Optimise your risk identification and management processes by blending external company information with your own tax data

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1. Introduction

Tax administrations have been facing pressure from the electorate and media to combat tax avoidance and profit shifting away from their jurisdictions.

Responding to this, G20 countries through the Organisation for Economic Co-operation and Development (OECD), and the Base Erosion and Profit Shifting (BEPS) project, have delivered a framework of 15 action plans to equip jurisdictions with tools to minimise the effects of tax avoidance and profit shifting. However, exchanges of data under Action 13 plan pose numerous challenges for tax administrations to make effective use of this information.

Large tax administrations have already been working to improve their information technology infrastructures, update legacy mainframe systems and develop large data stores that can be used to share and link data from multiple sources. Their aims are to run efficient tax risk assessment systems to recoup tax, but also to improve processes to deal with taxpayers' queries and claims for repayments. Work to update infrastructure isn't straightforward. Introducing electronic filings of tax returns, accounts and accompanying documentations has been costly both to the administrations and taxpayers alike. The BEPS initiative will also create additional costs.

Administrations are seeking resource cost savings, such as more efficient digitalisation and automation of risking processes. **Introducing "clean" international commercial data to blend with their own internal data delivers visibility of complex ownership structures and their global wealth. Enhanced capabilities will help administrations effectively use big data, including BEPS information, for robust risking models and complex analytics. This would allow tax administrations to close the tax gap and provide real benefits for their investments in modernising tax management systems.**

Combating profit shifting

There has been growing external pressure on tax jurisdictions to combat the annual drain of hundreds of millions of dollars of taxable profits to low-tax jurisdictions. Studies show the estimated global losses of corporate income tax to jurisdictions in the range of USD 100-240 billion. In relation to developing countries, USD 66-120 billion per year is lost (OECD, 2015). Following the publication of the "Paradise Papers", a public poll in United Kingdom found that 85% surveyed believed that it was too easy for large companies to avoid paying tax (Pegg, 2017).

External pressures have created internal pressures to improve risk management systems. Tax administrations are working to improve their compliance processes and to assure that they are working towards tax enforcement, modernising their tax-risk management systems and to improve the pipeline of enquiries for high quality cases.

The BEPS initiative, which began in 2013 and took a few years to finalise, has produced a detailed 15-point action plan. The goal is to help tax administrations establish coherence regarding domestic rules and cross-border activities. Another aim is to reinforce substance requirements in the existing international standard and facilitating a framework of transparency around corporate activities **(OECD, 2015)**.

The BEPS Action 13 plan has provided a three-tiered structure for transfer pricing documentation under master and local files, and country-by-country reporting (CBCR), which has provided some visibility around cross-border activities. Increasing numbers of jurisdictions are imbedding aspects of BEPS recommendations in their tax code. Many jurisdictions are also becoming members of an "inclusive framework" and have commenced sharing this data in earnest.

This is a positive development in making tax administrators globally connected. Not only could data and knowledge around tax mischief and risk processing be shared, these initiatives could allow for quicker resolutions of data validation and corroboration. However, there are considerable challenges that many tax administrations face in terms of improving tax risk management systems as well as developing risk processes with resources available to make effective use of these disparate data sources.

Several tax administrations have embarked on a modernisation programme to update their systems and tax processes, as well as unifying direct and indirect tax systems under one administration. OECD cite some examples in its paper on comparative information on advanced and emerging economies **(OECD, 2017)**. Personal observation over the last few years would confirm this trend of automation and unification among tax administrations globally.

The need for data blending

All modernisation efforts must deal with existing legacy systems that contain vital data, especially sometimes archaic systems that house data across different heads of tax. Most of the data here has been added manually, which increases the risk of error. This data isn't in a "clean state" that could be matched and linked with important compliance information in other systems, for risk analysis.

With new arrival of CBCR data, it is highly probable, and personal experience of working with the electronic submission of XBRL (eXtensible Business Reporting Language) tagged data suggest, that there would be reliability issues with data in terms of provenance. There would also be problematic data gaps, incompatible formats issues and late filings. Some jurisdictions for CBCR information, however, have late filing penalties clauses in their tax codes to deter this issue.

For tax administrations, it could be worthwhile to clean data and information in their vast datastores and align CBCR data for effective use. Administrations and OECD have made significant efforts to improve and make risk management processes more effective. Data blending with an external global data provider, such as Bureau van Dijk, offers several benefits. It makes it possible to match, link and validate disparate data from third parties and taxpayers and to also add relevant external data to aid analysis.

- Bureau van Dijk ID numbers contains digital signatures of jurisdictions' company identification numbers along with other possible link digits to provide a matching "spine". This allows users to clean and remove duplicate and redundant records and to match tax data to Bureau van Dijk's data resources.

- Bureau van Dijk's company information universe contains several hundred million global corporate records with linked information on shareholders and company officers (directors).

- Bureau van Dijk offers comprehensive global coverage of corporate hierarchies including beneficial ownership, with active and historical ownership links.

- Bureau van Dijk maintains many other datasets including:

    - around 23 million detailed company financials over several accounting periods

    - global M&A and intellectual property data

    - sanctions information linked to companies, its officers and beneficial owners

    - tax risk and transfer pricing data modules, and more

Blending tax administrations' data with data provided by Bureau van Dijk (Figure 1) allow all data within the jurisdiction's data marts to be matched and linked. This helps specialists and data scientists to develop effective tax risk models and provide additional powerful data for predictive analytics and data and text mining projects. It also allows specialists to run algorithms downstream to unearth aggressive tax avoidance schemes (Figure 3) and use analytical models (Figures 4 and 5) employing neural networks for visualising output (Figure 2). With a basic level of automation, errors would be screened and dealt with efficiently where electronic return data enters the risk management system upstream (Figure 1).

Data integration solution

In the examples 2 to 5, the only data used is from Bureau van Dijk's commercially available data. The examples are for illustrative purposes only.
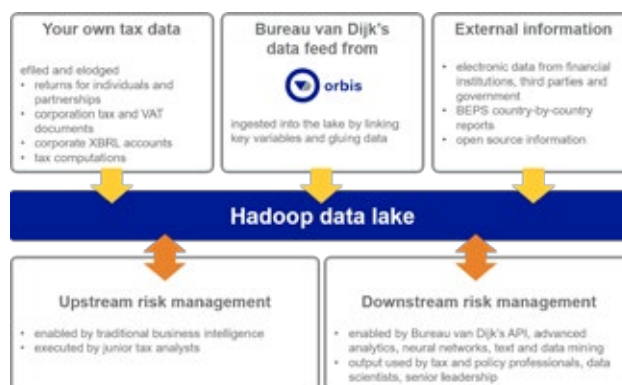

Figure 1: Example of the enterprise data architecture of a tax administration where internal data could be blended with commercial data to undertake upstream and downstream risking.
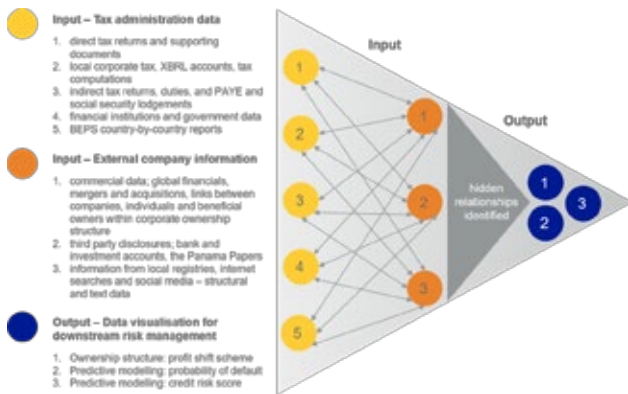
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Figure 2: Example of a neural network that could be developed for advanced analytics where multiple sources of structured and text data from internal and external sources are linked. With clever algorithms, "hidden relationships" are identified through visualisation.

Figure 3: Example of a possible profit-shifting scheme. Here, algorithms are used to unearth a complex structure involving 400 companies where possible profit shift is identified from high-tax to low-tax jurisdictions. This could purely be a commercial structure where the intent is not tax avoidance. See the discussion in the Handbook on Effective Tax Risk Assessment on testing such scenarios (OECD, 2017).

Figure 4: Credit rating model output: IOTA membership map showing number of companies by countries with 95% or greater probability of default with minimum 95% confidence level that these companies may go into default in a time horizon of 18 to 24 months. The darker colours show which countries are impacted most (base year 2016).
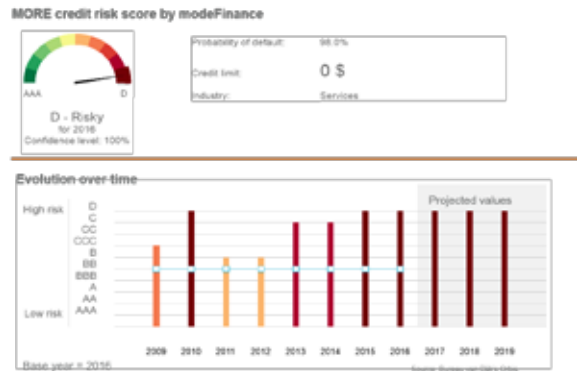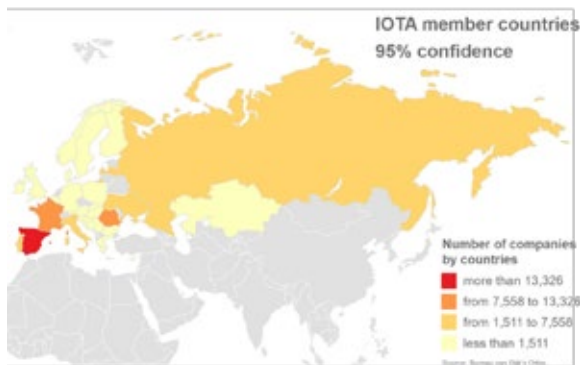

Figure 5: An output from one of Bureau van Dijk's credit risk models of a company within the IOTA membership area. This shows a probability of default of 98% and borrowing credit limit of USD 0. It also shows projected risk values post 2016. Monitoring such companies could allow for the development of a successful debt collection strategy.

Conclusions

Tax administrations face several challenges to modernise with the aim to optimise their risk identification and risk management processes.

To modernise:

- there requires a well thought out information technology (IT) and data strategy with a timeline for delivery, allowing for sufficient funds and resources to undertake the work and future-proofing the technology

- there is a need to establish industry expertise for IT to assist with data mart engineering and preparatory work such as migrating data from legacy systems where needed, undertaking data preparatory work and bringing in external data to add value

- expertise should be aligned within operations and policy areas to ensure requirements are fully understood by technologists. Developments are piloted and tested, involving subject matter specialists before going live

Modernisation doesn't necessarily entail digitalisation. A report on "Digitalisation of Tax – International Perspective" (**ICAEW, 2016**) gives insights into how digital technology is being developed by tax administrations with key lessons from case studies. Bear in mind that not all tax administrations are at the same stage of development. Not going down the digital route, as a panacea of reducing administration burden and closing the tax gap, doesn't mean they couldn't develop modern, lean risk-management systems.

All administrations' risking processes could be enhanced by blending external commercial data, as discussed in this paper. Technologically advanced administrations "ingesting" commercial data into their data lake could give considerable benefits from centralised, advanced analytics.

However, all administrations that take the data feed would benefit from global information. It would allow leveraging internal taxpayer and third-party data from regulators and public disclosures.

Above all, these processes would validate and corroborate CBCR data and information on ownership, financial information, intellectual property and their locations across the parent and subsidiary companies. Clever use of data with technology and expertise would optimize risk identification and management processes for all tax administrations.

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