

CHAPTER 1**An Introduction to Product Control****THE EMERGENCE OF PRODUCT CONTROL**

Finance within banking is unlike finance in most other types of industries. In most non-banking companies, the finance team is separate from the producer. For example, in a manufacturing company the finance department is not on the shop floor, and in a retail company it is not in the stores. Most likely, finance is housed in the head office.

In these industries, the value of the product is not often in dispute. Usually the cost of sales and production, or margin per unit, is known and the revenues are the function of a simple calculation. There is also often a team of management accountants providing information to the product line managers on the results of their business and assisting in analytics on those results.

In banking, it is not that simple. Finance is more integral to the production because the products banks deliver are financial. In the 1990s, with increasing volumes of trading, a greater pool of financial instruments and higher levels of complexity, it was necessary for banks to establish a dedicated function within finance to control evolving sales and trading desks. With that, management accountants within finance morphed and grew into a function called product control, which came to dominate large swathes of finance, establishing footprints all over the developed world and later on, the developing world.

Over the past decade, these large swathes have been migrating from the more expensive financial centres such as London, New York, Tokyo, Hong Kong and Singapore, to cheaper locations such as India, Poland and the Philippines. This change has presented opportunities for aspiring workers in the developing nations and presented uncertain career paths for those remaining in the shrinking financial centres.

We will look at this trend in more detail in Chapter 2.

THE PURPOSE OF PRODUCT CONTROL

Product control is the face of finance to the sales and trading desks in a bank. They provide financial control and transparency through (Figure 1.1):

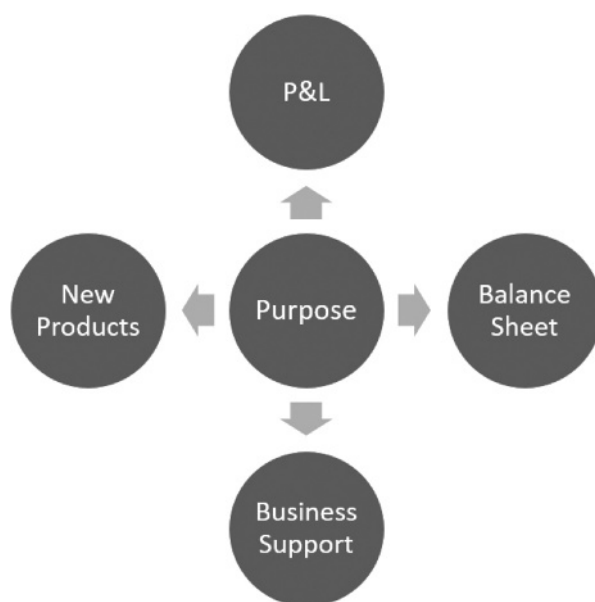


FIGURE 1.1 The purpose of product control

- Providing a profit and loss statement and balance sheet which is accurate and timely;
- Providing meaningful insight into the desk's financial results;
- Supporting the desk in the execution of their business strategy; and
- Evaluating and integrating new products into the financial environment.

Product control's purpose is executed through a series of controls across the P&L and balance sheet, many of which are performed daily. On top of these controls, product control's financial acumen and understanding of the bank's systems can be used to support the execution of the desk's business strategy. This includes providing insight into drivers of financial performance, reviewing the desk's use of legal entities within the banking group and assessing the efficiency of process workflows.

The centrepiece of the product control role is the daily P&L (Figure 1.2). If you aren't familiar with this term, it measures the income and expenses for the sales and trading desks. If the sum of the income from trading activities, client sales and trading expenses is greater than zero, a profit is reported, otherwise a loss is reported.

We will explore the controls that product control normally execute in greater detail throughout Parts III through VII of the book.



FIGURE 1.2 The P&L

DIFFERENT TYPES OF PRODUCT CONTROL

Before we can explore the role of product control further we need to be aware that not every organization will share the same mandate for their product control function. Although there will be exceptions to this, we can broadly categorize the function into one of two types:

1. P&L only
2. P&L, balance sheet and financial reporting.

P&L Only

The P&L-focused role is, as its name suggests, focused purely on the P&L. In firms across the industry this function may also be labelled as middle office. The review and substantiation of the balance sheet and financial reports are performed by a separate team(s) within finance.

There are benefits and drawbacks for any organizational structure. There are two main benefits to this model. First, it relies on a team with a narrower skill set, which can improve the control framework as the product controller does not have to be an expert in an excessive number of disciplines (accounting, risk management, financial reporting, etc.). Second, as the skill set is narrower it should be easier for the firm to hire and develop their talent.

The primary but manageable drawback to this structure is that a single team is not controlling all the financial aspects of the desk and weakness in the control framework arises when the roles and responsibilities of the different finance teams are not clearly defined and understood by all staff.

For example, the product controllers for the credit trading desk are aware of a late trade booking for 31 December (financial year end) that has missed the end of day report batches that are used to populate the P&L reporting system and general ledger (GL) for financial reporting. The product controller determines the trade has an immaterial impact on the P&L so decides not to adjust the P&L.

Although the trade had an immaterial impact on the P&L, it had a material impact on balance sheet usage, which the financial controllers will not be aware of. Consequently, the firm's year-end reporting misstates not only the balance sheet size and shape, but also the capital ratios, as the risk-weighted assets (RWAs) did not take this late trade into consideration.

This drawback can be compensated for by having clear roles and responsibilities and up-to-date standard operating procedures (SOPs) for each function. These documents make clear the control framework which the firm has in place for each desk.

Each task and responsibility should be documented extensively and refer to what is a control exception and when that exception should be escalated. In this example, the SOPs could require product control to adjust the month-end financials (both P&L and balance sheet) for every late trade.

P&L: Balance Sheet and Financial Reporting Focus

A broader version of product control includes responsibilities which cover the P&L, balance sheet and some financial reporting for the bank.

This product controller is aware that changes in the balance sheet are the driver of P&L performance and as such it is critical that the balance sheet is reviewed, substantiated and understood.

This product controller will perform the same functions as the P&L-only controller in addition to the following tasks:

- Review and substantiation of the balance sheet
- Advising the desk on the accounting treatment for their transactions (if further expertise is not required from accounting policy)
- Assisting financial reporting in their review of the financial reports, including note disclosures
- Populating the GL with any necessary financial accounting entries.

As product control cover a substantial portion of the control framework assigned to finance, the bank benefits from a single team monitoring all aspects of the desk's financial performance (i.e., the P&L, balance sheet and financial reporting). This set-up should ensure both the P&L and balance sheet are aligned and that by seeing the full financial picture, issues are more readily identifiable.

The main drawbacks of this structure relate to the breadth of responsibilities being undertaken. As the product controller needs to be skilled in many more disciplines than the P&L-only function, it can be more difficult to recruit and develop talent. Additionally, so many responsibilities may cause some to be neglected.

As before, these drawbacks can also be compensated for by having clear roles and responsibilities and complete standard operating procedures.

For the purposes of this book we will focus on this type of product control function.

SKILLS, QUALIFICATIONS AND EXPERIENCE

Product control has historically employed candidates with varying levels of experience but one of the most common recruitment styles of banks has been to employ candidates who, after completing three years of work experience in an accounting firm and passing their accounting exams, have qualified as chartered accountants. These chartered accountants would then be brought into the product control function and be trained up to control the sales and trading desks.

Over time, these candidates would gain the necessary experience to move through the product control ranks by becoming senior product controllers and then product control managers.

Accountants who, for various reasons, have decided not to train in accounting firms are also very prevalent in the product control ranks. These candidates commonly spend their qualifying period working within the financial services sector at banks, fund managers, credit rating agencies and so on. This means they have different, but equally valuable, experiences to bring to product control.

Once in product control both sets of candidates can further their qualifications and skills by taking postgraduate courses.

Table 1.1 lists the product control hierarchy and the typical experience, qualifications and skill sets that you could expect to see in any bank.

The depth and breadth of experience and skills, which product control provides, can open many opportunities within banking. Prior to the Jérôme Kerviel and Kweku Adoboli rogue trading events, these opportunities included transfers onto the trading desk. These transfers are

TABLE 1.1 Qualifications, experience and technical skills

Title and Position		Qualifications and experience				Technical skills			
Corporate Title	Position	Product Control Experience (Avg Years)	Bachelor's Degree	Qualified Accountant	Accounting	Market Risk	Pricing	Control Framework	
Managing Director (MD)	Global head of product control	20	X	X	VH	VH	VH	VH	
Managing Director (MD) or Director (D)	Global head of business line product control (e.g. Credit)	15	X	X	VH	VH	VH	VH	
Director (D) or Vice President (VP)	Regional head of business line product control	10	X	X	H	H	H	H	
Vice President (VP)	Senior product controller	6	X	X	M	M	M	H	
Assistant Vice President (AVP)	Product controller	3	X	X	M	M	M	M	
Analyst	Junior product controller	1	X	Newly or part qualified	L	L	L	L	

Note: Corporate titles will vary across the industry
 VH = very high, H = high, M = medium, L = low.

now very rare due to the risks they pose to the bank. More commonly, many product controllers transition into chief operating officers (COOs), chief financial officers (CFOs) and operational risk executives.

On the flip side, given the broad set of technical skills required to advance through the ranks in product control, it is more difficult to enter the field later in your career if you do not already have these skills.

ORGANIZATIONAL STRUCTURE

Product control sits within the finance department and is aligned to support the business. Product control's most senior appointment is the global head who, in addition to setting the agenda for the work performed by their team, will interact directly with the bank's markets CEO, who is the head of the trading floor.

In addition to the overall global head of product control, the division has global heads responsible for each line of business and it is their responsibility to represent product control to the respective heads of those businesses.

Using Figure 1.3 as an example, there are heads of product control for credit, foreign exchange, rates, commodities and equities. These heads are responsible for supporting and controlling the business they are aligned to.

The teams of product controllers supporting and controlling the sales and trading desks for their business are usually consolidated into regional hubs where the traders are located. Sales staff, however, will be dotted all around the world as they are not limited to the regional hubs that exist for traders. The sales trades will be booked from the local offices and then risk managed in the regional hub by the trading desk.

In Figure 1.3 the regional hubs are Europe, the Middle East and Africa (EMEA), the Americas (both North and South America) and Asia.

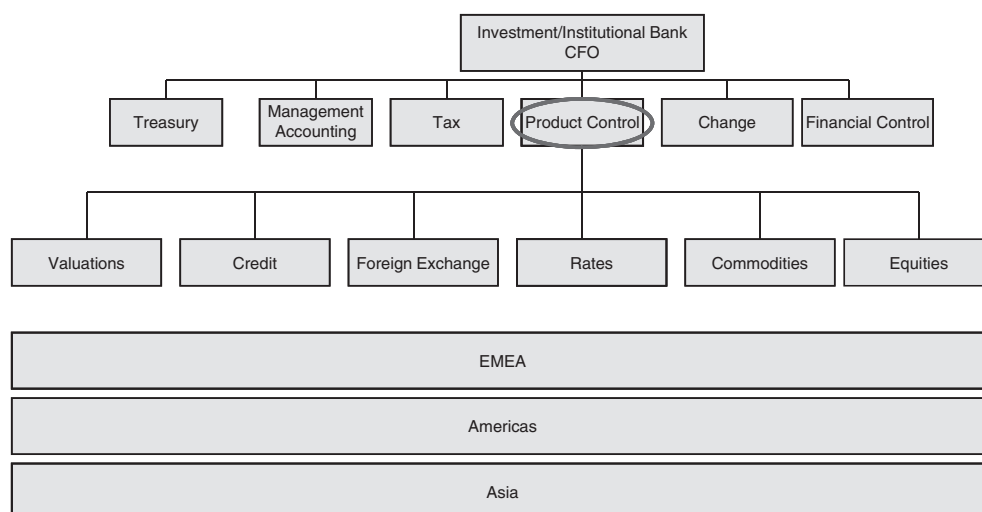


FIGURE 1.3 Finance and product control organizational structure

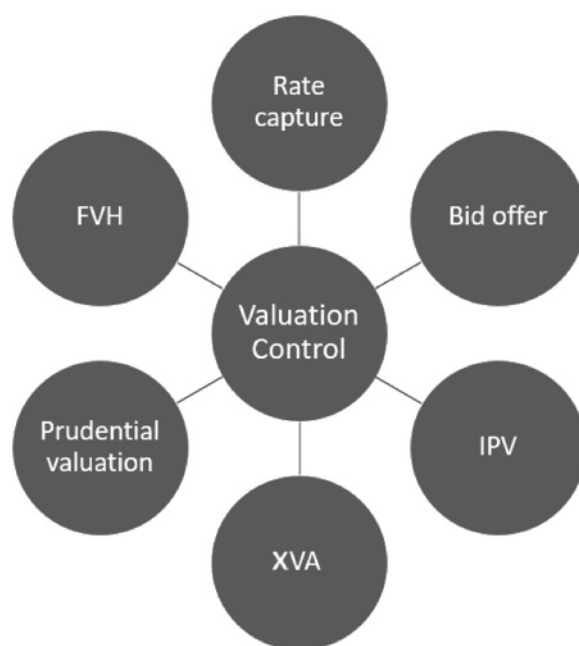


FIGURE 1.4 Remit of valuation control

The regional product control hubs will typically have managers for each line of business (e.g. credit, rates, etc.) in addition to a manager for the country (e.g. head of product control Singapore). The product control country manager will typically report directly into the country CFO (e.g. Singapore CFO) and will have an indirect reporting line to the global head of product control. They can also have indirect reporting lines to the heads of product control for each line of business.

There are exceptions to every rule and, in some cases, product control will not be based in the same location as their traders. For example, a small rates desk operating out of Sydney could be controlled by a regional product control team located in Singapore.

In addition to these teams, there is usually a separate product control team that is responsible for valuations. In rare cases, this team sits within market risk or alternatively may still sit within finance but report directly to the CFO or financial controller.

Valuations, or valuations control as they are also known, are responsible for a range of activities related to the valuation of financial instruments. Some of the common responsibilities for this team are illustrated in Figure 1.4 and they are outlined here:

- **Rate capture:** Rate capture is the sourcing of end of day rates which are used to revalue the desk's open positions. This doesn't always sit with valuations and can reside within the business, operations or in market risk.
- **Bid offer and XVA (comprehensive valuation adjustments):** Bid offer and XVA are the valuation adjustments required to bring the desk's portfolio to its fair value. We will look at valuation adjustments in more detail in Chapter 16.
- **Independent price verification (IPV):** IPV checks that the end of day prices align to fair value. We will look at IPV in Chapter 15.

- **Prudential valuation:** Prudential valuation is relatively new and isn't applicable in all jurisdictions. This work requires the valuations team to quantify additional valuation adjustments stipulated by the prudential supervisor, such as illiquidity and concentration risk.
- **Fair value hierarchy (FVH):** FVH allocates the bank's financial assets and liabilities into three levels depending upon price observability and market activity.

In addition to these activities, valuations will work with the line product controllers to review and validate the day 1 P&L for significant or exotic new trades. And when a new product is proposed by the business, valuations will assess the product from a valuations perspective.

THE DESK

A bank maintains separate desks to cover each line of business (FX, rates, credit, etc.). This structure allows the bank to tailor skill sets and focus on the specific markets and financial instruments for each line of business, which benefits the clients and the bank.

For example, the FX desk will only be responsible for pricing client trades and taking discretionary positions in the FX market. These desks will likely be further segregated into sub-desks to facilitate further specialization, such as linear (vanilla) and non-linear (exotic), and time-zone requirements.

Although the financial markets are global in nature, within each of the underlying markets there will be trading start and finish times which the desk's working hours align to. Two of those markets are foreign exchange and the stock markets, which are illustrated in Figures 1.5 and 1.6.

Although product control aren't expected to work identical hours to the desk, they need to be primarily the same so the P&L and other deliverables are completed.

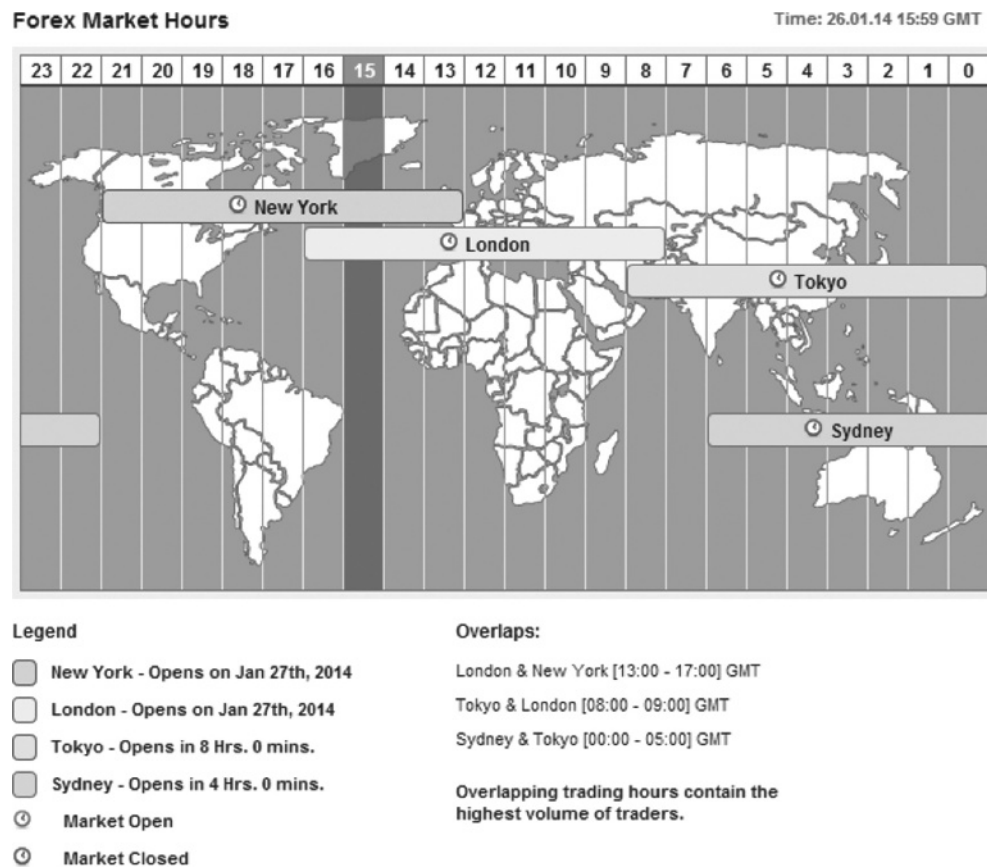
The Trading Floor

The desk is located on a trading floor, which is a secure area of the bank and is strictly off limits to anyone who does not need to be there. In some firms, the trading floor seats a few dozen people and in others it seats hundreds of people.

As product control is the face of finance to the front office, to foster a closer working relationship it is important they are within close proximity to the desk. As trading floor space is priced at a premium, product control will be located on a different floor to the traders or in some cases a different building altogether.

The trading floor is a temperately warm area due to the numerous high-spec computers, multiple monitors and large number of data cables connecting the traders to the world. One of the most striking visual features of a trading floor is the proliferation of computer monitors. These screens enable the desk to view all the data it needs to make speedy and sound pricing and risk management decisions. These monitors contain:

- Live market data from suppliers such as Bloomberg and Reuters
- Live risk data from their risk management systems
- Client orders waiting to be filled

**FIGURE 1.5** The foreign exchange market operating hoursSource: Courtesy, Investing.com www.investing.com

- Messaging services which contain information from key stakeholders and external clients – for example:
 - Product controllers provide the P&L report which requires approval.
 - Market risk provide market risk usage and limit reports which also require approval.
 - Middle office provide the day's trade blotter and trade amendments.

Those on the trading floor are connected to each other via dealer boards and turrets (called *squawk boxes*). These telecommunications devices also connect the traders with their external brokers. To adhere to regulatory requirements and provide evidence in the case of trade disputes, all telecommunication traffic on the trading floor is recorded.

In Figure 1.7 Sir Alex Ferguson is brokering a trade for charity. This desk configuration is similar to what you can expect to see for a trader on a bank's trading floor.

More recently, the trading floor environment has received a great deal of attention from regulators in multiple jurisdictions around the world. These regulators, for example, the Fed, FCA and APRA/ASIC, commenced reviews of all trader communications, including internal

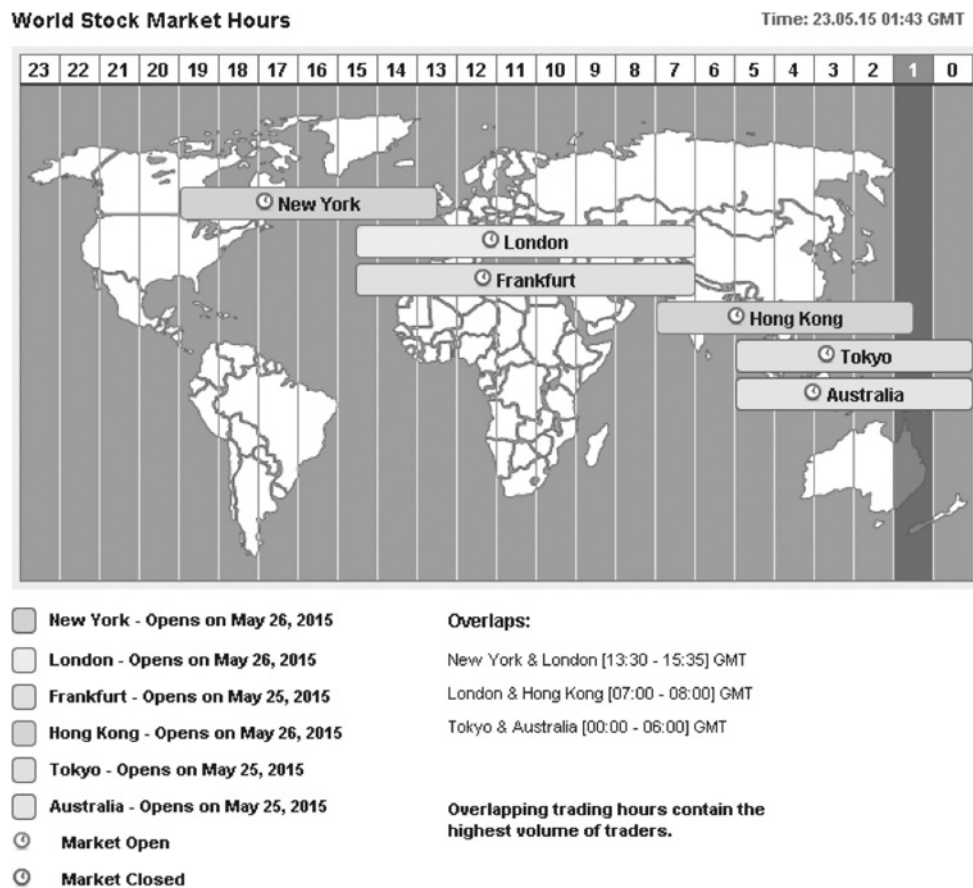


FIGURE 1.6 World stock market operating hours
Source: Courtesy, Investing.com www.investing.com



FIGURE 1.7 Sir Alex Ferguson brokering trades for charity in London
Source: ©PA Images

communications with colleagues and external communications with brokers and trading peers, in search of evidence to prove wrongdoing on the part of the trader.

This wrongdoing related mainly to the manipulation of key industry benchmarks such as LIBOR and BBSW, whose consensus yields were purported and in some cases proved, to be set at a level which illegally brought financial gain to the trader (at the expense of others).

These regulatory reviews prompted banks to conduct their own internal reviews of trader conduct, which not only focused on illegalities but also on other aspects of conduct such as trader language, client confidentiality and social activities related to work. The consequences now for traders exhibiting contrary behaviour can be severe and include financial penalties and termination of employment.

The effect of these reviews has been seen by some as bringing the trading floor into the 21st century by creating a more professional working environment, but it has also been viewed as creating a more sterile environment where traders are far more reluctant to “shoot from the hip”. Gordon Gekko and Jordan Belfort need not apply to work in the City these days.

Pressures of Supporting the Desk

The trading floor is a high-pressure environment, which raises the stress levels of traders and has a knock-on effect for product control. This pressure stems from the speedy and significant decisions traders need to make and the significant financial implications of these decisions.

As traders’ pay is primarily based upon how much P&L they generate, traders can react badly when they incur trading losses, especially when they are behind budget. As product controllers, we need to be mindful of this, especially when you are the person reporting that loss. It’s important not to take a trader’s reaction personally.

As trading desks have great expectations placed on them, it is important that product control respond with appropriate urgency to their requests and to potential control issues. Financial markets have a way of inflicting damage on banks, so it’s important that control issues and requests are dealt with in a timely manner.

This completes our introduction to product control. The remaining part of this book will examine the changes occurring within product control and introduce the role of product control’s primary stakeholders.

