Going beyond the data: tax data is big data

Timothy H. Gillis and Philippe Stephanny
KPMG LLP in the US

This is the first in a new series of articles – Going Beyond the Data – that will look at “Big Data” and its growing importance for indirect tax.

I. Introduction

In 2010, Rebecca Mead published an article in The New Yorker entitled “What Do You Call It? End of the Decade.” Referring to the first decade of the 21st Century, Mead observed that no consensus could be reached. Should the decade be called the ohs? The double-ohs? The zeros? The zips? The aughts? That decade – one that began with Y2K, witnessed the ascendance of social media and the digital age and spawned the collapse of the financial markets – remains largely unnamed.

In one sense, the current decade (2010–2019) suffers a similar prospect. Should we call it the teens? The adolescents? The second decade? The 2010s? But, in another sense, this current decade is already naming itself. In economics, this decade may well define itself by recovery (or lack thereof) from global financial concerns. In socio-economic terms, we are witnessing the return and rise of geopolitics, a term largely forgotten after the Cold War. Geopolitical considerations are evident in the current decade’s turmoil and unrest across the world.

In business, this decade seems destined to be named “The Decade of Big Data.” We can already see the significant use of Big Data in diverse industries and applications such as logistics, health care, government services, retail, manufacturing, financial services and supply chains. And this is just the beginning. Analysts believe that the quantity of data available to businesses will increase by 40 percent every year for the foreseeable future.

Much has been written about the Big Data revolution in a general sense. Relatively little, however, has been written about the specific application of Big Data to tax, and more specifically to indirect tax.

To fill that void, this is the first article in a new series for Indirect Taxes International: “Going beyond the data”. Aimed at helping to understand and prepare for the Big Data revolution in the context of indirect taxes, this series of articles will explore tax policy and administration in the age of Big Data; transformation of the compliance function into competitive advantage; the use of technology tools essential for the tax function in a Big Data world; and the anticipated evolution of indirect taxation over the next decade due to the Big Data revolution.

This first article sets the stage by establishing that data required by the tax function (i.e. tax data) provides a platform for the tax function to be engaged in the Big Data revolution in a way that can create new enterprise value.

II. Value-creating analytics

Data is a core asset of the 21st Century business enterprise and value-creating analytics will be a top-down mandate.

The strategy of many 21st Century business enterprises will increasingly be based on information management and analysis. The automation of knowledge-related work is a global trend which is not expected to revert. The next decade could be characterised by increased investment by businesses in technology, with the expectation that the organisation’s data will not only be used for primary reasons, but also mined in search of secondary and tertiary benefits. Data could be used and reused in search of revenue growth, expense mitigation, customer service improvement, vendor management and organisational efficiency.

The C-suite level of management will require all facets of the enterprise to use data analysis to improve
performance. Top managers reporting to the C-suite will need to position their departments in ways that demonstrate that they can transform data into value for the enterprise.10

Finance transformation – now more than just a gentle wave and the preferred model for how multinational enterprises are expected to operate11 – is simply a point along the journey. The centralisation of previously decentralised functions of an enterprise can support desired improvements in accountability, control and standardised approaches,12 as long as the subject matter expertise can be found in the newly created central hub. The impact of finance transformation is multidimensional; one of the extended post-transformation benefits is likely to stem from the ability of the business to find value in the centralisation of, and fresh visibility over, the enterprise’s data.

All departments of the modern business enterprise will be expected to participate in the data revolution. The tax department will not be carved out and excepted from this requirement. Instead, there will be a “power pivot” in the organisation towards data-based analysis and improvement, and the tax function will need to embrace that shift.13

III. Importance and availability of data

The world is awash in discussions about tax reform and debates about tax fairness, both within and across borders.14 Tax and the issue of paying one's fair share, is now one of the most prominent areas being scrutinised by governments, the general public and, to a great extent, the media.15 These discussions are quickly bringing data to the forefront in discussions regarding transfer pricing, VAT/GST, trade and customs, global mobility, and more.

The changes thus required for response within tax departments are real and significant: these changes will only be exacerbated in the near future by the initiative Base Erosion and Profit Shifting (BEPS), the potential implementation of country-by-country reporting (CbC), the existing Foreign Account Tax Compliance Act (FATCA), and general matters of tax morality and tax transparency.16 Some extractive industries, for example, have already responded to these trends by using data to create thorough and audited transparency reports.17 These types of data-intensive reports seek to accumulate, in one place, the varied tax and excise payments made by business enterprises to governments in each country around the world.

Moreover, because governments often raise more than 30 percent of their revenues from indirect taxes,18 tax authorities across the world have a strong incentive to close all tax gaps caused by simple errors, fraud and abuse in the indirect tax arena. This is why a quick search for the use of data analytics by governments and tax authorities reveals a variety of new tools for governments and tax authorities.19

Although tax authorities have long engaged in the collection, analysis and reporting of data, the nature, extent and pace of their data analysis is expected to expand and increase in the future. This evolution will be fuelled, in part, by continual advances in automation and electronic delivery of data. We can witness this progression each year, and especially so in three areas: e-invoicing, e-filing and e-accounting/audit.

E-invoicing – now required by some jurisdictions and permitted by many – may well be government-mandated for all businesses within the next decade, which will only compound the already-present data analysis need for indirect taxes. Electronic invoices generally must include pre-set fields of information that enable tax authorities to verify transactions which have been carried out and for which has been invoiced. Many countries require that e-invoices be submitted via specific methods to guarantee authenticity of origin, integrity of content, and legibility of the e-invoice.20 In a few countries, the tax authorities regulate the e-invoicing system.21 Under this system, e-invoices are verified and certified by the tax authority before the transaction can be performed which enables the real-time verification of all transactions performed.

With regards to e-filing, jurisdictions increasingly require taxpayers to file, electronically, their required returns and additional reports. The information available can thus be immediately used by tax authorities not only to verify timely submission of reports, but also to cross-reference information provided by taxpayers. For instance, in the EU, taxpayers must file a report regarding their intra-EU sales of goods and services, which is made available to all EU tax authorities via the VAT Information Exchange System.22 Tax authorities across the EU can thus verify whether the information provided by taxpayers is in line with the information provided by their vendors in other EU jurisdictions.

E-accounting/audit is also on the rise. Several countries – especially in the EU – require taxpayers to provide their financial data in a specific format,23 such as the standard audit file of tax (SAF-T). The SAF-T format has arisen from work done by the Organisation for Economic Co-operation and Development (OECD) to facilitate tax audits.24 In practice, the tax authorities request the files and use special audit software that enables them to detect errors in the VAT reporting. A few countries require real time reporting of all tax relevant information. Brazil, for instance, recently implemented the public system of digital accounting25 used to approve, store, and certify books and documents of commercial and tax bookkeeping and enable the tax authorities to make a complete assessment of the tax accounting information.26

In the future, the way that transaction-level data is collected, analysed and reported is likely to evolve as further countries introduce/reform indirect taxes. It... data contains hidden non-tax value that can be mined to enhance ... performance...
does not require a giant leap of imagination to think that best practices discovered by these countries will spread across the world. The prediction, therefore, that tax authorities will increasingly understand the importance and availability of data and will likely require more of it (and sooner), is far from unlikely.

The speed and quality of data analysis, therefore, should improve. To keep pace, business enterprises will need to be able to perform their own timely, data analyses. While performing that work for tax purposes, it’s probable that the indirect tax function will learn to use and reuse the transaction-level data to work closely with other areas of the business to create non-tax value for the organisation.

IV. Early signs of impact on indirect tax functions

Over the past few years, many politicians, economists and academics have begun discussing the potential threats and problems that income inequality could create in the 21st Century. There is heightened sensitivity about these issues as automation takes hold, labour is undervalued and subject to arbitrage, and capital is king.

Other economists, however, have begun to point out a more subtle issue that may be standing in the way of new century growth – and that is the transformation of the global economy from a “needs-based” economy to a “wants-based” economy. In a “needs-based” economy, growth occurs when people or businesses acquire the things they actually need for sustenance or compliance with governmental requirements. In a “wants-based” economy, growth occurs when new products or services are created to capture the attention of consumers (people or businesses) that exercise their option to buy and consume; however, in a “wants-based” economy, consumption can be deferred, thus presenting the potential for slower-than-desired economic growth.

How do the above schools of thought apply to the topic of Big Data and its impact on the indirect tax function? In a nutshell, the facts established earlier in this article – (i) that value-creating analytics will be a top-down mandate within the business enterprise; and (ii) that regulators are requiring and will require more data and sooner – create the context in which the indirect tax function within an enterprise is functioning as a “needs-based” economy. This means that the indirect tax function (and perhaps the tax function overall) must change to meet the modern demands of business and government. Adaptation is not a “want”, it is a “need.” And that is exactly what we are already seeing.

For example, focus groups of tax executives at two recent KPMG International indirect tax conferences – one in Hampshire, UK and the other in Amsterdam, the Netherlands – demonstrated their awareness of this new reality. In an add-on “Big Data & Technology” session in late June 2014, approximately 80 percent of forum attendees attended, despite its last-day optional placement and competing offerings. Anecdotally, in one of the receptions during the week, senior tax executives were asked to explain the most amazing thing that had happened in the past year; several responded that automation and Big Data represented the most fundamental changes that they had experienced in their careers. Many others agreed. In other words, these tax executives answered a question about the prior year’s developments with a reference to its revolutionary significance compared to the span of their entire careers.

Indirect taxes are relatively new, but they are used in nearly every country. Over 108 countries enacted their primary indirect taxes (VAT/GST) within the past 25–30 years, and over 160 countries now have national-level indirect taxes. The significance of this wave – both in terms of sheer numbers of national-level taxes and the complexity that comes with a lack of harmonisation – may have gone largely unnoticed until the first decade of the 21st Century. Today, however, that scale and complexity can no longer be ignored and the data that is required for (and controls, to some extent) compliance with these taxes has real value.

The fact that data is front-and-centre within indirect tax functions is unsurprising because indirect taxes (including, for example, VAT/GST, excise taxes, and trade and customs duties) are transaction-level taxes; and transaction-level data is essential to comply effectively. Moreover, the data required often involves the entire order-to-cash and procure-to-pay functions of the enterprise. Because such extensive transaction-level data is essential to the proper performance of the indirect tax function, the function is in a unique position, if it thinks progressively, to add value to the organisation through tax and non-tax data analytics. If you think of the indirect tax function in terms of “transforming data into value,” some might even call this gaining the “pole position” for all of tax. Indeed, the authors think it is, if the function engages with the overall enterprise the way that it can and should.

V. Conclusions

If you conclude – as this article does – that:

- data is a core asset of the 21st Century business enterprise, and value-creating analytics will be a top-down mandate; and
- tax authorities increasingly understand the importance and availability of data and require more of it (and sooner);

then it must be agreed that the 21st Century indirect tax function should embrace the following proposition that tax data is Big Data; and that data contains hidden non-tax value that can be mined to enhance the performance of the overall business enterprise. The indirect tax function may just happen to find itself in pole position if it chooses to adapt and evolve.

This article has given a background of indirect taxes and Big Data. The next article will probe more deeply into the subject to consider tax policy and administration in the age of Big Data.

Timothy H. Gillis is Head of Global Indirect Tax Services at KPMG LLP in the US and can be contacted by email at: tgillis@kpmg.com.

Philippe Stephanny is Senior Associate, Tax, at KPMG LLP in the US and can be contacted by email at: philippestephanny@kpmg.com.
NOTES
2 Damien Fletcher, What Should We Call the Decade After the Noughties? Mirror Online (January 1, 2010).
3 Yves De Montcheuil, Talend, Facebook: A Decade of Big Data, Wired (March 6, 2014) ("[Facebook] has become a producer of Big Data and will continue to fuel its growth with Big Data.").
4 Rapid Development in Big Data Analytics Has Led to Increased Investment The Guardian (November 22, 2013) ("now that it's cheaper to process the data, companies are getting real insight from it").
5 Erik Brynjolfsson & Andrew McAfee, The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies (2014), ("As we move deeper into the second machine age we'll see more and more such wonders, and they'll become more and more impressive"); Viktor Mayer-Schönberger & Kenneth Cukier, Big Data: A Revolution that Will Transform How We Live, Work, and Think (2013), ("What makes our era different is that many of the inherent limitations on the collection [and analysis] of data no longer exist.").
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8 Brynjolfsson & McAfee, above.
9 Mayer-Schönberger & Cukier; (data has primary and secondary purposes; use and reuse of data is tremendously important and alleviates immense value).
11 Paul Dennis, Finance Transformation: Everyone Is Doing It But Few Get It Right, The Economist (April 14, 2014) ("For many companies, transforming finance is no longer a choice; it is the only way forward.").
13 KPMG Indirect Tax Conference, Evolution or Revolution, Amsterdam (June 2014) (commentary distilled from guest lecturers Professors Stephane Garelli (International Institute for Management Development and the University of Lausanne) and Viktor Mayer-Schonberger (Internet Governance, Oxford and co-author of the bestselling book Big Data: A Revolution That Will Transform How We Live, Work, and Think)).
14 Richard Rubin, Obama to Make Campaign Pitch on Corporate Tax Avoidance Newsweek (July 24, 2014); Pascal Saint-Amans, Bringing International Tax Rules Into the 21st Century, Huffington Post (February 1, 2014).
18 OECD, Consumption Tax Trends 2012, p.3 (2012).
19 Partnership for Public Service, From Data to Decisions II (October 2012).
21 Under China’s “Golden Tax System,” businesses must obtain from the tax authorities special VAT invoices. Mexico requires that a digital stamp should be obtained by a third party (supplier of certification services) by electronic means from the Mexican tax authorities’ web page for each electronic invoice. In Brazil, a state e-invoice (NF-e) is issued electronically by a system approved by the government and consists of an electronic file containing all the required fields.
22 See http://ec.europa.eu/taxation_customs/vies/faq.html#item_1.
25 Sistema Publico de escrituracao Digital (SPED).
29 OECD, Consumption Tax Trends 2012 and KPMG LLP, Washington National Tax research.