuse through society. To give you a sense, in the 1800s when whale oil was the primary energy source for lighting in the developed economies, they were discovering crude in the US and some of the applications of it. There were guys going around to sell the applications and the benefits of using refined crude oil products to industry, and industry laughed at them because all their capital and infrastructure was set up in order to monetise whale oil. It took a whole 50 years before we really saw the benefits of it and it needed an invention like an internal combustion engine for people to really get it and go aha, okay, maybe this is a superior energy source than whale oil. You can look at many other examples, it takes on average 50 years and we are only ten years into this. We're like on the ground floor here and we're building a new way of doing things in the blockchain community, if I can put it that way. I've gone off on a bit of a tangent and I'm not sure if I'm answering your question here.

CIARAN RYAN I think what I'm trying to do is just extrapolate, what is the world going to look like at the end of that 50-year period?

CHRIS BECKER: We've got this new internet protocol that enables us to move value around the world, where you don't need to pay somebody to do it, you pay this decentralised system effectively and you can trust it. I think in the same way that we're connected to people through the internet with communication, eliminate the postman, we can communicate directly with people anywhere in the world instantaneously and there are so many ways to do it and there are so many different social platforms through which you can do it. What's interesting about social media is that you've got platforms like Twitter that's got its own unique characteristics, you use it for specific purposes and you have other things like Instagram, and other places like Facebook and YouTube, and you've got this variety of platforms that connect people in different ways and it allows people to express themselves in different ways. We can't really do that with value, think about value, how do you connect to people in a value sense, how do you move money, you've got to log into something but it's very restrictive in terms of what it allows you to do. I think what we are going to see evolving is a suite of services that are not dissimilar to the social media platforms that we use, they will be built and will be leveraging these blockchain protocols where anyone can innovate and build these things and that's the other fascinating aspect to it. If you want to innovate and build a financial services product today you've got to work for a bank to do it, you can't really do it or you've got to start a fintech company but you've then got to sell that product to a bank because you've got to access the currency in order to offer value transfer and credit mediation or whatever services to people. Suddenly Facebook can now build their own currency and part of their roadmap is to start doing savings and loans and doing more traditional financial services but they've got the ability to make value transfers fun and to connect people instantly, maybe you can send money around the world and attach emojis or cool messages, you can make value transfers fun and you can connect people in many different ways on different types of platforms where you know that if you log into this application on the Bitcoin blockchain, for example, you are going to get a specific kind of interaction. So if you are into ESG or impact investing there is going to be a specific platform for you with a very specific community where you are going to be able to very easily and seamlessly move money in order to fund projects that you are passionate about and earn a return from it. So that's kind of the way that I see this moving and it's going to be accessing these blockchain protocols through mobile phones, through any web browser effectively. So today on Google Chrome I can do it from my mobile device, and I can connect up to these different networks and start engaging in very interesting and unique ways of value transfer and investing that I'm not able to do in the traditional system. But, like I say, we are only on the ground floor of building out this new technology stack.

CIARAN RYAN A couple of questions because we've only got about five minutes, I remember going back to the beginning of the tech boom, if we go to the year 2000 when we had all of these companies that sprung up and we were persuaded for a period of time to just abandon traditional accounting methodologies, it wasn't so much profit that was important, it was revenue or it was the size of the network. A lot of the research papers that I read at the time were trying to persuade us that here you've got a company, yes it's not making any profit but it's got great potential, why has it got potential, because it's technology. Of course it was bogus and I think Warren Buffett punctured a hole in that whole thing and there were various methodologies that were introduced to try and put a value on the size of a network, how big is the network, how many users does this thing have, that's how you are going to measure the value of this thing and, in fact, they weren't entirely wrong. It was just a question of how do you monetise that, how do you make money out of that network, and with various other technology companies that have come about you've seen how they've monetised it through advertising and I think What you're talking about here is that there are now other layers of monetisation coming on top of that value, where you can offer financial services, you can offer loans, deposit accounts and various things like that. I think maybe if you can just expand on that and is there value in a network in itself, is the technology that important, are we still talking about things like how big is your network and how do you make money from it, is it as simple as that?

CHRIS BECKER: I think your point earlier is right, in the late '90s when we had this tech mania bubble, something like 85% of the companies at the time went bust, these companies were trading at ridiculous valuations, there was no real business value or proposition, they weren't generating any revenue, 85% of those companies went bust. I think we are going to see a similar thing happening in the crypto space, there are a lot of companies trying to build applications to make money off this new protocol. We haven't seen the dominant business model emerge here, I think it's still too early, I don't think people have quite figured this out, there's going to be some significant winners that come out of some of the companies that are around today building on the blockchain. But there are going to be 90% of these companies that go to naught. So you've got to think about that we are still in this phase where we've got to figure out what it is that lands, that sticks, that works as a business. The incumbent technology companies like Facebook, Google, Twitter and the like are potentially at risk because the data that's been stored there, that's been monetised through advertising, doesn't necessarily have to be stored there. So if you have a new generation of people who prioritise privacy over storing data with a company and where ads get shown back to them. that creeps them out, I am seeing increasingly people talking about this, I was on this platform, I looked at something and then suddenly I was on my mobile device and another service and I saw an ad that related to this other thing I was looking at.

'If someone is going to show an ad to you, they must pay you directly'

CIARAN RYAN Yes, they follow you.

CHRIS BECKER: What's going on, it feels creepy. I think what you might start seeing is instead of accessing these "free services" where they monetise your data and information, you might want to actually pay a price to store your data on, say, the Bitcoin or Atrium blockchain and if someone is going to show an ad to you they must pay you directly and so you can start monetising your attention, you can monetise your data

Directly, which is a game changer and I think that's where the change in business model from the internet as we know it today to the internet as it might evolve is going to shift, it's where people will bet paid for their attention directly by companies, and the protocols are now in place to facilitate and enable that to happen.

CIARAN RYAN I think the privacy thing is huge because of the massive abuses that we have seen and read about with Facebook and Google. In fact, talking about creepy, I watched a video about a guy who claimed that Google is listening to your phone while it just happens to be sitting next to you on the table. He did this little experiment and whether it's true or not, but he just talked about dogs' toys and he mentioned that a few times and then he logged onto his Chrome browser and up pop a couple of ads for dog toys. Now, is that just a random thing, it's very difficult to imagine because that's quite a specific thing. But I think in this age that we're living in people are going to value privacy a lot more. What's your take on that? You do think that people eventually for their attention will want to be remunerated directly. So if I'm going to visit that website I want to be paid for that. So the whole revenue model is going to change.

CHRIS BECKER: I think the revenue model is going to change and it's going to become more peer-to-peer, so if you want to show me something, pay me. Interestingly, Jaguar Land Rover are experimenting and testing cryptocurrency payments for sharing your vehicle information with them. So instead of just passively sharing this information, you can now opt in to say yes, I'll share it but pay me, and I can opt out if I want to. So the way that you're going to engage and share your information I think is going to change significantly. It seems like people are waking up to the privacy issues around this massive data trail that we leave because we're constantly leaving data all over the place, as software eats the world and as we interact with that software, we're leaving a data trail. which they hadn't really solved 20 years ago. Now I think with Google, Facebook, Twitter We're only really 20 years into this, probably even slightly less and so we, as a society, are starting to figure out how to interact with this new technology and where the lines should be and where they are, and I don't think we've reached a steady state. I think blockchain now introduces a new tool where we can start pushing that line a little bit to start experimenting with different privacy models, different ways of monetising data, which means different business models and so if you are very entrenched and stuck in the existing way of doing things and the world suddenly shifts in the next ten to 20 years Which it could do as it has in the last 20 years, clearly you are extremely vulnerable.

CIARAN RYAN I read this article recently about the biggest companies in the world and, of course, it was Apple, Microsoft and Facebook, these are the dominant companies at the moment but if you go back ten years ago it was General Electric and companies like that. The basis of the article was saying that every ten years you get this tidal shift, which are the dominant, the biggest companies in the world. He was basically saying that although Apple and Facebook and Google are up there at the moment, they probably won't be in ten years and it's a very interesting thing to imagine, what kind of company is going to be dominant and how dominant is that. Just look at the valuations of Apple, it's bigger than most countries in the world in terms of its valuation. Where do you see that ten years from now, in ten years from now is blockchain going to be part of everybody's life, every chief executive, every chief financial officer is going to understand it and is going to be using it?

CHRIS BECKER: I think we are in this phase where the technoeconomic paradigm hasn't yet been set, we're figuring it out. What that means is we're figuring out the business models, we're figuring out how this thing works and how we can leverage it and how we can make it useful to society so that people will value it. The people that figure that out are going to be the ones that are the dominant companies in the next ten to 20 years. That's my belief but I would also say that a lot of these large companies, you mentioned Apple, Apple's value, well, a large part because of the hardware and the software devices that they roll out around the world but there are a lot of companies that literally just provide software online services like Twitter and Google and these guys that are extremely valuable, they are valuable because they sit on so much data. So data has value and if the data moves away from those companies onto open source protocols, then the protocols are going to be valuable and what that means is the Bitcoin blockchain becomes extremely valuable. A lot of people are left scratching their heads and saying how can this thing that's out of “thin air”…it's not, it's actual data and there's ten years' worth of data in that database and as more people start using it the value of that database increases. The way that you value these networks, we spoke about it earlier, is through something called Metcalfe's law, so the value of a network like this goes up by the square of the number of users. There are some academics who have mapped the Bitcoin protocols' value relative to the number of users and there's something like a 99%

Correlation there, so Metcalfe's law is actually playing out here. The value will sit in the protocol…and then there are going to be companies that make the protocol valuable'

CIARAN RYAN Bitcoin valuation?

CHRIS BECKER: Yes, in terms of its valuation and so we need to think which of these protocols are going to be the most valuable, the value will sit in the protocol, in the actual asset that secures the protocol itself and then there are going to be companies that make the protocol valuable that sit on top but there is likely to be far less value that sits on the company that builds on the protocol than we saw in the past, and because the data now sits on an open protocol, not with Facebook, to opt out of Facebook service you can't take your data with you. But if I want to opt out of one application built on top of the Bitcoin blockchain to use another version, the data still sits on the blockchain, so it's going to be far easier for people to switch. So what you might see happen is intense competition, there will be great services and innovations that become extremely valuable and that threaten the current incumbents but they are going to have to stay on top of their game in order to entrench their user base, they're going to have to constantly be adding features and value to their customer base in order to remain incumbents. So what I think we might start seeing happening is that there's just far more competition, the leaders at the top change more frequently, which won't be that different to what happened in the '90s with the browser wars and with Myspace and the different and new social media platforms that we use. It's going to be very fluid, a lot is going to change, people have to be nimble, it's a brave new world but it's very exciting too.

CIARAN RYAN Final question, do you see national currencies surviving, will the rand still be here 50 years from now?

CHRIS BECKER: Look, currencies, let's take South Africa as an example, the currency that we use in this part of Africa has changed a lot. I say this part of Africa because before South Africa was incorporated as a union in 1910, we were on the gold standard.

If you go to the mid-1800s, for example, you had the Zuid Afrikaansche Republiek and you had the Cape Colony and all that stuff, there were 32 private banks issuing bank notes that operated in the economy alongside each other. There was no rand yet, the first rand was created in 1961.

CIARAN RYAN That's interesting.

CHRIS BECKER: So there were private banks issuing money and those bank notes, if you had a Standard Bank bank note back then it was a claim on gold in the vault of Standard Bank but you can then spend that money and let's say you were going to pay me with Standard Bank bank notes and I trusted Standard Bank, I would accept it in payment. But there were 32 other banks, one trading company and three mining houses that also issued money back then. Then you go to the late 1700s and the currency in the Cape was the rix-dollar, it was a silver currency, those bank notes were handwritten because the printing press technology only came about in the early 1800s. The central bank then was the Lombard Bank, it was put in place to manage this currency.

CIARAN RYAN What was the function of the central bank?

CHRIS BECKER: Well, just to make sure that the banks that issued the rix-dollar or bank notes that were a claim on the rix-dollar were solvent and weren't defrauding their customers. Consumer protection. In the province of KwaZulu-Natal people were using assegais, spears…

CIARAN RYAN Is that right?

CHRIS BECKER: Yes, spear tips, copper. The Koi people used ostrich shell beads, you can go and analyse it but all over Southern Africa there were different currencies and niches and markets that were operating. Coming into the 1800s it became more standardised with the gold standard, silver also operated as money. The South African Reserve Bank was created in 1921, it didn't issue money yet, the first rands were created in 1961 and the R1 and R2 coins in 1961 were gold specie, actual gold, imagine that. So a R2 coin was around – I forget the weight of gold – but the actual rand value today of that coin is around R3000 to R4000. So that R2 coin, the actual purchasing power of it back then, in today's equivalent money was around R3000, R4000. Then obviously we have been on this journey where the gold backing, the physical money backing to currencies have gradually just been cut to a world today where money is just digital entries, like ledger entries in licensed banks and there's no constraints on how much money can be created. That's why you see the Argentine peso collapsing since 1985 and another 40% earlier this week on the back of an election. The people didn't deserve that, it was just an election result, but the currency has collapsed and the assets priced on that currency have collapsed with it.

So I've given this little historical overview to say that definitely the currency can change in the next 50 years. I don't know exactly which currency it's going to be but certainly what I am seeing in the world of blockchain and cryptocurrencies and crypto assets is that there's a new way of issuing money and moving value over the internet and if that offers value to society and to South Africans over what the rand and the traditional financial system can offer, people are going to switch. So we need to come up with ways to facilitate and enable that to happen in a way that we don't throw out the baby with the bathwater either, there are regulations and laws in place that protect consumers and keep the system sound, and try to avoid people from being defrauded if they're not financially literate or aware of the risks. So those are the problems we need to solve with this new system. But, certainly, as the currency has been changing, as technologies change, as society changes currencies change with it and I think we might be in a phase where currency is changing again.

CIARAN RYAN Great, Chris Becker, blockchain technology lead from Investec Bank, thanks very much for coming into the studio.

CHRIS BECKER: Good to be here Ciaran, thanks for having me.

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PHILIPPINES

On climate change: Global leaders fiddle while our planet burns

by Abelardo "Billy" Cortez, *IAFEI Secretary and Executive Committee Member / Independent Director First Metro Philippine Equity Exchange Traded Fund, Inc.*

Speaking before a two-week international climate conference in Madrid last December 3, the UN Secretary General Antonio Guterres said the impact of rising temperatures like extreme weather conditions are being felt around the world with devastating consequences for humans and other species. "The point of no return is no longer over the horizon. It is in sight and hurtling toward us," he warned.

In Paris, four years ago, countries agreed to limit global warming to well below 2 degrees Celsius by the end of the century compared with preindustrial times. In that same Paris climate agreement, more than 170 countries committed to limit global warming to the agreed target of well below 2C. However, many of the signatories, up to now, have not made commensurate commitments to reach that goal. They always have reasons to kick the can down the road. This would only mean more aggressive global efforts are urgently needed for all nations particularly big emitters like China, the European Union, and the United States to keep global warming well below the target goal.

As a tiny component of our atmosphere, carbon dioxide helped warm earth to comfort levels we are all used to. But too much of it does an awful lot of damage. The gas represents just a few hundred parts per million (p.p.m.) in the overall air blanket, they're powerful parts because they allow sunlight to stream in but prevent much of the heat from radiating back out. This is precisely what scientists have been warning would happen if nations continue pumping greenhouse gases into the atmosphere, trapping the heat that flows in from the sun and raising global temperatures.

We recall that in 2016, a group of climate experts, including James Hansen, the retired scientist who first brought the perils of climate change to US Congress's attention in 1988, warned that shifts in earth climate could be sudden and abrupt, giving the world little time to prepare for heavy flooding, severe droughts and other damaging climate disruptions. Now a growing number of scientists believe global warming will likely exceed 2C but, hopefully, it ought not to be so although they appeared to be on track. Global warming, even most skeptics have now concluded, is indeed the real deal, and human activity has been causing it.

It has been reported that, over the recent years, more than 20 million people have been driven from their homes by fiercer weather and worsening wildfires, both of which are set to worsen unless nations act swiftly to head of frequent, devastating climate threats. Around 80 percent of all people forced from their homes by weather disasters over the last decade were in Asia, where large populations in countries from the Philippines to Sri Lanka live in areas threatened by typhoons, cyclones or flooding.

The pace of climate change is fast enough to begin affecting economic forecasts. Some central banks have already included climate change in their assessments of future economic and financial risks when setting monetary and financial supervisory policy, according to Glenn Rudebusch, senior policy adviser and executive vice president at the San Francisco Fed. Last year, Lloyds, the London-based insurance market, estimated that as much as $123 billion in global gross domestic product in cities could be at risk from the impact of a warming planet.

In April, 2006, *Time* magazine made special report on global warming. The cover included these large captions: **Be worried. Be very worried**. It further added these statements, "Climate change isn't some vague future problem- it's already damaging the planet at an alarming pace." And this was in 2006.

As 2019 is about to end, nations continue to move rather slowly in addressing this urgent global problem. Pretty much as it has been since 2006 considering that scientists have already linked climate change to increasing frequency and intensity of extreme weather events including storms, floods, drought and heat waves; in the coming years, more of such disruptive events will definitely happen.

Climate change is a global survival issue. It has a profound impact on every one of us. Every nation must seriously address this alarming challenge and learn to figure out how to manage the global environment to keep it alive and thriving. The disastrous effects of climate change are becoming more persistent and much harder to ignore, yet no one seems to want to do much about it. Political leaders prefer to fiddle while our planet burns.

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