Inside Reference Data

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Evaluated Prices

Special Report

Sponsored by AssetControl STANDARD &POOR'S SIX TELEKURS

Editor's Letter

International Demand

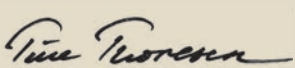
If you look back at evaluated pricing-related news from more than five years ago, most stories will have been focused on the US market. This is where the trend was seen to start, and this is where professionals claim there is a more mature market for this data type.

But the US market is no longer alone in seeing increased demand for evaluated pricing services. In fact, turbulent market conditions and a focus on reducing risk have also helped fuel this trend in Europe and the Asia-Pacific region.

The financial crisis has resulted in increased pressure on investors to have a comprehensive understanding of pricing of illiquid assets. Investors are looking for a transparent view of assets and evaluations, and vendors are continuously improving tools and services to facilitate peek-through transparency. The challenge for data managers is now to ensure the growing importance of thorough evaluation processes is being reflected in budgets and infrastructure.

In this *Evaluated Prices Special Report*, which includes comments from industry experts and a news review, we hope to provide readers with an insight into the latest developments in the evaluations space, providing information on how to handle the many challenges related to pricing illiquid assets.

Yours sincerely,



Tine Thoresen
Editor, *Inside Reference Data*
Email: tine.thoresen@incisivemedia.com
Tel: +44 (0)20 7004 7470

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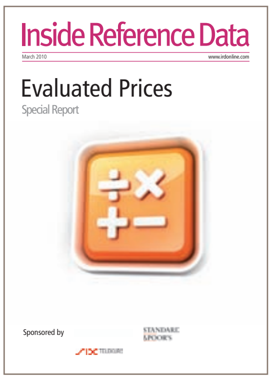

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Incisive Media
Haymarket House, 28-29 Haymarket
London SW1Y 4RX

News Review

Fair-Value Issues Come to the Fore

LONDON—The financial crisis resulted in a growing need for fair-value pricing techniques, and fair-value committees and strong relationships with vendors helped pricing teams manage the risk associated with pricing decisions in volatile markets, according to speakers at a SIX Telekurs Fair Value briefing in London in November.

Matthew Cox, head of securities data management, Europe, Bank of New York Mellon, said there is a huge focus on accuracy and timeliness in the pricing business. The pricing team's reputation is based on producing accurate prices, and the group tries to avoid taking subjective decisions.

When the Northern Rock liquidity problems hit the news in September 2007, clients had different views on how to adjust the price. "All of a sudden [we had] all this information flying around. How do you get a fair value with all these different opinions?" said Cox.

The increased volume of exceptions and price adjustments resulted in the back office taking on more responsibility, handling more complex issues that had previously been handled by the front office.

The full version of this story appeared in *Inside Reference Data*, December 2009.

Tine Thoresen

IVSC Financial Standard Group to Focus on Valuation Types

BRUSSELS—The International Valuations Standards Council (IVSC) expert group, formed last summer to develop a standard for valuation of illiquid or complex financial instruments, has identified treatment of different types of valuations as a focus area, officials tell *Inside Reference Data*.

London-based Ian Blance, principal of independent consulting practice IBC, and IVSC's technical consultant, says the group has identified that some of the areas to focus on can be best practices and different types of valuations. "Different types of valuations should be treated differently in terms of credibility," he says, explaining that there is currently nothing that applies to evaluated prices, and dealer quotes, for example, are different when used for accounting purposes.

The group of 14 industry experts, observed by the International Accounting Standards Board (IASB), aims to set guidelines for valuation practices and ensure standards are set by market practitioners as opposed to accountants. "We are trying to work with the IASB to set these market standards," says London-based group member Peter Jones, global head of valuation scenario services, Standard & Poor's.

The full version of this story appeared in *Inside Reference Data*, August 2009.

Tine Thoresen

Due Diligence Visits Increase for Product Pricing

LONDON—The growing focus on ensuring clients fully understand how products are being priced has resulted in more frequent due diligence visits, and vendors spending more time on client education, according to a panel at *Inside Reference Data*'s European Financial Information Summit in London in September.

Panelists said data managers do the due diligence when they sign up to a service, but later move on. "People are now being encouraged to revisit," said London-based Chad Giusanni, product manager, Trax and Information Services, Xtrakter, adding that firms should probably do yearly follow-up visits.

In a poll, 58% of conference-goers said due diligence visits are not frequent enough for clients to fully understand how products are being priced, but 39% said the situation is improving.

London-based Dominique Tanner, head of business development, SIX Telekurs, said the most important part is the on-boarding process, but it also makes sense to revisit vendors when new people that look at the data join the team, and when increasing the asset class coverage. Yet, the most important factor is to assess if the internal "pricing policy matches the way the vendor is actually calculating and presenting the data."

Panelists said clients have to understand how a price is calculated, what market inputs the vendor is using, and how the models behave over time.

The full version of this story appeared in *Inside Reference Data*, October 2009.

Tine Thoresen

News Download

S&P Unveils Valuation & Risk Unit

Standard & Poor's Fixed Income Risk Management Services (Firms) division has added a new group, Valuation & Risk Strategies, combining its securities evaluations, valuation scenario services, and market and credit risk strategy research businesses. The data, covering US, European and Asia-Pacific issues, is available via S&P's Global Credit Portal.

SIX Telekurs Expands Bond Coverage

SIX Telekurs has increased the number of instruments covered by its Fair Value Pricing Service, which provides evaluated prices for more than 110,000 investment-grade fixed-income securities denominated in 11 different currencies. The new data is delivered via Telekurs' VDF feed.

ITG Centralizes Data with Asset Control

Financial technology and brokerage firm Investment Technology Group (ITG) has selected data management vendor Asset Control's AC Plus platform to centralize global, multi-asset instrument data. The scalable reference data and pricing architecture will help support ITG's growth plans.

Virtual Roundtable

The New Era of Evaluations

The financial crisis has resulted in a flourishing demand for evaluated prices and different user requirements. *Inside Reference Data* gathers leading industry professionals to discuss how the latest accounting rule changes and regulatory pressure have resulted in an ever-growing focus on increased transparency in the evaluated prices space

Despite the growing trend to take multiple sources of pricing data, data consumers are also typically focused on finding that one vendor that can provide the right value. How can users best ensure they select the right vendor for pricing a specific instrument?

Matthew Cox, managing director, BNY Mellon Asset Servicing: For listed equities, it typically doesn't matter who you go to for pricing data. But for evaluated pricing, this is where it gets important to choose the right vendor.

First, clients may have a preference, but as long as we can prove the robustness of the vendor, we can typically establish a primary source of information that services all clients.

Second, it is important to validate the quality of the prices. The only way you can validate the accuracy is to pick up a traded price in the market, and that means working with the front office. This is the ultimate test. When selecting a vendor, we take a sample of prices, work with the underlying client and review the information they have received. In the end, the decision is client-driven and based on accuracy levels determined through reconciliation with traded prices.

Rick Enfield, director of product management, Asset Control: It is important to differentiate between determinable market prices, generally for liquid traded instruments, and evaluated pricing whereby models and input assumptions are used. Since determinable prices (last, bid, ask, etc) are passed through from exchanges, consideration is generally given to cost, speed and reliability. Selecting vendors that can aggregate and deliver pricing reliably and within the very tight processing windows is more important than a simple cost equation.

Evaluated pricing is more complex—whether driven by generic price algorithms or proprietary methodologies. Regularly reviewing pricing through a variety of methods, such as comparison across vendors or instruments, expected valuation versus sales pricing, or selective algorithm validation, can give comfort that evaluated pricing is reasonable. However, price accuracy is not just a function of vendor selection. Client mandates can also dictate sources or procedures that must be used. Ensuring a vendor can deliver prices determined via a methodology that enables compliance with client pricing mandates is paramount.

Philippe Rozental, head of asset servicing—member of the executive committee, Société Générale Securities Services: Users need to challenge the data feed selection through a benchmarking approach and on-going reconciliation process for some instruments. Typically, they can select some complex instruments and ask internal/external providers.

Ivo Bieri, head of marketing, SIX Telekurs: For a specific instrument or set of instruments users can test prices from different vendors and make a decision based on various criteria. For example, if the instrument is fairly liquid, then the main criterion will be how close to the market a vendor can price. In illiquid markets one needs to look at the pricing methodology and make sure state-of-the-art methods are applied. The assumptions made in the quantitative models are also extremely important, together with the market data used as an input. Special attention should be paid to transparency, as this is the only way to make sure every step of the calculation can be followed and understood.

European data manager: Put vendors through a thorough request for proposal process that addresses market coverage, depth and quality of contributor sources, service quality and ease of adoption. Perform tests on selected "difficult" instruments to prove this.

Frank Ciccotto, senior vice-president, Standard & Poor's—Valuation & Risk Strategies: Consumers will evaluate vendors versus a number of criteria to find a provider that delivers the "right" value. Users will tend towards choosing services that evolve their approach and provide in-depth insight regarding processes and pricing models.

Ivo Bieri, head of marketing, SIX Telekurs
Tel: +41 44 2795 418
www.telekurs-financial.com

Consumers require a view of the market information from which an evaluation is established. Evaluation services make assumptions based on market data and assumptions to drive their pricing models. Access to that market data and those underlying assumptions is valuable to the end-user as well. In determining a vendor, it is possible users will go through a vendor assessment, asset class by asset class and ultimately employ different vendors as a primary pricing source based on asset type.

How important is it to operate with a cross-vendor validation strategy?

Cox: Business contingency is one reason for taking multiple sources. If one fails, we also have a fall-back. If you're producing daily NAVs, disaster recovery should be critical. Still, it is also becoming more common to use a second source for validation. We don't do a system-generated check as we know they are going to be different because they are different feeds. If you take two feeds, set yourself a golden copy feed and a validation check feed.

Enfield: The need for cross-vendor validation is a function of instrument complexity, internal control requirements and client mandates. Asset classes with available market prices would require multiple vendor support in cases where delivery performance has risk. Since market prices are commonly passed through from exchanges, there is usually less risk of inaccuracy. As asset class complexity increases or client mandates require comparison, the need for cross-vendor validation increases. As with any formulaic approach, the vendor's controls and processes for calculation accuracy, model input assumptions, and interval vendor validation become subject to a higher risk of error.

Valuation is not a task that can be offloaded by an asset manager. Ultimately they are responsible for the valuation of assets they manage. Cross-vendor validation is one way to more confidently ensure managed assets are priced accurately.

Rozental: This reduces the operational risk, increases overall quality of data feeds and allows users to benefit from the latest innovations in each area.

Bieri: It is crucial to run extensive tests before choosing one or maybe even several vendors. It is very important to have full confidence in the chosen vendor, ie, in the way it deploys its calculation models, makes assumptions, and uses market data. The cross-vendor validation strategy is a double-edged sword. It is to be expected that different vendors will come up with different evaluated prices. In most cases there is nothing to argue that one calculation method is better than another. They are just different and more often than not one can justify both of them. The comparison is only in very few cases conclusive.

European data manager: It depends on the level of regulatory scrutiny and accountability for the fund being priced. Dual validation of prices is very much the desired market standard.

Ciccotto: Users need to be comfortable with the prices used to mark portfolios. If they feel strongly that a cross-vendor validation strategy meets this need, they should consider this approach as part of their process.

The financial crisis resulted in increased focus on accounting policies. What do recent changes and proposed changes to accounting policies mean for financial organizations and their evaluated pricing teams?

Cox: In terms of FAS 157, what is interesting is that when we determine the level where the asset falls, the decision is not data vendor-driven—a change we've just heard about recently. You don't have to rely on a vendor to give you the level. We can hard code the rules in the system because the levels should not change. This makes it much, much easier, and it takes out the manual intervention.

Enfield: Internal control procedures over application of pricing mandates will be subject to significantly higher levels of scrutiny. Transparency will be paramount over every stage in the evaluated pricing teams. Evaluations of the effectiveness of controls over pricing—including supervisory reviews—will be tested. Pricing procedures around data sources, input assumptions, model modifications and manual overrides will all be reviewed in greater detail by auditors and regulators. The need to segregate assets into valuation levels will also be subject to increased review. The ability of an organization to show proper application of internal control consistency in the application of estimates and subjective criteria will be necessary.

Rozental: If they use external providers, especially for complex products such as over-the-counter or structured products, they will need from them a high level of transparency on models and market data used for valuation, and be able to challenge and justify the price. They will also need to be able to have a full audit trail within their providers' systems to check and recalculate prices. Over the past two years, more and more accounting firms are checking procedures and control processes are in place when financial organizations are delegating their pricing to third-party providers, especially in the OTC areas of the portfolios.

Bieri: The recent changes in accounting policies have resulted in an overhaul not

STANDARD &POOR'S

Frank Ciccotto, senior vice-president, Standard & Poor's—Valuation & Risk Strategies
Tel: +1 212 438 4417
www.sandp.com

only of the calculation methods but also of the way evaluated prices are used in practice. Financial organizations have to put a lot more effort and certainly resources into the whole process of dealing with evaluated prices. Auditors will keep a close eye on the methodologies employed and insist on greater transparency than previously. It is to be expected that evaluated pricing teams will be asked to make amendments to their current practices in order to comply with the latest regulation. Financial organizations have to take this extra burden into account and budget for it accordingly. In many cases this will result in increased expenditure.

European data manager: FAS157/IFRS7 requires the categorization of instruments into three levels. Level 1 = highly liquid market prices; Level 3 = no observable prices for accurate modelling/evaluation.

This accounting reporting requirement is very far reaching and puts extra focus on evaluation services. In particular, it highlights evaluation services that have low quality levels and decide to provide prices for level 3 even though they don't have enough relevant observational inputs.

Ciccotto: The evolution in accounting policies requires that an evaluated pricing team fully comprehend the data, methodologies and processes utilized by a vendor in the manufacturing of a price. Along with this educational requirement comes the likelihood users are managing significantly more data, and developing systems and applications to ensure such data is readily available for both internal and external oversight.

Evaluated pricing teams are likely to find themselves dealing with multiple pricing providers and spending far more time on the price challenge and reconciliation process.

To what extent have accounting standards and regulatory pressure impacted client requirements for transparency?

Cox: There has been a huge impact on the fact we always have to be prepared to provide our client with information on how a vendor calculated the price to prove it is accurate. This work involves asking the vendor: "How do you justify a drop from 98 to 90?" We then have to receive the data from the vendor, package and send it to the client.

Enfield: Accounting standards and regulatory pressures have had a tremendous impact on client requirements for transparency. Accounting rules such as FAS 157 highlight the complexity and range of valuation topics. Under FAS 157, valuation requires the determination of assets as level 1, 2 or 3. Each level has its own set of challenges in terms of data, but in all cases, complete transparency as to the source and valuation assumptions is required.

Regulatory agencies are still struggling with requirements surrounding assets that are difficult to value.

Also, customers of asset managers are subject to their own set of valuation requirements. Asset managers are being tasked with providing transparency to their customers subject to their own regulatory pressures. As regulations evolve, the underlying assumptions and models will be subject to increased scrutiny during audit.

Rozental: Clients have had to implement well-defined pricing policies, including setting a threshold when discrepancies arise. The clients must be in a position to explain and justify pricing choices.

Bieri: The new regulation has had a big impact on the transparency requirements. In the vast majority of cases auditors will not accept black box prices anymore. A lot more is required from a financial institution when it comes to explaining how analytical prices have been calculated, what market data has been used, what parameters have been chosen and what assumptions have been made.

Financial firms must be prepared to comply with these new requirements. The transparency requirement is an extremely positive aspect of the new rules. Banks should embrace this new challenge for their own benefit. There is no real value in working with black box prices.

European data manager: The pressure is already there for consistency and accuracy. Most fund managers already bear the burden of significant regulation and the resulting overhead and expense of holding illiquid instruments is high. FAS157/IFRS7 has drawn further attention to price source types and identity via reporting requirements.

Ciccotto: Price defensibility is now an essential component of any risk management or compliance program. To substantiate a price, users need to develop a fundamental understanding of the methodologies used in price determination. Along with that, users need to understand how that methodology is employed, asking vendors such questions as: Where does the data used in the model come from? What is contained within that data? Can I have access to that data? What assumptions resulted from analysis of that data? These are all fair questions, and the answers to these are becoming a required feature of a

Philippe Rozental, Société Générale Securities Services

pricing vendor's service.

A typical instance of this change of client requirements for transparency would be best exemplified with respect to a client's investment in a residential mortgage-backed security. It's likely the client will want to aggregate the inputs (assumptions) used in the pricing of the security. Inputs could include probability of default, loss severity and recovery rates, and current prepayment rates. The client is expecting the vendor to be able to deliver those assumptions along with the price. Readily available access to such data assists clients in expediting their oversight and auditing practices.

What lessons have been learned from the financial crisis? Will evaluated pricing services be better able to reflect volatile market conditions going forward?

Cox: The lesson learned has certainly been that when you're in a situation like a financial crisis, the liquidity falls out of the market, and information is not as readily available any more. I would like to see a continued push towards greater correlation between evaluations and traded market prices. Additionally, it would be useful, where applicable, for the vendors to inform us when a price is evaluated with limited market data due to illiquidity issues. To take the model a step further, it would be great for the evaluators to perform basic validation checks on the prices and pass the results on to the clients.

Enfield: The use of external valuation firms should continue to expand as the need for independent, specialized areas of expertise develops around the ever-increasing complexity of investments. At the same time, the financial crisis has shown that reliance on external parties for valuation and credit risk simply is not sufficient. Firms need to have the expertise to analyze and assess appropriate valuation, and challenge the models and assumptions being made.

Rozental: The pricing services are highly dependent on market data vendors and the implemented infrastructure to allow them to provide intra-day pricing on some instruments, or with short-term delivery after market closures.

Bieri: The financial crisis has taught us some valuable lessons, and although it made analytical valuations very difficult at times, it almost forced everyone to revise and improve the calculation and calibration methods dramatically. We have learnt no-one can fully rely on rating agencies anymore, that liquidations prices have to be considered in a different way to non-forced sales and that big price jumps in short periods of time cannot be smoothed over—as one used to do in previous times—but dealt with in a sensible analytical framework. These are the reasons why evaluated pricing services are now better than ever when it comes to reflecting volatile market conditions.

European data manager: Evaluations are a niche activity. Fund managers will always prefer a good-quality market price, wherever available, rather than a model price. Certain types of bonds are not yet covered by the likes of Xtrakter, Tradeweb, EuroMTS, Trace and Iboxx and those still provide good business for evaluators. Intra-day evaluation price snaps are definitely needed, but they are not there yet. Most evaluation/OTC intra-day services can only be sure of updating peripheral price model inputs such as interest rates and FX. Intra-day credit spreads themselves are very difficult to pick up in a systematic way intra-day and, even when this is accomplished, the logistics of a real-time feed for these needs to be overcome. Evaluation services also need to be affordable.

Ciccotto: Given reduced volume in the secondary market, independent pricing services provideing comprehensive fixed-income valuations will continue to face the challenges experienced by all market participants. However, consistent access to some market data, a superior understanding of relationships within an asset class or cross asset classes, and a technology platform with robust data management (sectoring tools) will assist in the timely reflection of asset prices in volatile markets.

Matthew Cox, BNY Mellon Asset Servicing

It's possible that other approaches to valuation might satisfy user needs should markets once again show extreme volatility and decreasing trade volumes. In particular, alternative approaches within structured finance might prove to be acceptable. Intrinsic or scenario pricing, where the pricing provider evaluates a collateralized instrument's behavior under a number of economic circumstances, could provide valuable insight as an investor attempts to establish a value or range of values. These valuation methods may provide a reasonable alternative to current practices. In particular, the valuation methods may apply where absolutely no market data is available to relate to the security, or the market pricing reflects a deeply discounted or distressed value—a number at which transactions will not take place.

Sponsor's Statement

Combining Mechanics

The ever-increasing complexity of the investment universe, combined with regulatory pressures surrounding valuation and risk, have created a perfect storm challenging the ability of pricing groups to accurately and consistently value assets under management.

Accurate and consistent valuation requires an in-depth understanding of both the mechanics of instruments being traded and their associated volatility to market events. For more complex instruments, evaluated pricing services can perform the valuations and provide support for the models and underlying assumptions being used. However, the existence of a price from an external evaluation service does not abrogate the responsibility of an asset manager to determine fair value.

Creating Internal Controls

Price creation requires the formation of adequate internal controls over the models and assumptions being used. Given the vast universe of available instruments, and enormous amount of data required to perform the valuation calculations, automation is necessary for timely and accurate delivery. While automation can solve the delivery timing, it opens the door to abuse, since not every valuation can be scrutinized. It is therefore necessary to establish procedures governing the components of a proper internal control structure so that the entire valuation process can function without losing the ability to challenge the results. Whether performed internally or externally, controls need to be established and tested for:

- Accuracy—models are set up correctly and material information is correct
- Consistency—models, assumptions and inputs are not varied continually to create a desired result
- Completeness—all required information is provided on a timely basis
- Supervisory review—appropriate, independent checks are performed
- Security—access models and inputs are controlled to avoid unauthorized modification

Transparency through Mechanics

Transparency is critical for verifying that internal controls are operating effectively. By selectively delving into the mechanics of the valuation process, conclusions can be made on the overall effectiveness of the environment and thus the fairness of the valuations themselves. The mechanics of the evaluation process serve to ensure that the input assumptions—raw data, economic events, pricing volatility, and optionality —are properly processed and reviewed.

The evaluation of mechanics mirrors the

with Economics

process auditors and regulators use when they perform pricing reviews. Having the ability to demonstrate a proper internal control environment is imperative. The structure must support the ability to show how the prices were calculated, what adjustments were made, and how they were reviewed. In addition, the environment must be capable of repeating these same initial steps at any point in the future.

However, without an understanding of an investment's economics, the investment cannot be properly valued.

The most repeated critical mistake is failing to understand the economics of the transaction

Understanding the Economics

Most valuation issues stem from a lack of ability to truly understand and challenge the underlying assumptions. From an algorithmic perspective, complex investment valuation is a science; but from the perspective of the inputs used for the models, it is an art. After all, how does one assess the "risk" of a firm like Lehman going bankrupt? What economic forces must come together in order to project the point at which valuations do not compute?

The only way to truly value something is to try to sell it. However, even this method is not totally reliable since an instrument's valuation does not need to be at liquidation prices. There is no fail-safe solution due to the inability to fully assess the variety and interdependencies of evaluation factors. One must learn from the past, take into account the conditions that can create valuation uncertainty, and be able to justify the assumptions made. The most repeated critical mistake is failing to understand the economics of the transaction.

There are different components to price evaluations, and whether outsourced or not, the responsibility lies with the investment manager. Internal control structures governing mechanics ensure that the right information gets to the right place at the right time, and that formulaic manipulation does not take place. However, it is the understanding of the economics of the investment that will help ensure the appropriate assessment of risk and valuation accuracy.

Rick Enfield is director of product management, Asset Control
www.asset-control.com

Q&A

Setting the Agenda

IRD speaks to John Jay, senior analyst at Aite Group, about the state of the evaluated prices market

John Jay, Aite Group

How does the take-up of evaluated pricing services compare to your expectations for this market?

Since opacity created such dislocations in the market-place, the need for greater pricing and valuation transparency became evident. Conflict of interest issues also bubbled to the surface. As such, independent evaluation services saw their businesses increase. I would suggest the growth of their services met expectations.

Are there any specific asset classes or geographies where you see more demand for evaluated pricing services?

The need for evaluated prices is found most within fixed income such as mortgage-related bonds and CDOs. This sector contains the most complexity of any asset class and experienced the greatest divergence between expectations of collateral performance (overly optimistic) and reality (very poor credit performance). Much of these securities are considered Level 2 assets. The US will continue to be the largest consumer of evaluation services as its issuers and investors of securitized debt are concentrated within the US. This is followed by the UK and European financial communities. The Far East is also coming to the realization that independent pricing sources is in the best interest of investors.

What should third-party vendors focus on to meet client expectations?

If vendors have a set process to handle price challenges and can connect client personnel directly with valuation specialists (for the difficult securities) in a timely manner, clients will find the service valuable.

To what extent are accounting standards boards setting the agenda in the evaluated pricing space?

Accounting standards boards very much set the agenda for evaluation service vendors to the extent that the boards will determine what is required (eg, specific market data) from investors, custodial and broker-dealer firms. In turn, this will determine the workflow of these firms. Easing the speed bumps (in terms of market data, timeliness, quality of response, reference data) of the workflow will go a long way in determining the success of the vendor firms.

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Incisive Media, Haymarket House, 28-29 Haymarket, London SW1Y 4RX