PacificCPE

COURSE
11454B

Manipulation in FX Markets and Closing Prices

Foreign exchange markets are among the largest and most complex in the world—and they're not immune to manipulation. This course examines collusive and manipulative practices that have emerged in FX markets, including benchmark rigging and coordinated trading schemes. You'll also explore the integrity of closing prices and why they matter so much to investors, regulators, and financial reporting. Professionals who work with multinational clients or financial institutions will find this content especially relevant to their advisory and compliance responsibilities.

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Assignment

- Study the full course materials included here.
- Complete the review questions after each chapter.
- Answer 10 final exam questions.
- Final exam is scored immediately, 70% or better passes.
- Certificate of completion is available in your account.
- Failed exams can be retaken free of charge.

Course Objectives

- Identify the characteristics and impact of the Forex scandal.
- Recall the types of stocks that are most prone to portfolio pumping techniques.
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Publication Date: July 2026

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Chapter 1: MANIPULATIVE AND COLLUSIVE PRACTICES IN FX MARKETS

Chapter Objective

After completing this chapter, you should be able to:

- Identify the characteristics and impact of the Forex scandal.

7.1 INTRODUCTION

Until recently, the global foreign exchange (FX) markets were subject to surprisingly few allegations of manipulative or collusive practices in comparison to, say, the equity and commodity markets. This relatively clean bill of health was radically changed in June 2013, when three Bloomberg journalists published an article with the headline "Traders Said to Rig Currency Rates to Profit Off Clients" (Vaughan, Finch and Choudhury, 2013). It strongly suggested that there was a widespread culture involving traders manipulating and colluding in the FX market – to the detriment of the banks' clients and other market participants.

Partly attaching itself to the LIBOR scandal, involving manipulation of interest rate benchmarks, the revelations of a "Forex scandal" in a closely related area of the financial markets initiated a rapid process of whistleblowing, regulatory investigations, lawsuits, financial settlements, and criminal proceedings that is still ongoing. In 2014, the UK Financial Conduct Authority (FCA) fined Citi, HSBC, JP Morgan Chase, RBS and UBS an unprecedented £1.1 billion in total for "FX failings" in their G10 FX spot businesses (FCA 2014a).[1] Simultaneously, total penalties of $1.4 billion were imposed upon the same banks by the Commodity Futures Trading Commission (CFTC), whereas the Office of the Comptroller of the Currency (OCC) additionally fined Bank of America, Citi and JP Morgan Chase $950 million (CFTC 2014a; OCC 2014). In May 2015, Bank of America, Barclays, Citi, JP Morgan Chase, RBS and UBS were fined a further $5.7 billion in the US, some of which pleaded guilty of felony (Freifeld, Henry and Slater 2015). According to the FBI, the conduct, which had taken place at banks, which more or less dominated the global FX market, amounted to criminality "on a massive scale" (Chon, Binham, and Noonan 2015). Barclays also agreed a £284 million settlement with the FCA, and in 2017 Deutsche Bank, BNP, and Credit Suisse were fined over $600 million by US authorities (FCA 2015; Federal Reserve 2017; DFS 2017a,b). So far, the total fines imposed upon banks by authorities exceed $10 billion.

Transcripts hitherto made public by financial regulators reveal that the manipulative and collusive practices mainly concerned the most liquid and actively traded currency pairs traded by the banks' G10 FX spot desks. In some cases, however, emerging market currencies were also affected. It was

also reported that the behavior was systematic, and often very similar across the FX desks at the banks involved. However, the manipulation was not always done single-handedly. On numerous occasions, schemes involving sharing of confidential bank information, such as client orders and bid–ask spreads, and outright collusion between the competing banks were also prominent.

Given the vast scale, the revelations have since influenced the regulatory reform process and induced wide-ranging changes in the internal practices of banks involved in market-making of FX-related instruments. In light of these developments, which is still ongoing at the time of writing, the outline of the chapter is as follows. Section 7.2 describes the different types of order banks typically receive from their clients in the FX market, and how they relate to manipulative practices. Section 7.3 summarizes some structural aspects, which make the FX market unique. Importantly, these also sustained the widely and long-held perception that the market was relatively immune to manipulative and collusive practices. Section 7.4 discusses the various types of misconduct in more detail, with emphasis on those at the heart of the regulatory findings. Section 7.5 concludes by reflecting upon the obligatory and voluntary changes made in FX trading areas in recent years.

7.2 DIFFERENT TYPES OF FX ORDER

Although there are numerous definitions, the consensus view is that to prove that attempted price manipulation has taken place, two elements need to be determined: (1) an intent to influence the market price in a direction that is inconsistent with market forces, and (2) an act to further that intent.[2] In the settlement agreements mentioned in this chapter, both elements have been established through trade data and communication records handed over to the regulators. The regulatory investigations show that manipulative and collusive practices in FX markets predominantly have involved large banks. More specifically, the misconduct has been linked to the liquidity provision role of market-making banks via different types of client orders. Several forms of manipulative tactics appear in the transcripts released by regulators. Theoretically, they could be regarded as forms of "trade-based manipulation" (Allen and Gale 1992). However, before examining them in more detail, it is useful to outline the different types of orders banks typically receive from their clients in the FX market.

The intention of submitting a market order is to execute a transaction immediately at the current best bid–ask spread. A market order could also be submitted "at best," for instance, if the amount exceeds the volume offered at the current best bid–ask spread. It is well established among market participants and in the market microstructure literature that order flow affects exchanges rates (Lyons 1997; Evans and Lyons 2002). As a market order contains information about the likely future direction of the market, a market buy [sell] order is, ceteris paribus, more likely to result in a higher [lower] price – at least in the short run (Daniélsson, Luo, and Payne 2012; Evans and Lyons 2005; King and Rime 2010; Payne 2003). Using this logic, a trader could, therefore, at least temporarily, cause an increase [decrease] in the price by deliberately submitting a large market buy [sell] order,

as a large order is more likely to be perceived as information-rich by others. If the market price rises [falls] accordingly, the trader could then attempt to profit from the manipulative trading strategy by submitting a market sell [buy] order to reverse the position. "Front running" involves trading in front of a large customer order to benefit from the likely price movement the order is likely to generate as a result of being executed in the market. However, as we shall see later, front running can also be applied to other types of orders.[3]

Clients not only submit FX market orders to banks but also *limit orders*. Traditional models in the market microstructure literature largely saw limit orders as passive orders by uninformed traders (Glosten 1994; Seppi 1997; Daniélsson and Payne 2012). However, more recently, and in line with market wisdom, limit orders have become seen as information-rich and therefore treated as active strategies (Foucault, 1999; Foucault, Kadan and Kandel 2005; Rosu 2009). A limit order submission changes the information content of the limit order book, regardless whether it is submitted from a client to a bank, from a bank to an interdealer broker or from a market participant to an electronic trading platform (Stenfors and Susai 2018b). Consequently, similar logic can be applied to trade-based manipulation concerning limit orders as to market orders. For instance, clients in the FX market frequently leave *stop-loss orders* and *take-profit orders* to market makers throughout the day, overnight or "until canceled." By instructing the bank to buy or sell a specific amount of a currency at a specific price, the client can rest assured that the loss is limited or the profit is guaranteed should the market price reach a predefined level. "Triggering a stop-loss" involves intentional buying [selling] activity by a bank to push the market price higher [lower] so that the client order gets triggered.

There are also limit orders that lack a pre-defined price level. *Fix orders* are executed at an agreed-upon time in the future. As with financial derivatives, the execution or settlement price of a fix order ultimately depends on the benchmark fixing used. There are a number of FX benchmarks around the world, some of which are directly used for derivatives contracts. However, two of the most widely used FX benchmarks is the WM/Reuters 4 p.m. fix and the 1:15 p.m. ECB fix. These are used for a range of purposes, including valuation of assets and liabilities in foreign currencies and portfolios held by pension funds and asset managers. The WM/Reuters 4 p.m. fix, in particular, has gained the status of an "official" London closing rate for many currency pairs. For instance, by acting as a benchmark for $11 trillion worth of index funds, it generates a large number client orders around this particular time of the day. The WM/Reuters 4 p.m. fix is based on actual FX trading by market participants just before and just after the time of fixing (the "fixing window"). Before February 2015, the fixing window was 60 seconds. A bank accepting a client buy [sell] order for a specific amount at the fix rate agrees to sell [buy] that amount at the fix rate, regardless where the market price is after that. Consequently, banks offset client buy and sell orders and are supposed to manage the remaining risk through buying and selling in the FX spot market. "Banging the close" (concerning a fix order) involves a strategy whereby a trader attempts to influence the underlying price, typically very close to the time of fixing, to profit from the fix order. The logic is similar to

manipulating the market, which underpins the benchmark for a derivatives position. As the value of a derivative depends on the outcome of the fixing, the payoff is directly affected by the manipulation of the underlying market (Jarrow, 1994; Pirrong, 2017).

7.3 THE UNIQUE FX MARKET STRUCTURE

Manipulative practices are not a new phenomenon in FX markets. However, several factors can be attributed to them being perceived as virtually immune to manipulation and collusion by the wider public, including policymakers and academics, up until the Forex scandal broke in 2013. In this respect, five important aspects are notable.

First, with a daily turnover of around $5.067 trillion, the over-the-counter (OTC) FX market is comfortably the largest in the world.[4] The market typically operates with zero commissions and often extremely tight (and seemingly competitive) bid–ask spreads. Even during episodes of volatility and stress, the market liquidity tends to be very good. "I'm skeptical of the ability of traders to manipulate the major currencies in a meaningful way given the massive size of this market [. . .] Governments themselves often have a difficult time moving foreign-exchange markets through their interventions," an academic is quoted having said in the Bloomberg article in 2013 (Vaughan, Finch, and Choudhury 2013). This view broadly captured the perception of FX markets from the outside at the time. In this respect, parallels can be drawn to the LIBOR scandal. The vast turnover of LIBOR-indexed derivatives contracts, coupled with its function as a benchmark for mortgages, bonds and loans, and usage in monetary policy assessments and methodologies related to tax, accounting and risk, served to mask its susceptibility to manipulation for a long time (Stenfors and Lindo, 2018). As Stenfors (2018) argues, these factors contributed to the belief that manipulative attempts in the FX market would render themselves to be unsuccessful. Put simply, it is less likely that an investigation is launched into a market that, absent central bank intervention, appears to be driven by market forces; and that is sufficiently efficient and robust to withstand price manipulation.

Second, financial institutions and dealers working for these are regulated. However, in contrast to securities markets, the global FX market, itself, is overwhelmingly unregulated. Thus, claims of what could constitute attempts of manipulation have fallen under the umbrella of unfair or unethical trading practices, but strictly speaking not illegal or in breach of any regulation. This does not mean that FX trading is entirely self-regulated by its millions of market participants and end users. Instead, informal rules relating to trading etiquette evolve from discussions, meetings, and interaction between the market-making banks, often in dialogue with central banks. Since 1975, the International Code of Conduct and Practice for the Financial Markets ("the Model Code"), although adopted on a voluntary basis, serves as an industry standard for the global FX market. The Model Code is published by the ACI ("Association Cambiste Internationale" or the Financial Markets Association), which, since 1955, serves as the trade organization for bank (including central bank) dealers in FX and money markets around the world. According to the 2009 edition of the Model

Code (ACI 2009), "honor, honesty and integrity" should be core principles underpinning trading practices. However, apart from issues relating to sharing of confidential information, the 86-page handbook contains limited guidance about manipulation and collusive practices. In fact, the term "manipulation" is only mentioned once and even then not directly in relation to standard trade manipulation: "the sudden temporary withdrawal of a specific credit limit or limits in a tactical manipulation to mislead the market is bad practice and strongly discouraged." "Front running" is only brought up concerning dealing for a personal account, and whereas a section is devoted to "stop-loss orders," it contains nothing suggesting dealers could intentionally attempt to trigger stop-loss orders submitted by clients. The enforcement mechanism as outlined by the 2009 Model Code is also lax. Should a dispute arise if "an institution has breached the letter or spirit of The Model Code," the firm should "seek to settle this amicably with the other party." Only (on the extremely rare occasion) when this avenue had been exhausted, the issue should be brought to the attention of ACI's Committee for Professionalism. Thus, given the vital role of the ACI, it is only logical that behavioral issues related to FX trading were dealt with internally within the bank, or *external*ly on a trader-to-trader, bank-to-bank or bank-to-customer basis in the spirit of selfregulation – before the revelations of widespread misconduct in 2013.

Third, the FX market is mainly OTC and therefore opaque and relationship-based. It is also subject to conflicts of interest. The exchange-traded FX derivatives market (consisting of FX futures and FX options) is minuscule with a daily turnover of $0.115 trillion (BIS 2016) when compared to the $5.067 trillion-a-day OTC FX market. The latter is decentralized and requires a different kind of coordination than, say, the stock market. Furthermore, there is no exchange or institution gathering and providing realtime price and volume data to the public. Importantly, prices in all OTC markets (including FX) depend on the relationships between the counterparties involved in the trading and market-making process. Traditionally, the liquidity provision has been conducted by market-makers in banks, who quote prices on a range of currency pairs to clients on demand. To enable this, competing market-makers also quote prices to each other. Ultimately, banks cannot lend money or sell currencies unless they can access liquidity themselves. The commitment to provide liquidity to each other (i.e., to quote two- way prices to in a range of currency pairs to other market-making banks) rests upon a voluntary but long-standing convention. The Model Code encourages such mutual trading relationships by stating that "bilateral reciprocal dealing relationships are common in the OTC markets and often extend to un*written* understandings between Dealers to quote firm two-way dealing prices." Furthermore, they are seen as "a logical development in the OTC markets and play an important role in providing support and liquidity" (ACI, 2015). Historically, such conventions have included the "price" for market liquidity, namely appropriate bid–ask spreads for different currency pairs and, in the case of FX swaps and FX forwards, for different maturities. For instance, according to surveys among FX spot dealers in Hong Kong, New York, Singapore, and Tokyo during the late 1990s, an overwhelming majority claimed that the "market convention" was the primary driver opting for a particular interbank bid–ask spread (Cheung and Wong 2000;

Cheung and Chinn 2001). Using data from 2005 to 2016, Stenfors (2018) finds that such bid–ask spread conventions may also play an essential role in FX swap markets. Conventions have also extended to volume-based market liquidity, such as standardized matrices for reasonable interbank trading amounts, and even unwritten understandings of the typical length of time a two-way price can be expected to be valid (Stenfors and Susai 2018a). With reciprocity being central to the liquidity provision, mutual understandings, even among competitors, have therefore been natural in the FX markets. This, in turn, suggests some form of communication among competing banks regarding certain aspects of the price determination process – something that inevitably poses problems from an antitrust perspective. Furthermore, by acting as principals and agents at the same time (and FX traders often performing the roles simultaneously), the market-maker versus market-taker role often becomes less than straightforward. The net "inventory" held by an FX trader/desk/bank is difficult to define. Put simply: a bank can, technically, sell all its shares in a company or holdings in a specific commodity. It cannot, however, have zero exposure to currency. Conflicts of interest are inevitable outcomes of this. If one individual simultaneously performs the function of customer order flow trader, market maker and proprietary trader, establishing evidence of, for instance, front running or triggering of stop-losses becomes difficult.

Fourth, Pirrong (2017) defines price manipulation as "intentional conduct that causes market prices to diverge from their competitive level (or, in the case of imperfectly competitive markets, exacerbates divergences between market prices and their competitive level)." Here, too, FX and money markets are different from stock markets. Throughout history, they have been subject to state-endorsed attempts via central bank decisions to deliberately move the market prices away from what could be regarded as their "competitive level."[5] Short-term money market instruments have an inherent link to the state and a natural "anchor" in the official central bank interest rate. It is therefore plausible to assume that prices of financial instruments which depend on the monopoly price set by central banks are more difficult to manipulate than others. Likewise, such prices (even though traded in the open market) are more likely to observe price stickiness. Thus, without any communication between them, competing firms might "harmonize" their quotes around this anchor (Stenfors 2018). This behavior is more likely to apply to the short-term FX swap market, where prices are highly dependent on the monetary policy decisions by the respective central banks issuing the two currencies involved. However, the FX spot market also has a long history of central bank intervention in the price determination process. Direct state intervention into the price determination process not only exists in markets where the central bank operates under a fixed exchange rate regime. Even central banks without explicit exchange rate targets (Bank of Japan, Federal Reserve, and others) have occasionally intervened in the market processes, often with a justification that the volatility is unduly high or that the exchange rate is "mispriced" from a long-term fundamental perspective.[6] Thus, whereas "FX manipulation" is a relatively new term in the academic literature or the press, "currency manipulation" is an old phenomenon. However, even though central bank intervention would not constitute market manipulation, it could partly explain