

# Cash Management Comparison Shopping

## Summary

*On 03 October, DBS announced the public release of its free cash management optimiser, Treasury Prism, which went on to win a prize at EuroFinance Barcelona's Innovation Alley. Treasury Prism puts treasurers in control of their cash management by providing technical, regulatory, and tax resources to investigate alternative cash management arrangements.*

## Treasury Prism

Treasury Prism is a free cash management modelling and optimisation web app, available to treasurers and finance colleagues worldwide by simple sign up at [treasuryprism.dbs.com](https://treasuryprism.dbs.com).

(In the interest of full disclosure, I am engaged on this project with DBS, providing corporate treasury expertise.)

Treasury Prism allows treasurers to upload or input balances and flows, model and compare different cash management arrangements, and generate optimisations which are essentially system generated cash management arrangements.

In keeping with the holistic intention of putting treasurers in control, Treasury Prism includes corporate solutions like in house bank, netting, and payment factory as well as bank products like ZBA, notional pooling, and virtual accounts.

Many corporates learn about different cash management solutions by issuing RFPs to their banks. There are several problems with this approach – banks respond with solutions that best suit the bank, they respond with bank products only, and they respond in divergent and obtuse formats that are hard to compare.

Treasury Prism addresses these problems by giving corporates the ability to compare different bank solutions as well as popular corporate solutions, in a consistent manner based on annual income and expense for each cash management arrangement.

## Use cases for Treasury Prism

Of course, cash management simulation and optimisation is not a daily activity for most treasurers. Some of the use cases treasurers we consulted are excited about include:

- Cash management RFPs – as noted above, RFPs are very hard for treasurers to manage and evaluate; Treasury Prism gives treasurers a consistent and transparent basis to compare and evaluate RFP responses,
- Cash Management business case – treasurers often find it hard to articulate the benefits of different cash management solutions to their colleagues to get buy in for change; Treasury Prism provides quantified benefits that can be analysed down to the account, legal entity, and country level,
- New treasurer or new treasury roll out – Treasury Prism is a perfect tool to evaluate current cash management arrangements and to generate new ideas and to identify low hanging fruit,
- Cash management review – treasurers find it hard to keep up with regulatory and market infrastructure changes affecting their cash management; Treasury Prism provides single click reviews – just click optimise to see if any new developments provide material benefits for your circumstances, and
- Cash management training - Treasury Prism provides a perfect hands-on training platform for people new to cash management (or looking for a refresh); and modelling cash management tools in a live and responsive environment if much more engaging than reading articles and powerpoints.



## How it works

Treasury Prism works by combining

**Accounts** (balances and flows (payments and collections) provided by user)

with

**Tools** (balance tools like ZBA, notional pool, IHB, etc and flow tools like reconciliation, payment factory, etc)

resulting in one or more

**SIM(s)** (simulations or models of a particular set of tools forming a cash management arrangement)

For each SIM, Treasury Prism uses its reference data comprising, market rates, withholding tax rates, and regulatory constraints to calculate the annual income and expense of the SIM – interest income from credit balances, interest expense on debit balances, applicable withholding taxes, bank fees, and corporate internal costs.

## Optimising cash management

Treasury Prism's optimise function is essentially a monte carlo simulation for cash management. When the user clicks optimise, Treasury Prism generates (almost) all legal combinations of tools for the balances and flows provided by the user, generating hundreds of SIMs, and calculating the annual net income or expense for each.

These system generated SIMs are ranked by net annual income or expense. The user can apply filters – for example to see only notional pooling based SIMs or to exclude notional pooling altogether. And the user can select SIMs to compare side by side – similar to comparison shopping websites.

## User data

Treasury Prism needs underlying balances and flows on which to calculate. Most users upload these from spreadsheets, but Treasury Prism has a number of manual input methods that can be useful for playing around with different ideas – back of the envelope style.

The user data is notionally grouped as accounts and comprises

**Balances** (actual average balances or typical or forecast balances)

and

**Flows** (payments and collections volumes which may be actual or typical or forecast).

Although Treasury Prism groups balances and flows under accounts (because this is the default for most use cases), many users will find that aggregating at legal entity or even country level will still provide many of the benefits of using the platform.

## Regulatory data

Treasury Prism has a database of regulations relevant to cash management across 24 countries – 14 Asia Pacific markets and 10 global countries that are popular for treasury activities. The regulatory data is updated quarterly by default and ad hoc when there are material changes to relevant regulations.

The regulatory data is used to provide dynamic insights to the user that are applicable to current user activity. For example, Treasury Prism dynamically flags an error if the user tries to put an India based account into a notional pool. And it warns that cross border sweeping out of China requires PBOC approval.

Treasury Prism also flags opportunities such as the treasury incentives that are becoming increasingly common in Asia (FTC in Singapore, CTC in Hong Kong, etc).

Treasury Prism's optimiser uses the regulatory data to ensure that only valid and legal cash management arrangements are proposed.

## Withholding tax

Treasury Prism includes a full database of standard and treaty withholding tax rates across the 24 countries it currently covers. All annual income and expense calculations are net of applicable withholding taxes.

Treasury Prism does not attempt to calculate the full net tax position because treasurers did not consider it worth the effort of uploading full tax accounts to the platform, so it is limited to withholding tax. Withholding tax is the most material tax for cash management in general, but clearly treasurers will need to seek exhaustive tax advice from tax colleagues and advisors before implementation.

## Market rates

Treasury Prism also has a database of applicable foreign exchange and interest rates for the 24 countries it currently covers. These are used to calculate interest on provided balances and to calculate annual net income or expense in the user's chosen base currency.

## SIM scores

Each SIM is given a score – expressed in base currency net annual income or expense and in percentage terms. The percentage score is based on system generated worst case (basically a SIM with no tools, corresponding to 0%) and best case (the best SIM generated by the system, corresponding to 100%) SIMs.



This score allows treasurers to quickly evaluate their manual SIMs, as well as to compare system generated SIMs.

## Overriding reference data

Treasury Prism is populated with industry standard reference data. Of course, corporate circumstances vary, so it will allow treasurers to override default reference data with appropriate company specific information.

For example

- Companies that don't use notional pooling can change their regulatory data to make notional pooling illegal everywhere;
- Companies that are exempted from withholding tax (eg FTC status in Singapore) can set the relevant withholding tax rates to zero; and
- Companies may want to override the default bank fees and corporate costs to reflect their own circumstances.

## Tools

The cash management tools in Treasury Prism include balance tools (aka liquidity management), flow tools (to manage payments and collections), and flow instruments (the different payment instruments available in each country).

Instruments depend on country availability, generally covering local implementations of RTGS, ACH, fast payments, cheques (paper, outsourced, lockbox, etc), and book transfers for domestic payments and telegraphic transfer, cross border ACH, and cross border book transfers for cross border payments.

Balance and flow tools include:

	<i>Bank products</i>	<i>Corporate solutions</i>
<i>Balance tools</i>	Notional pooling	In House Bank
	Interest optimisation	
	ZBA	Intercompany loan
<i>Flow tools</i>	Virtual account	In House Bank
	Reconciliation	Netting
		Payment factory

## Knowledge centre

To support this functionality, Treasury Prism is backed by an extensive knowledge centre, covering

- Concepts (broadly corresponding to tools above)
- Country profiles (corresponding to the 24 covered countries)
- Case studies and thought pieces.

These are linked directly to SIMs so treasurers can click directly to learn more about any of the tools suggested by the optimiser.

## Platform

Treasury Prism was designed and created using a customer focused [agile](#) methodology. It runs on the cloud using open source software, and is freely accessible globally.

## Conclusion

Treasury Prism is a great tool for treasurers, putting them firmly in control of cash management. It is free and globally accessible. What are you waiting for? [treasuryprism.dbs.com](https://treasuryprism.dbs.com)

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### David Blair, Managing Director

*25 years of management and treasury experience in global companies*

David Blair was formerly vice-president treasury at Huawei where he drove a treasury transformation for this fast-growing Chinese infocomm equipment supplier. Before that David was group treasurer of Nokia, where he built one of the most respected treasury organisations in the world. He has previous experience with ABB, PriceWaterhouse, and Cargill.

David has extensive experience managing global and diverse treasury teams, as well as playing a leading role in e-commerce standard development and in professional associations. He has counselled corporations and banks as well as governments.

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