PwC Treasury Broadsheet

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Long-term FX hedging, speculative or strategic?

Is long-term FX hedging speculative?

Or are businesses finally recognising long-term FX hedging is a key strategic economic impactor of sustainable business margins?

Treasury management has long been considered a cost centre within organisations and has had a bias towards "short-termism". This bias was principally motivated by outdated academic studies where currencies were considered in isolation of underlying economic business activities (recall the timeless quoting of the 'zero sum game' argument against hedging FX).

Another key contributor to the short-termism of FX hedging came from the accounting profession with the introduction of IFRS in the early 2000s. IFRS effectively killed long-term economic risk management through revaluations of financial market instruments defaulting through to the P&L from the balance sheet where it belongs.

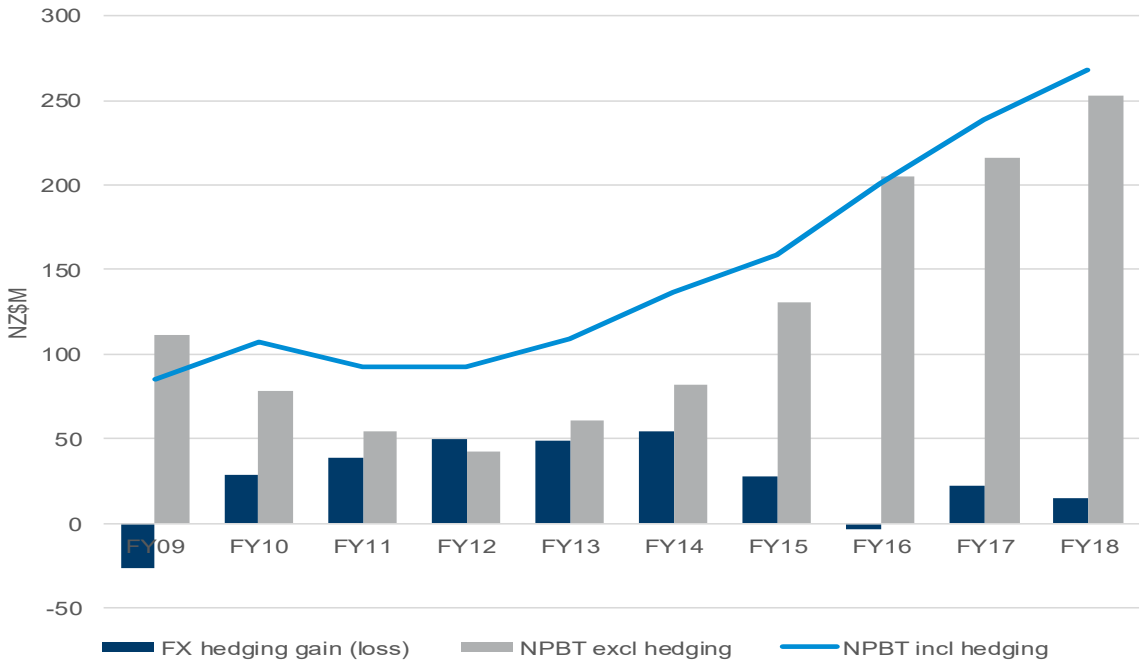
The combination of the above two bias motivators has significantly influenced treasury behaviours around strategic economic risk management – firmly putting it into the "too hard" basket. Accounting treatment has dominated decision making at the expense of economic risk management of gross business margins.

Is it worth the effort?

To effectively manage gross business margins, on a truly strategic and economic basis, businesses must have supportive capital structures. It also helps to get underlying hedging off the P&L statement and onto the balance sheet through efficient hedge accounting.

An example of a leading New Zealand company that has successfully adopted these principles is Fisher & Paykel Healthcare.

Since listing in 2001, Fisher & Paykel Healthcare has followed long-term economic hedging principles associated with its (almost exclusive) export sales. The following chart illustrates the economic benefits of long-term hedging, which have generated over NZD 254 million of FX gains (pre-tax) and represented 20% of pre-tax profits over the past 10 years.



Source: Fisher & Paykel Healthcare

This approach has also strongly influenced the current capital structure with important consideration given to the capital 'capacity' required to support the balance sheet impact of long term hedging.

FX risk management, along with commodity price risk management, is just another key economic impactor to a business' gross margins and should be treated in exactly the same way that businesses consider other impactors (such as wages, technology investments and occupancy costs etc.) when determining long term business forecasts.

For New Zealand exporters, it is typically sales that are heavily influenced by FX; for importers (or manufacturers) FX often impacts cost of goods sold (COGS). The FX influence is not always direct, as many companies import USD-linked commodities (paid in NZD) and these indirect FX risks should always be fully investigated.

We are beginning to see a groundswell of change from company CEOs who are under pressure fighting the constant erosion of gross business margins. In many cases, these CEOs have already identified and actioned a number of margin-improving initiatives (such as cost-out measures) and are desperate to reduce volatility and protect margins going forward. We believe that companies will become more fully engaged in their strategic analysis of material gross business margin impactors such as FX and commodity price risk. We predict that this will revolutionise risk management (hedging) practices over coming years.

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The benefits of an RFP process

There are benefits to be accrued from running a Request for Information (RFI) and/or Request for Proposal (RFP) process.

As well as the process adding structure and formalising the discussion with third-party providers, it also adds integrity and creates the opportunity for responding organisations to better understand the tenderer's objectives and needs for a particular procurement of goods or services.

A well-articulated RFI and RFP document brings respondents up to speed quickly and results in better quality responses that articulate capabilities and, importantly, point of difference. An equal opportunity is given to each responding organisation.

An RFI can be used as a pre-run to a formal RFP process. The RFI is effective when the procured goods or services may not yet be well articulated and/or the capability of third-party providers is not well understood. This is a great opportunity for responding organisations to ask questions, tailor their RFP response and highlight their differences to best deliver to the client's requirements. A formal, more detailed and targeted RFP would subsequently be released to a selected set of providers.

Depending on the goods or services procured, the RFP should provide all reasonable information that the respondent would need to satisfactorily respond to the proposal. The tendering party wants to present itself in the best possible position highlighting key success factors. Much of this information will depend on what is being procured. Importantly, all RFPs should have a base load of relevant information which needs to also cover objectives (what is the tenderer wanting to achieve through this process), an agreed timeline for responsiveness and deliverables and evaluation criteria.

A third-party proposal presentation to key stakeholders and senior management is essential. The benefit of a proposal presentation allows tenderers to highlight the points of differentiation in their proposal, take questions and engage with the organisation on a personal basis. The ability to listen and understand the business' needs along with people that can effectively partner with an organisation are increasingly important attributes of success. Comments have come back from tendering organisations that insights and observations from these sessions tip the balance with preferred candidates. The clear message from these sessions to third-party providers is to prepare well for this important part of the RFP process.

Through the RFP process, the responding providers are better placed to know what is expected and better positions the tendering organisation to procure the optimal strategic outcome.

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Understanding and appropriately using volatility

Volatility can be an overstated and misunderstood concept. People often comment that 'markets' are very volatile. Frequent daily 'choppiness' can sometimes feel like things are changing a lot, but in fact this is just 'noise' within a range or around a 'gradual' trend.

True volatility encompasses wide and more sustained swings and movements in one direction, followed by wide swings in the other direction, and so on. In New Zealand, two true 'volatile' events and market responses in recent months have been the unexpectedly 'dovish' August RBNZ Monetary Policy Statement and the very strong employment report in early November.

Many readers will be familiar with the concept of implied option volatility as incorporated in treasury management 'hedging' instruments. Volatility is a key input to option pricing, capturing the 'swings' and potential variability in underlying market prices.

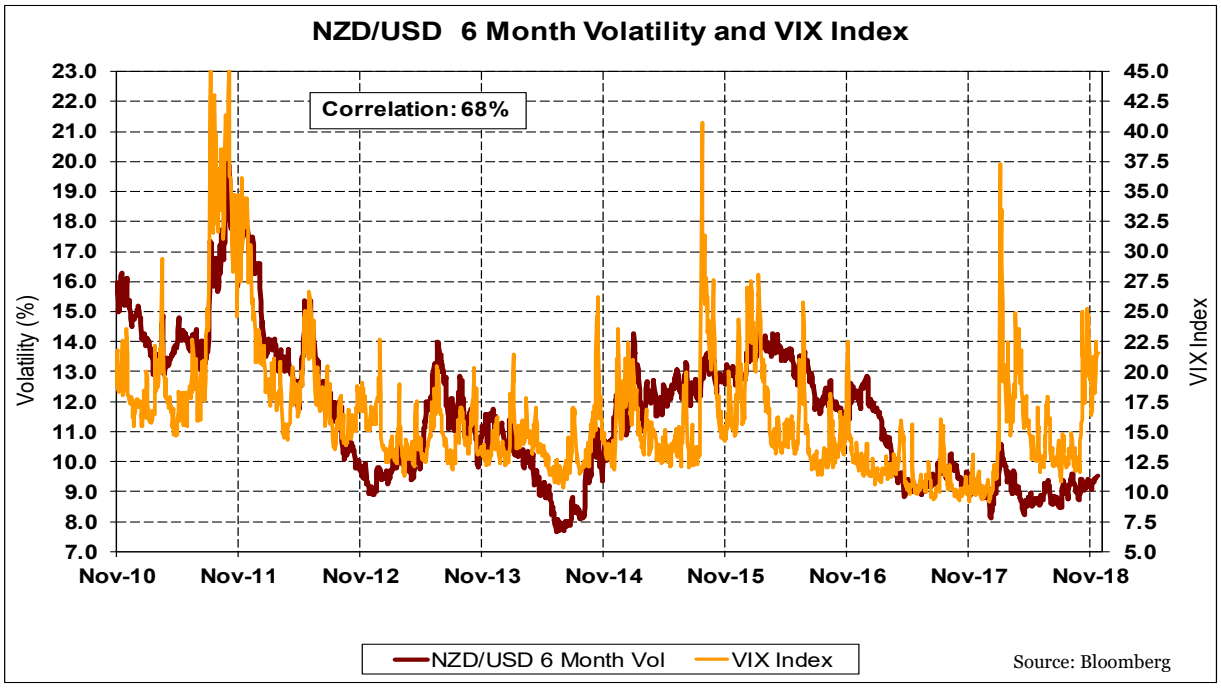
The usage of options allows entities to insure against risks occurring whilst also affording some flexibility within a portfolio of hedging instruments - flexibility that swaps and forward exchange contracts are unable to cater for. Options can protect against an unfavourable event occurring and allow participation in a favourable and sometimes unexpected event occurring. When used as part of a portfolio, options can reduce the opportunity cost or scope for regret and can accommodate a range of outcomes.

The chart below compares and correlates S&P 500 equity option volatility and NZD/USD option volatility. Foreign exchange market volatility is often (but not always) closely related to equity market volatility. Foreign exchange market volatility has remained relatively low for much of the last 12 months despite (at times) higher equity market volatility, such as the last month.

So what does all this risk mean for businesses? As volatility is a key component of option pricing, foreign exchange options are still relatively 'cheap' in the context of potential risk outcomes. Events of 2018 have confirmed to us that optionality is worth owning to provide flexibility with the range of

hedging instruments, providing effective risk management around a core view, which may or may not eventuate. Further, options can be structured to reduce or eliminate premium costs (such as 'collar' options, including those which are 'zero cost').

Examples in 2018 of risk events not foreseen include US/China trade wars and a dovish shift by the RBNZ. Examples of risks in 2019 could include US fiscal position deterioration and (any number of) geo-political events. Relatively low option volatility is affording the ability to insure against the impacts of these risks while also allowing opportunity to maximise profitability (reduce opportunity cost) to favourable events.



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When to pay brokerage fees

It has been an active year for the retail bond market in 2018. In total, New Zealand corporates (excluding banks, finance companies and kauri issuance) have issued $3.1 billion across 20 different transactions. Within this group, seven have been first time issuers. In amongst this activity, we have had a number clients ask us "should we pay brokerage on our up-and-coming retail bond issue?" It is a fair question, because the New Zealand bond market has strong investor appetite, the conventional New Zealand brokerage model creates skewed incentives, and finally, because there are an increasing number of successful deals being issued without it. In this Broadsheet, we briefly run through the mechanics of paying brokerage and the key determinants of when (and why) bond issuers should considering paying it.

The traditional retail bonds brokerage model in New Zealand

Paying brokerage on a New Zealand retail bond has traditionally been structured around the Arranger and Joint Lead Managers (JLMs) being paid based on their successful allocations. The common 'price' of brokerage is typically between 75 and 100 basis points, paid as a one-off, upfront fee. For example, on a $100 million issue, this means that between $750,000 and $1,000,000 will be paid as brokerage by the issuer. Split evenly within these amounts, there is typically a fixed fee for the respective parties known as the 'firm' fee and a 'success' fee based on the final allocation. During the process, it is also common practice for syndicate members to receive priority allocations. Taken together, this creates an incentive for the arranging group to maximise their own allocations and a disincentive for outside

parties to compete for allocations (as they know their customers' orders will not see priority). For those customers of firms outside of the arranging group, it can also lead to disappointment when they do bid. Rightly or wrongly, this can at times also impact their perception of the issuer.

It is worth noting that the traditional New Zealand model is not the global 'benchmark'. Instead, retail bonds globally are typically issued with brokerage paid on a 'pot' basis. That is, there is a 'pot' of brokerage fees available and all interested parties make bids (price and volume) and the final allocation is decided by the strongest allocation for the issuer. Brokerage fees are then paid out as a share of the final allocation. To some, this is considered a more equitable model, as it enables a more widespread distribution across the various broker houses.

What does it mean to "not pay" brokerage?

Not paying brokerage means the same as it sounds. In other words, there is no expectation for the issuer to pay any brokerage amount to the arrangers and retail brokers helping to facilitate the issue. As noted earlier, this can lead to a saving of $1m per bond issue.

Key factors to consider in the paying of brokerage

The key determinants around whether or not you can realistically avoid brokerage are:

- **Repeat or first time issuer:** As a first time issuer, there is additional work to be completed in order to get your inaugural issue into the market. Arrangers and brokers have to work 'harder' to sell your credit story to potential investors, who may not have conducted their own credit due diligence. Investors need to understand how your industry works, where the business and industry risks lie and which credit metrics are important for your business - this takes time. Even for listed equity names (or well-known corporate brands), this is necessary given that a credit story is typically different to the equity or brand story. On the other hand, repeat issuers - particularly regular, repeat issuers - have a distinct advantage given that there is already a trading benchmark for the strength of the credit. On top of this, where the new bond is replacing an old bond, it's an easy decision for investors to roll from that issue to the next, implying no real strong need to pay brokerage.
- **Unrated or low-rated investment grade debt**: There is typically less awareness or greater uncertainty in relation to the credit standing of entities that are unrated or who have low investment grade credit ratings (such as BBB-). Accordingly, retail brokers may need to conduct additional due diligence work in order to sell the bond to their investment customers. They expect to be compensated for this. In contrast, investors typically take much greater comfort in relation to the credit quality of highly rated issuers. As such, they are less likely to spend hours delving into all of an issuer's credit metrics. In turn, this means that there is less of a requirement to pay brokerage for highly rated issues.
- **Term**: Many market participants will argue that term is a key determinant of whether you should pay brokerage. For example, if you're issuing beyond 5 years, then you should. We disagree. It's a factor - and should be considered alongside the other factors raised here - but it's not a showstopper and there are an increasing number of examples which support that.
- **Structure/subordination**: If the bond is slightly more complex than your standard senior fixed coupon bond issue, brokerage may be required. It's a matter of precedence though - if you're reissuing an existing structure, then it's less compelling. Subordinated bonds are more likely to need it given that the investor pool if often smaller. Many institutional funds will have limited capacity to buy subordinated debt and so there is more pressure on other investor groups such as 'mum and dad' investors.

Taken together, we believe there are a number of clients who are able to walk through the above factors and successfully issue bonds without paying brokerage. It's important to note too, that sometimes this requires 'taking a stance' and pushing back a little on arrangers and JLMs. Issuing a request for proposal (RFP) to decide the arranger and JLM mix is a good time to sound-out how

different participants view your credit and the paying of brokerage. It also provides a strong opportunity to discuss other brokerage structures such as the 'pot structure'. For those of you considering an issuance or whether to pay brokerage on an upcoming issue, we are happy to discuss such matters in the first instance.

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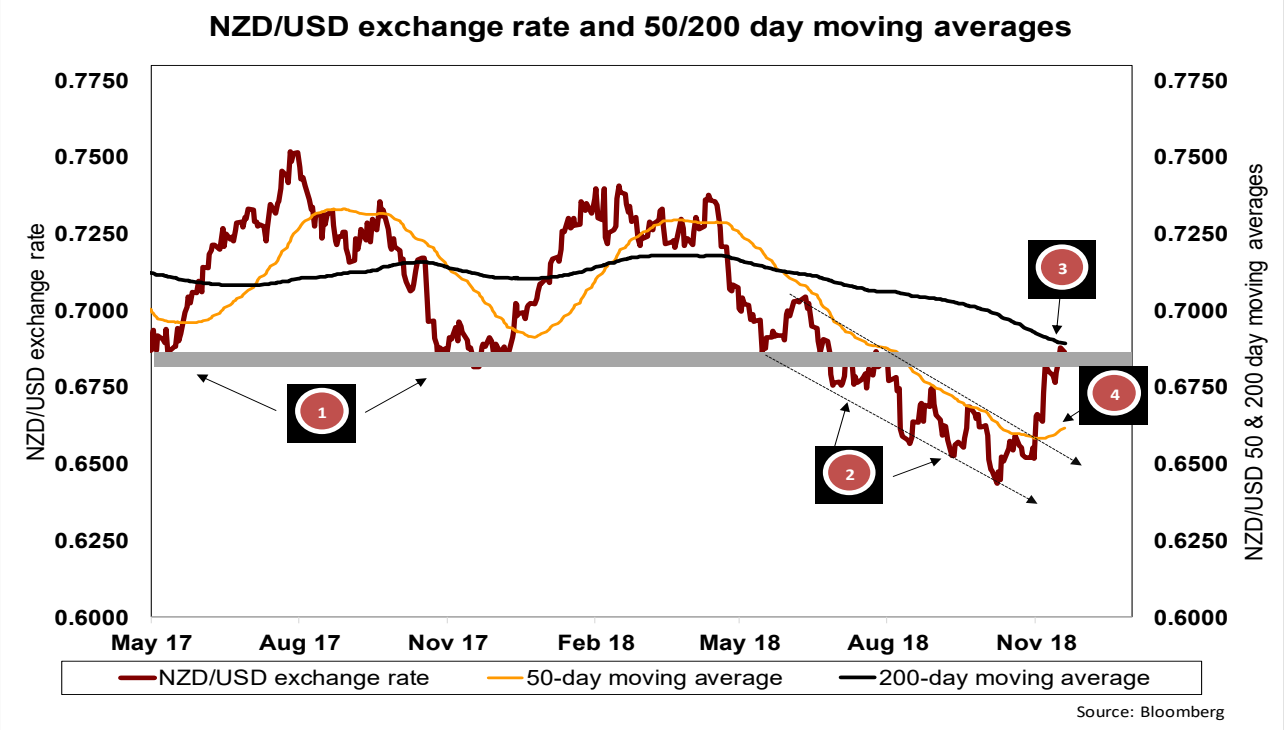
Using technical analysis to enhance decisions

'Technical analysis is based on the perception that foreign currency movements tend to trade within a trend or range.'

Whilst many treasury risk managers consider themselves fundamentalists who tend to manage foreign currency risk by focusing on medium-to-long-term economic trends, the odds are they still want to obtain favourable entry points for transacting their hedging positions. Technical analysis can be handy in these situations. One can get the best of both worlds when combining technical analysis with fundamental analysis to provide additional confirmation for hedging strategies. Of course, there are pitfalls with technical analysis (like any type of analysis), as simply analysing historical price action will not allow you to accurately forecast macroeconomic trends or events and the subsequent market reaction (e.g. Brexit).

More broadly, however, the expected repetitive nature of foreign currency price movements can be attributed to the psyche of the FX market participants. Generally, this is based on the idea that FX market participants often react in a similar fashion to reoccurring events. There are several different techniques or 'indicators' such as moving averages, trend lines, support and resistance that treasurers can use to help understand the behaviour of FX market participants (e.g. speculators, robots, algorithmic traders) and then make more informed hedging decisions.

The following chart helps to illustrate how one may combine several technical confluences to build up a strategy for hedging entry tactics.



1. 0.6800 zone identified as a pivotal point in the NZD/USD exchange rate. Previous acting as support (during 2017) and now acting as resistance.

2. Downtrend channel broken to the upside, as well as breaking above the 50-day moving average. Next resistance level is the pivot point described above, as well as the 200-day moving average.
3. The 200-day moving average aligns with the pivotal support/resistance zone at 0.6800. Identified as a strong level of resistance. Importers may position themselves to take advantage of this by having orders at these levels where there is multiple 'resistance' confluences.
4. The 50-day moving average is now acting as a dynamic support level. Not wanting to hedge at multiple month highs, exporters may use this 50-day moving average level as an entry target for their hedging strategy.

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Corporate Treasury and Intelligent Automation

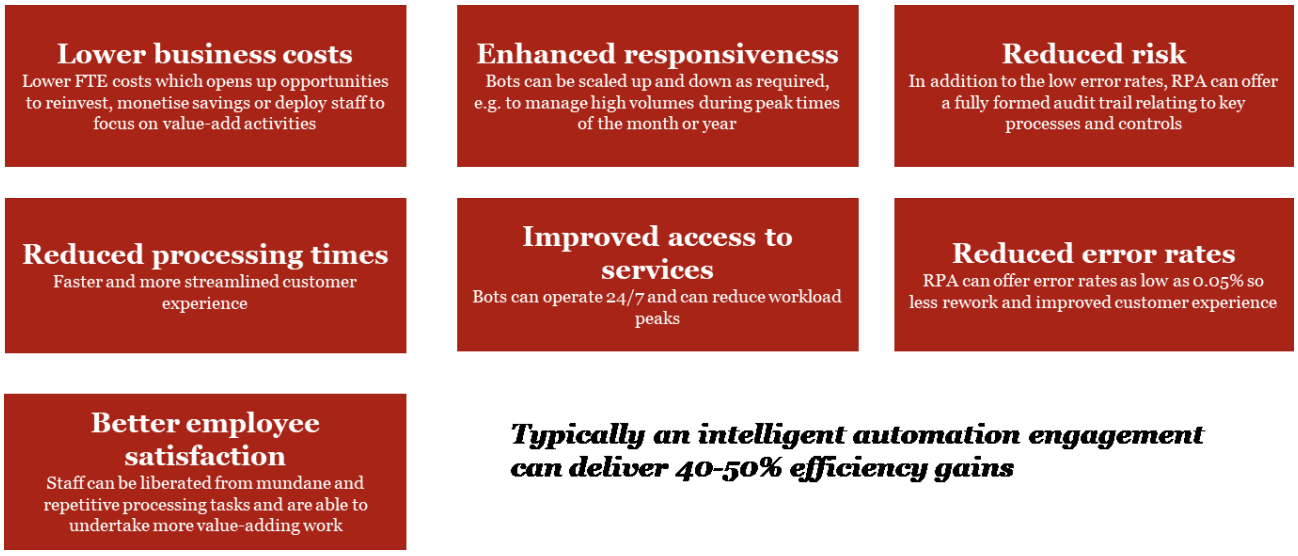
Our observation is that, as technology becomes more sophisticated, treasurers need to understand how they can use new software to improve and optimise their function within the business. Intelligent automation (IA) is the layering of automation and intelligent technologies that deliver the 'digital workforce'. It has profound transformational benefits and organisation implications that require robust operation excellence and organisation change to be successful. Within the realm of IA, there is a subset that is appealing to both corporate treasurers and financial professionals.

Robotic process automation (RPA) is a new technology that is part of the IA sphere. Indeed, the RPA market is projected to grow from USD 250 million in 2016 to nearly USD 2.9 billion by 2021, according to Forrester Research[1].

For those of you who are less familiar with developments in IA, RPA at its core uses software robots (bots) to automate routine processes. Using rules-based logic, such software is exciting for organisations as it allows employees to shift their focus from repetitive tasks and add value elsewhere. Best of all, minimal programming knowledge is required, as the software is designed to be used by non-technical users. For business owners, the implications of this are twofold; employees who are more stimulated and businesses that are more efficient. The rest of this article explores the benefits of IA, levels of automation and implications for future treasury functions.

What are the benefits?

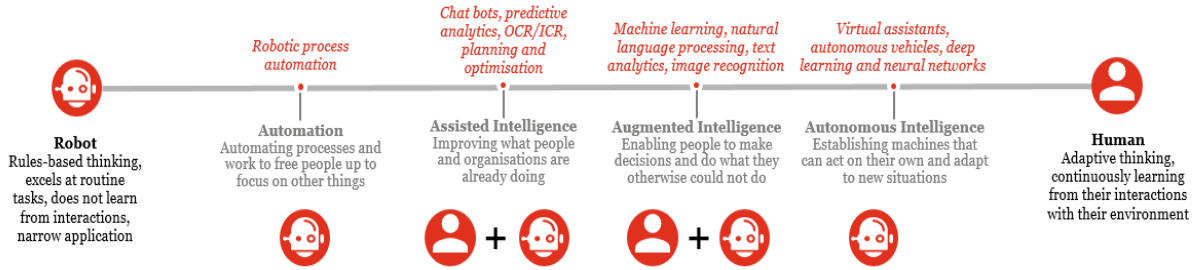
The graphic below outlines the seven key benefits commonly associated with IA:



1 https://www.forrester.com/report/The+RPA+Market+Will+Reach+29+Billion+By+2021/-/E-RES137229

Levels of automation

The graphic below presents the different levels of automation that are possible with IA. Apart from Autonomous Intelligence (which is a while away from becoming a reality), all of these levels are thought to require human interaction:



RPA is considered to be the first level of automation and is concerned with speeding up repetitive tasks that use structured data in digital form. For Treasurers, this means that RPA may be useful in providing solutions to tasks such as manual cash pooling or identifying foreign exchange and interest rate exposures from different data sources and ideal for effectively netting of FX cash flows.

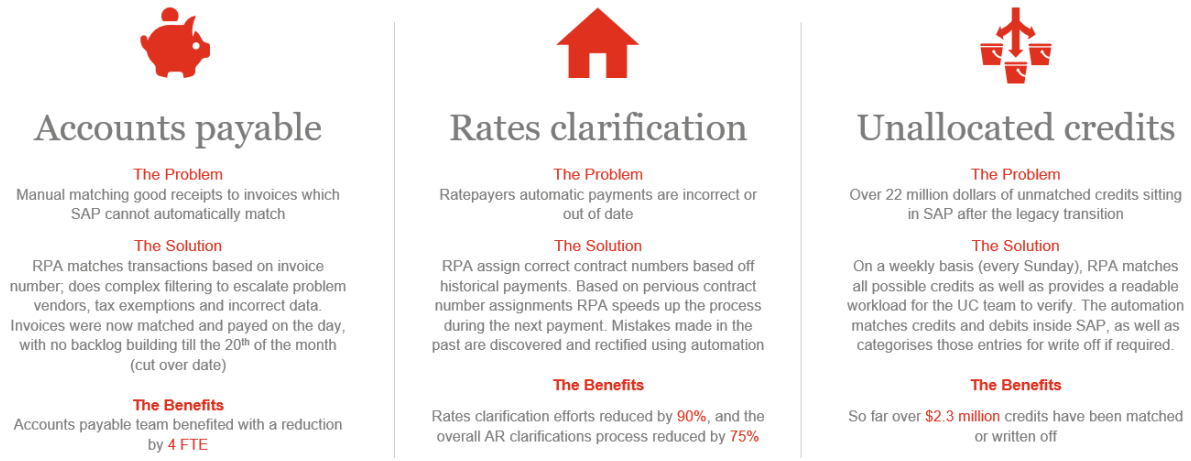
Building on automation, the next stage involves implementing assisted/augmented process automation and steadily introducing technical cognitive capabilities for decision support. This allows the second generation of robots to deal with increasingly complex data and introduces self-learning elements by using increasingly unstructured data. There are many possible applications in this area, such as cash management (settlement and clearing of unknown items) and fraud detection where bots can be used to identify suspicious transactions. In these instances, the bot learns from pattern recognition.

Looking ahead, the ultimate in terms of automation is using intelligent autonomous/conative automation. In essence, the bot not only learns but also thinks. This is achieved by integrating artificial intelligence processes/methods in order to map more complex decision-making processes or creating sophisticated forecasts. The bot will draw on a variety of data sources both structured and unstructured, which can be used recursively in order to improve the quality of the outcome. It becomes less about improving the speed of the processes, but making complex decisions automatically that have a beneficial impact.

As the pace of development increases, the question of the human factor becomes increasingly important in the context of intelligent automation. No one will complain when standard time consuming processes are automated. However, as tasks that are more complex are taken over by bots will the corporate treasurer or finance professional himself be replaced? The key question will not be is it possible to implement the technological solution but that all professionals must answer for themselves the appropriate level of automation and its management in the form of controlled intervention. Every bot must be capable of recognising predefined expectations or thresholds within the process. The decisions of how a particular situation is treated is down to the bot. However, the feeding of the bot with the exception handling guidelines (the point at which and under what conditions an emergency check/stop is built into the process) will and must still be the result of human deliberation going forward.

Real world examples

PwC has been active in the IA space for a number of years. We have deployed over 40 bots across multiple businesses and the figure is only growing larger. Below is a summary from a single recent client engagement:



For another example, below is a link to a video explaining an IA exercise that PwC undertook with Watercare Services Limited: http://www.pwc.co.nz/rpa-video

If you wish to understand how IA can help your business please get in touch.

Matthew Whitaker (Director): https://www.pwc.co.nz/contacts/m/matthew-whitaker.html

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Is it time to reassess actively managing Emerging Market currency exposures?

Emerging Market (EM) currencies are often viewed as 'too costly' to hedge due to their volatile nature (and high carry cost) or 'immaterial' in comparison to major currency exposures. However, in an environment where the Federal Reserve is increasing interest rates and a number of protectionist policies are being introduced, taking a closer look at managing these emerging market currency risks is becoming increasingly important. As such, careful consideration needs to be given to the trade-off between the cost of hedging these EM currencies and the benefits on business margins of reducing some of the associated volatility by actively managing these exposures.

Rapid globalisation has put a spotlight on the importance of effectively managing global financial value chains. While opening up opportunities for more efficient production processes, this also means more significant and a broader range of foreign exchange risk for businesses. Importantly, greater access into emerging market economies increases the significance of EM currency exposures.

Throughout 2018, a number of EM currencies (including the Turkish lira (TRY), Indian rupee (INR) and Indonesian rupiah (IDR)) have crumbled in response to external global factors. Magnified volatility in these currencies can result in significant adverse impacts on businesses' margins if these foreign exchange exposures are not actively managed. One of these factors has been heightened trade wars, of most importance that between the United States and China. The dominance of exports within EM economies means that their currencies are viewed as proxies to the price of commodities. As trade wars spark volatility in commodity markets, there is a greater need to manage the risk of material EM currency exposures.

Secondly, EM countries heavily rely on external capital to run their economies. Volatility arises in these economies currencies as the Federal Reserve increases interest rates. As investors pull money out of EM countries following higher US interest rates, these EM currencies weaken as a result.

So how do we best manage these 'exotic' EM currency exposures? Many EM currencies have particular constraints due to limited forward hedging markets and local exchange rate controls. However, using non-standard approaches provides a more comprehensive range of hedging tools and methods are becoming available to mitigate EM foreign exchange exposures for currencies that are not actively traded in the forward market.

The principal derivative used when hedging currencies such as the Korean Won (KRW), Brazilian Real (BRL), INR and IDR are non-deliverable forwards. This is similar to a regular foreign exchange forward contract (FEC) where an exchange rate is 'locked-in' for a period in the future. However, no exchange of the underlying currency takes place at maturity. Rather, the deal is settled in a freely traded currency (most often USD). As currency volatility continues to rise steadily, it may be time to reassess the value of actively managing EM currency exposures.

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