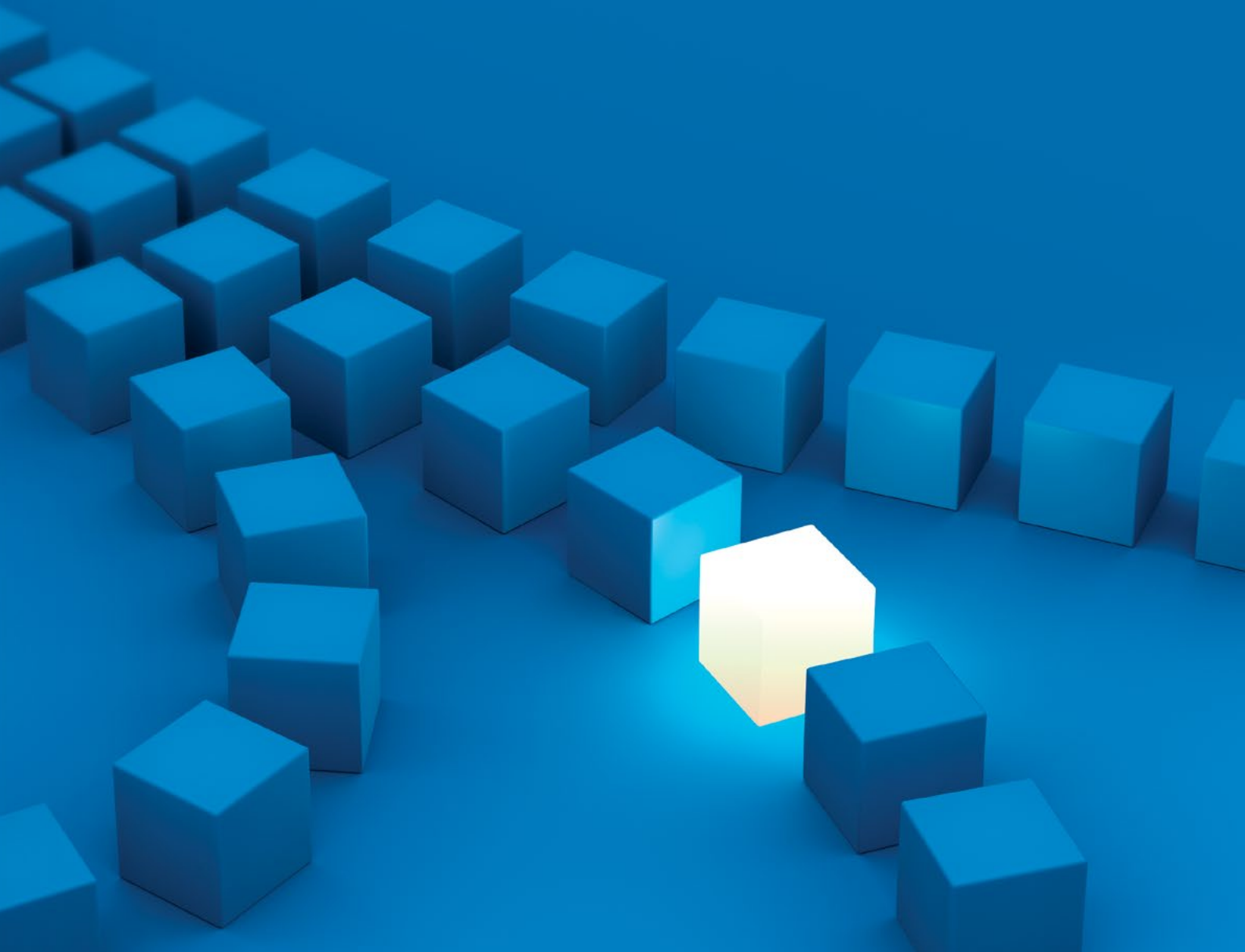




Trends in Regulatory Enforcement in UK Financial Markets 2015/16 Year-End Report

By **Robert Patton**, **Erin McHugh**, **Giulio Renzi-Ricci**, and **Marcin Pruski**

Financial penalties imposed by the FCA against firms dropped substantially in the second half of the 2015/16 financial year. Enforcement activity against individuals remains generally low, although this may be about to change.



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NERA Economic Consulting maintains a proprietary database of fines and other enforcement activity by the Financial Conduct Authority (FCA) and, previously, the Financial Services Authority (FSA), including data on fines back to 1 April 2002.² We undertake a detailed analysis of recent enforcement activity and how it conforms to stated priorities, revealing underlying trends not necessarily visible from a review of individual cases.

Introduction

After several years of unprecedentedly high fines imposed by the Financial Conduct Authority (FCA), total financial penalties fell substantially in the second half of the 2015/16 financial year. The principal, though not sole, reason for this decline was the absence of fines on firms for interbank benchmark rate or foreign exchange (FX) manipulation, the two areas of enforcement which together had given rise to more than £2 billion in fines on firms over the prior three and a half years.

With the exception of one very large recent fine, FCA enforcement against individuals has remained at a low level, notwithstanding a continued rhetorical emphasis by the regulator on holding senior managers accountable for misconduct within firms and on combatting market abuse. The low level of fines has not been offset by a meaningful increase in the use of other enforcement powers against individuals. However, the FCA has recently won several criminal convictions against individuals for fraud and market abuse, including in cases stemming from the high-profile Operation Tabernula insider dealing investigation.

Very large penalties for interbank rate and FX manipulation, which dominated FCA fine activity for several years, now appear largely to have worked their way through the enforcement pipeline. This creates uncertainty about what will come next. Accordingly, in this edition of our report, in addition to our usual review of FCA enforcement activity and criminal prosecution, we examine in-depth several factors that provide an indication of how the focus of enforcement against firms and individuals may evolve, both in the near future and over the longer term.

In this report, we also attempt to put FCA fines in context by considering how they fit into a larger picture of conduct-related costs, including redress paid to consumers; total out-of-pocket

costs relating to litigation, enforcement, and investigations; and even the reputational costs associated with enforcement action, which recent academic studies have attempted to quantify.

Looking Ahead: The Enforcement Outlook

To identify conduct that may be targeted by the FCA in the near term, we first review several issues recently highlighted by the regulator as key areas of focus. These include financial crime and money laundering; alleged collusion to manipulate the \$1.5 trillion supranational, sub-sovereign, and agency debt (SSA) market, and other potentially anti-competitive behaviour; the fees charged by fund managers (including the issue of “closet indexing”); and the practices of claims management companies with respect to payment protection insurance (PPI) claims. These stated areas of focus indicate potential themes of FCA enforcement actions against firms over the next several years.

With respect to individual enforcement, the FCA’s Senior Managers Regime (SMR) and the European Union’s Market Abuse Regulation (MAR) are now in place. With these developments, as well as the potential redirection to individual enforcement of resources previously devoted to interbank rate and FX manipulation, enforcement against individuals may finally step up in intensity.

The vote in the UK on 23 June 2016 to leave the EU (Brexit) has been described by the FCA as having “significant implications”³ and may in the long run have an impact on the UK’s regulatory framework and on FCA enforcement priorities. Depending on the form it takes, Brexit may also affect the ability of the UK to retain its current status as a major financial services hub, which in turn may affect enforcement priorities and how tough or lenient the regulator will be.

At present, however, the nature and magnitude of any such potential effects are unclear. The Brexit vote does not have immediate implications for FCA regulation and enforcement. For one thing, the UK may not actually leave the EU for more than two years. Until it does, EU legislation and regulations will continue to be effective in the UK. Even after that point, UK laws crafted to conform to EU directives will continue to apply unless and until they are changed by Parliament.⁴

In addition to the priorities articulated by the regulator and changes to the regulatory and legal framework within which enforcement operates, the regulator’s enforcement focus is driven by developments in the broader economy and in financial markets. The FCA has discussed the connection between market trends and the enforcement context in recent publications. The regulator has expressed concern, for example, that the post-crisis low-interest-rate environment may be leading financial consumers, in pursuit of higher returns, to invest in riskier financial products.

The FCA has also taken note of the trend in the UK towards self-employment and temporary labour contracts, which may make it more difficult for consumers to save and otherwise plan their financial future. The FCA has flagged the risk that this could alter the mix of financial products and services consumers seek, again potentially leading them to enter into riskier investments. While the regulator might attempt to prevent such outcomes through early intervention or other supervision measures, these trends may ultimately lead to enforcement actions, for example involving suitability and mis-selling.

Building on these observations, we examine several other economic and financial market indicators and consider their relevance to the enforcement outlook. For example, the FCA discusses the enforcement implications of slower economic growth in the UK, expressing concern that a

lacklustre economy may lead financial firms to cut costs or push to sell more products and services to their existing customers, which may result in risks to financial consumers and to the integrity of financial markets. To get a better sense of the outlook for growth in the UK, we look at recent movements in the yield curve, i.e., at changes in the difference between longer-term and shorter-term interest rates. We observe a flattening of the curve over the past two years (that is, a narrowing of this difference), which many market participants and academics take as potentially indicative of a greater likelihood of economic slowdown. The yield curve has flattened still more following the Brexit vote. These observations, which accord with rather pessimistic recent growth forecasts by organisations such as the IMF and the Office for Budget Responsibility, and with downward revisions to many economic forecasts following the Brexit vote, seem to reinforce the FCA's concern about slower growth.

We have also examined trends in market volatility, illiquidity in financial markets, and the perceived credit risk of financial institutions, all of which were at elevated levels during the global financial crisis and can be taken as indicia of uncertainty or distress in financial markets. The indicators of liquidity and credit risk that we review appear relatively quiescent, though we note several recent periods of elevated market volatility which, as discussed below, can be associated with losses to investors. In the wake of the Brexit vote, a number of open-ended commercial property funds in the UK have suspended trading due to high investor demand for redemptions, combined with difficulty in quickly liquidating the underlying property.

Finally, we consider several areas of rapid technological and organisational change that are raising or may raise enforcement issues. These include high-frequency trading, alternative payment systems, and peer-to-peer (P2P) lending. Our focus on such emerging issues stems from the observation that, even if regulators are successful in reducing risk in traditional financial institutions and practices, such risk may simply migrate to new areas. For example, in relation to P2P lending, former FSA chairman Lord Adair Turner recently opined that “the losses which will emerge from P2P lending over the next five to 10 years will make the worst bankers look like lending geniuses”.⁵

In short, as one prominent wave of enforcement subsides, our review considers a variety of sources and issues from which the next such wave or waves may emanate.

Putting Fines in the Context of Other Conduct-Related Costs for Financial Institutions

While we report that fine amounts imposed on firms by the FCA have recently declined, we also observe that FCA fines are only part of a larger picture of costs associated with alleged misconduct by financial institutions. To put fines in context, we have examined several additional conduct-related costs, which can considerably exceed the size of FCA fines.

First, we have examined FCA figures on the redress payments that the regulator has ordered firms to pay in order to compensate consumers harmed by misconduct. In some instances, the redress ordered dwarfs the sizes of related fines. For example, over the past four financial years, aggregate annual redress paid in relation to PPI mis-selling and interest rate hedging products (IHRP) alone has stood at approximately 4 to 15 times the total fines paid by firms.

For major UK financial institutions, we have also compared fines paid to the FCA to the total provisions reported in financial statements relating to enforcement, investigations, and disputes across multiple jurisdictions. For these UK banks, FCA fines are only a small fraction of total conduct-related costs.

Yet another cost not reflected in fine amounts is the impact that an enforcement action may have on a firm's reputation. Recent academic research has sought to estimate the effect of fines on publicly traded firms. This is done using a technique called an *event study*, which estimates the reputational cost of fines by studying the impact of their announcement on the share prices of the firms being fined. A forthcoming paper focused on the UK uses this technique to measure the harm done by a fine to a firm's reputation and concludes that the reputational cost of certain categories of fines is *nine times* the amount of the fine plus any related redress.

This evidence on conduct-related costs, taken together, suggests that even if FCA fines on firms remain lower, consistent with what we observed in the second half of 2015/16, this development will not necessarily bring relief to financial institutions, in view of the high level of other conduct-related costs they currently face.

Update on FCA Enforcement Activity in 2015/16

Then-acting FCA CEO⁶ Tracey McDermott spoke in December 2015 of the importance of moving toward a "sustainable model of regulation", with "fewer pendulum swings in activity" by regulators.⁷

Notwithstanding these comments, the marked decline in FCA fine amounts during the second half of the 2015/16 financial year may indicate that the pendulum is swinging back to lighter enforcement. After an unprecedented £1.4 billion in fines in the 2014/15 financial year, £794.3 million in fines were issued in the first half of 2015/16, a similar pace to 2014/15 (see Table 1, Figure 1, and Figure 2). However, in the second half of the 2015/16 financial year, fine amounts dropped markedly, to less than £100 million. Moreover, as can be seen in Table 1, the number of fines imposed both on firms and on individuals in 2015/16 was lower than in any of the prior four financial years.

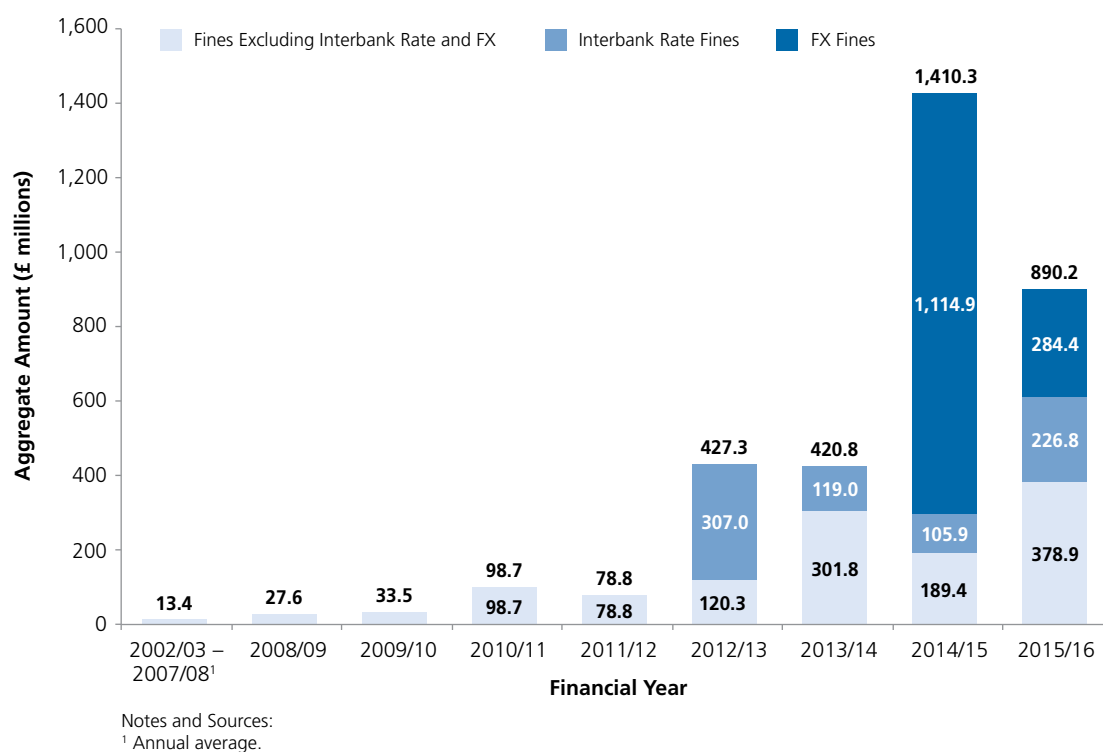
Table 1. **Annual FCA Fines**
2011/12 – 2015/16

	2011/12	2012/13	2013/14	2014/15	2015/16
	(1)	(2)	(3)	(4)	(5)
Number of Fines¹					
Individuals	40	20	22	24	15
Firms	23	26	27	27	17
Totals	63	46	49	51	32
Aggregate Fines (£m)¹					
Individuals	19.9	5.1	3.9	7.1	16.2
Firms	58.9	422.2	416.9	1,403.1	874.0
Totals	78.8	427.3	420.8	1,410.3	890.2

Notes and Sources:

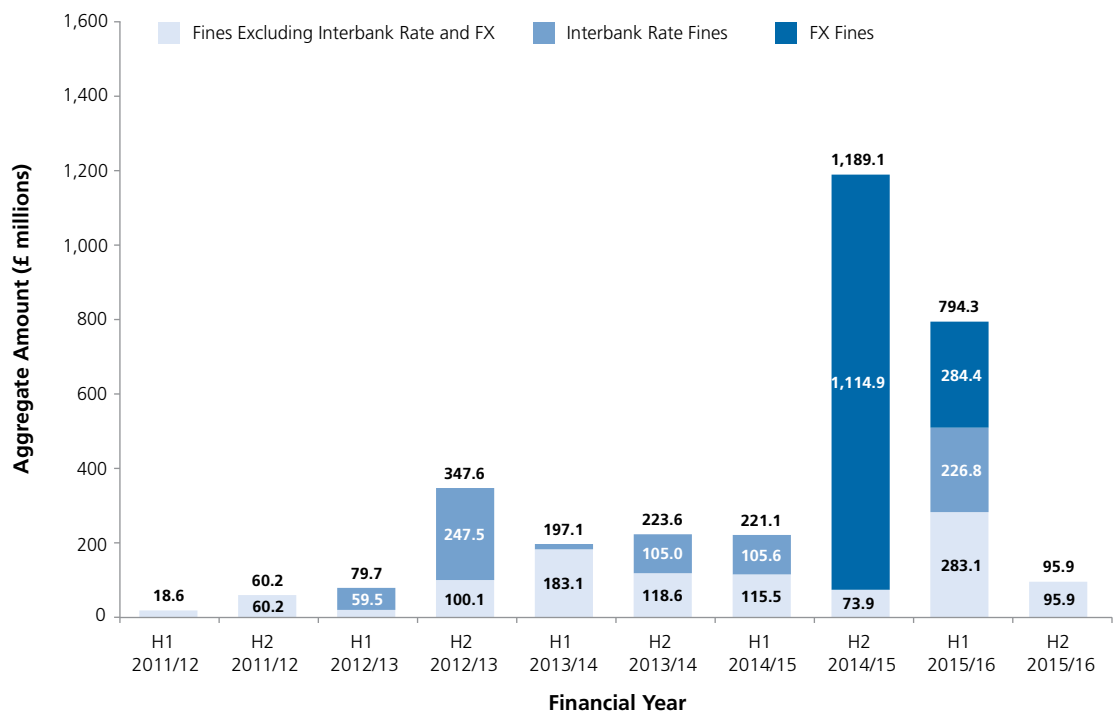
¹ The annual number and aggregate amount of fines shown here may differ from statistics reported by the FCA in its annual reports (for example, the FCA's reported 2014/15 totals for number of fines and aggregate fine amount were 43 and £1,409.8 million, respectively). This is for three reasons. First, beginning with its 2009/10 Annual Report, the FCA assigns each fine to a financial year based on the publication date of the press release announcing the fine, whereas NERA uses the date of the final notice. Second, the FCA does not include in its count of fines those reduced to zero owing to financial hardship, whereas NERA does. Furthermore, NERA treats fines on sole proprietorships (i.e., businesses consisting of a single individual) as having been imposed on individuals, whereas the FCA classifies these as fines on firms.

Figure 1. **Aggregate Annual FCA Fine Amounts against Both Firms and Individuals**



Of the 15 fines in the first half of the 2015/16 financial year, the majority (10 of 15) were against firms. These included a fine of £226.8 million levied on Deutsche Bank for LIBOR-⁸ and EURIBOR⁹-related misconduct and a fine of £284.4 million against Barclays in relation to attempted FX manipulation and failure to control business practices in its FX business. These two fines together accounted for 64% of aggregate fines in the first half of the financial year. However, even excluding the arguably extraordinary fines for manipulation of interbank and FX rates, aggregate fines in the first half of 2015/16 were higher than fines on the same basis in any prior six-month period (see Figure 1 and Figure 2).

Figure 2. **Semi-Annual Aggregate FCA Fine Amounts against Both Firms and Individuals**



Although slightly more than half of 2015/16 fines (17 of 32) were imposed in the second half of the financial year (i.e., between 1 October 2015 and 31 March 2016), the aggregate amount of these fines, £95.9 million, was lower than in any six-month period since the first half of 2012/13. While this amount is low by comparison to recent periods that have included large interbank benchmark rate and FX fines, the amount of fines imposed in the second half of 2015/16 corresponds to an annual pace of £191.8 million, which is within the range of annual fines excluding those for interbank benchmark rate and FX manipulation that we have observed since 2012/13 (see Figure 1).

The composition of the fines in the second half of 2015/16 also differed from what we observed in the first half. First, the majority of fines in the second half of the year (10 of 17) were against individuals. Of the seven fines against firms, none was imposed for manipulation of interbank or FX rates. This is consistent with indications that large fines against firms for manipulation of interbank and FX rates have largely worked their way through the FCA's enforcement pipeline.¹⁰ Although the number of fines (and other sanctions) against individuals remains low relative to levels witnessed in 2011/12 and earlier, FCA activity in the second half of 2015/16 may signal a shift to increased enforcement against individuals, consistent with other indications that such enforcement may be stepped up (discussed below).

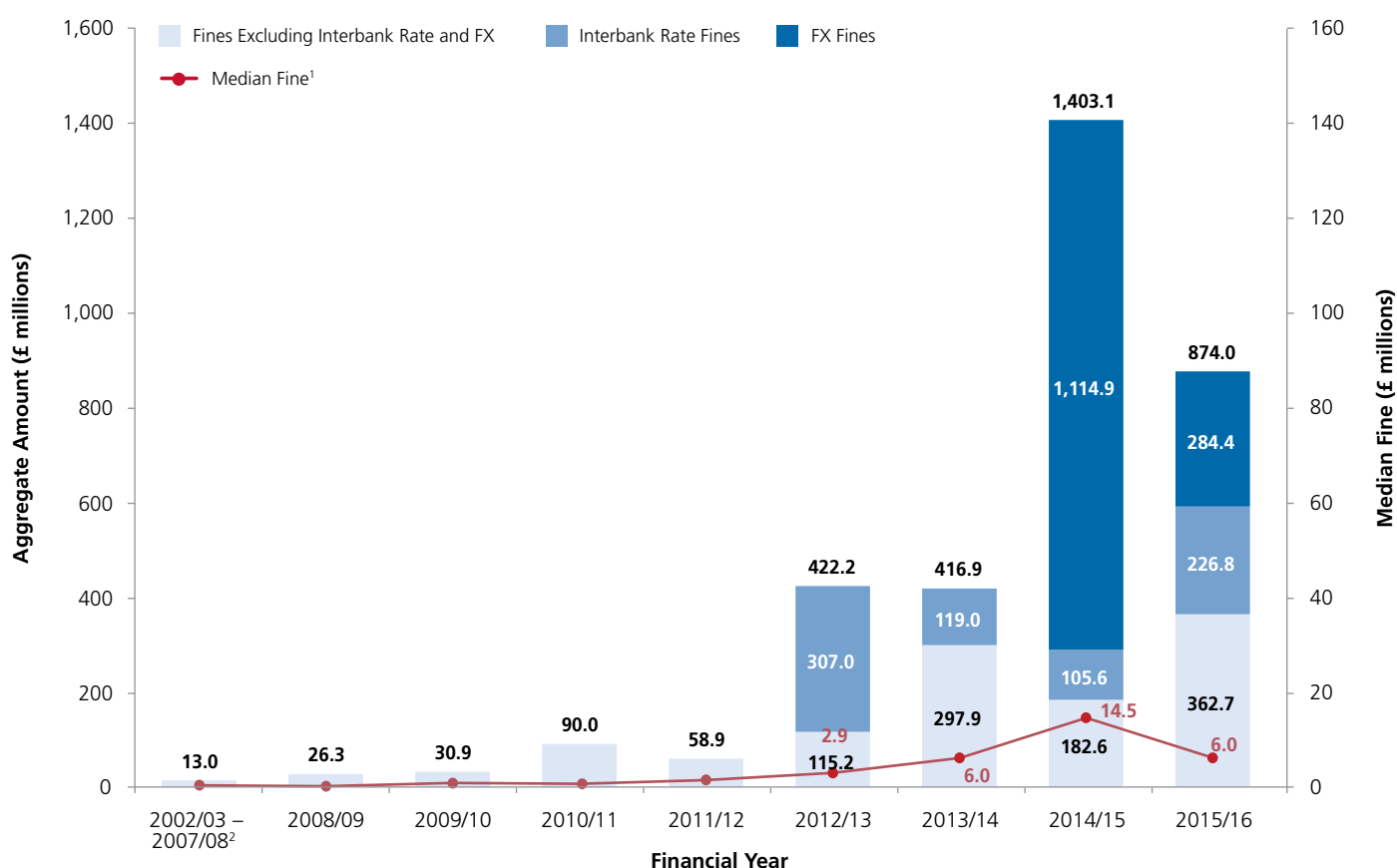
In the sections that follow, we analyse enforcement against firms and individuals separately. In each case, we include a discussion of recent trends, including with respect to the largest fines imposed by the FCA. We also consider trends in the imposition of non-monetary sanctions by the FCA.

Enforcement against Firms

It appears that the period of large fines for manipulation of interbank rates and FX is largely in the past. The FCA imposed one fine each for interbank rate and FX manipulation in the 2015/16 financial year (against Deutsche Bank and Barclays, respectively, as discussed above), both in the first half of the financial year. Together, these two fines accounted for £511.2 million, or more than 58%, of total fines against firms in 2015/16. In comparison, there were seven fines against banks for interbank rate and FX manipulation in 2014/15, and these accounted for £1,220.5 million, or 87%, of that year's total fines.

In 2015/16, fines *not* related to interbank rates or FX totalled £362.7 million, higher than in any previous year and almost double the level in 2014/15 (see Figure 3). These fines were for violations such as the mishandling of customer complaints related to Payment Protection Insurance (PPI),¹¹ mishandling of client assets, and inadequate security and safeguards (for example, with respect to the risk of financial crime and market abuse). Fines not related to FX or interbank rates also declined in the second half of the 2015/16 financial year (from £282.2 million in the first half of the year to £80.5 million in the second half). This means that the substantial drop in aggregate FCA fines in the second half of the year is not solely attributable to the absence of interbank rate and FX fine activity.

Figure 3. **Aggregate Annual FCA Fine Amounts and Annual Median Fine Amounts against Firms**



Notes and Sources:

NERA classifies fines on sole proprietorships as fines on individuals.

¹ The calculation of the median fine excludes fines reduced to zero because of financial hardship.

² Annual average.

The median fine—which can be taken as reflecting the size of the “typical” fine—was £6.0 million in 2015/16. This is less than half of the median fine in 2014/15 (£14.5 million) and is in line with the median fine in 2013/14 (£6.0 million).

Top 10 Fines against Firms

Interbank rate and FX fines continue to dominate the top 10 largest fines ever issued by the FCA against firms: six of the top 10 were assessed in connection with the FX manipulation scandal, and two were related to interbank benchmark rate manipulation (see Table 2). Three of the top 10 largest FCA fines against firms were issued during the first half of the 2015/16 financial year. These included two discussed above: the £284.4 million fine issued against Barclays (the largest financial penalty ever imposed by the FCA) in relation to FX and the £226.8 million fine issued against Deutsche Bank for interbank rate manipulation. The other was a £126.0 million fine against Bank of New York Mellon for failure to comply with the FCA’s client money rules. Protection of client assets became a priority for the FCA following the 2008 financial crisis and, in particular, the collapse of Lehman Brothers, where a failure to fully segregate clients’ funds led to lengthy legal battles and delays in clients receiving funds.

Table 2. **Top 10 Fines against Firms**
1 April 2002 to Present

Fine Rank	Firm	Financial Year	Total Fine	Category of Misconduct
(1)	(2)	(3)	(4)	(5)
1	Barclays	2015/16	£ 284,432	Failure to Prevent Misconduct (FX)
2	UBS	2014/15	233,814	Failure to Prevent Misconduct (FX)
3	Deutsche Bank AG	2015/16	226,800	Market Manipulation (Interbank Rate)
4	Citigroup	2014/15	225,575	Failure to Prevent Misconduct (FX)
5	J.P. Morgan	2014/15	222,166	Failure to Prevent Misconduct (FX)
6	RBS	2014/15	217,000	Failure to Prevent Misconduct (FX)
7	HSBC	2014/15	216,363	Failure to Prevent Misconduct (FX)
8	UBS	2012/13	160,000	Market Manipulation (Interbank Rate)
9	J.P. Morgan	2013/14	137,610	Transaction Reporting, Record-Keeping, & Pricing Failures
10	The Bank of New York Mellon	2015/16	126,000	Mishandling Client Assets

Notes and Sources:
Fine amounts are in thousands.

Fines related to interbank rate and FX manipulation arguably have represented an unusual combination of particularly serious alleged misconduct, substantial documentary evidence (for example, instant-messenger transcripts), and international coordination among regulators; this may explain why they dominate the top 10 list. As the wave of interbank rate and FX manipulation-related fines subsides, examination of other fines against firms may provide a better indication of the size and mix of large fines the FCA will impose going forward. Table 3 lists the top 10 fines excluding fines for interbank rate and FX manipulation. Three of the fines on this alternative list were imposed in the 2015/16 financial year, including the £126.0 million fine against Bank of New York Mellon discussed above, as well as a £117.4 million fine on Lloyds Banking Group for deficiencies in handling PPI complaints.

Table 3. **Top 10 Fines against Firms, Excluding Interbank Rate and FX Fines**
1 April 2002 to Present

Fine Rank	Firm	Financial Year	Total Fine	Category of Misconduct
(1)	(2)	(3)	(4)	(5)
1	J.P. Morgan	2013/14	£ 137,610	Transaction Reporting, Record-Keeping, & Pricing Failures
2	The Bank of New York Mellon	2015/16	126,000	Mishandling Client Assets
3	Lloyds	2015/16	117,431	Mistreatment of Customers & Mishandling of Complaints
4	Barclays Bank Plc	2015/16	72,069	Inadequate Security & Safeguards
5	RBS ¹	2014/15	42,000	Transaction Reporting, Record-Keeping, & Pricing Failures
6	Barclays	2014/15	37,745	Mishandling Client Assets
7	J.P. Morgan	2010/11	33,320	Mishandling Client Assets
8	HomeServe	2013/14	30,647	Unsuitable Investments & Mis-Selling
9	Prudential	2012/13	30,000	Other Compliance Failings by Firms
10	UBS	2012/13	29,700	Failure to Prevent Misconduct

Notes and Sources:

Fine amounts are in thousands.

¹ The fine was the result of a joint investigation by the FCA and the Prudential Regulatory Authority. The Prudential Regulatory Authority imposed an additional £14 million penalty, making the aggregate fine £56 million.

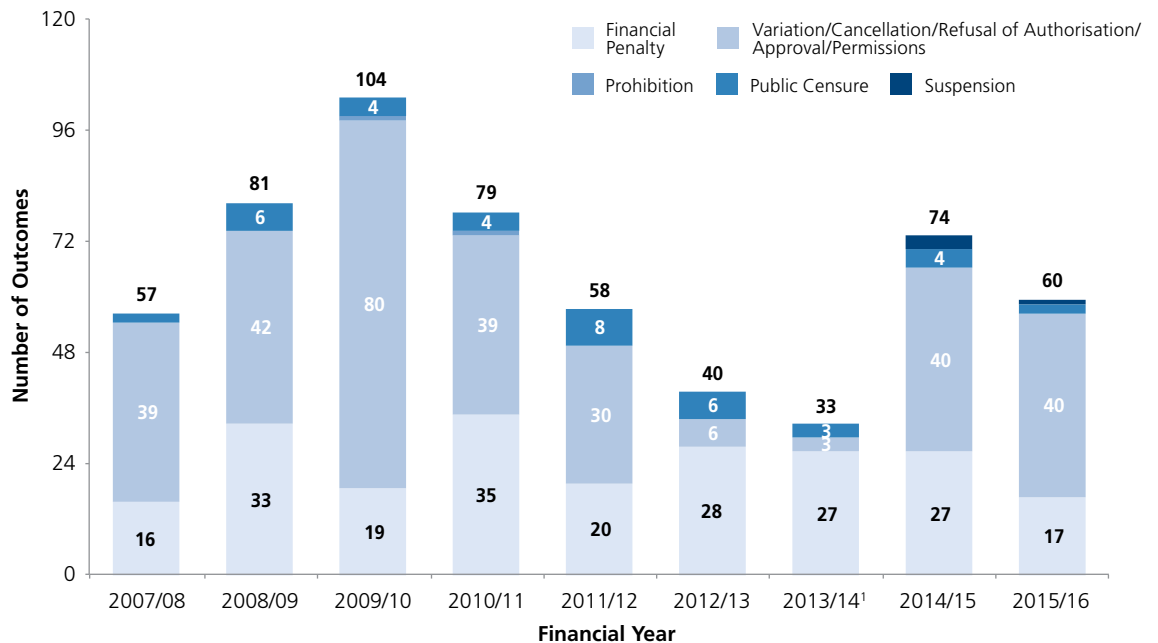
Only one of these fines was imposed in the second half of the 2015/16 financial year: a penalty of £72.1 million assessed against Barclays. This fine was issued for failing to minimise the risk of facilitating financial crime. Preventing financial crime was announced as a new “forward-looking area of focus” for the FCA in its 2015/16 Business Plan and is also highlighted as a key area in the 2016/17 Business Plan.¹² Financial crime is defined in the Financial Services Act 2012 as including any offence involving (a) fraud or dishonesty; (b) misconduct in, or misuse of information relating to, a financial market; (c) handling the proceeds of crime; or (d) the financing of terrorism.¹³

The fine against Barclays is the largest ever imposed by the FCA for financial crime-related failings. It related to a £1.88 billion transaction that Barclays arranged and executed for a number of ultra-high-net-worth, politically exposed persons. The FCA found that the transaction should have been subject to enhanced levels of due diligence because of its risk profile, but that Barclays instead “applied a lower level of due diligence than its policies required for other business relationships of a lower risk profile”.¹⁴

Non-Monetary Enforcement Measures against Firms

A fine is not the only sanction in the FCA’s arsenal. Figure 4, based on data from the FCA’s annual reports and final notices, shows the annual number of fines and other types of non-monetary enforcement measures (for descriptions of the various enforcement measures available to the FCA, see the Appendix to our 2015/16 mid-year report).¹⁵

Figure 4. **FCA Enforcement Activity against Firms**
2007/08 – 2015/16



Notes and Sources:

Data are from "Enforcement Activity" appendices to FCA annual reports for financial years 2007/08–2013/14 and the final notices issued throughout the 2014/15 and 2015/16 financial years.

For financial years prior to 2014/15, the annual numbers of financial penalties shown here may differ from statistics reported by NERA in Table 1 for several reasons. First, beginning with its 2009/10 Annual Report, the FCA assigns each fine to a financial year based on the publication date of the press release announcing the fine, whereas NERA uses the date of the final notice. Moreover, the FCA does not include in its tallies fines that were reduced to zero owing to financial hardship, whereas Table 1 includes such fines. Finally, NERA classifies fines on sole proprietorships as fines on individuals.

¹ Does not include Threshold Condition outcomes where the FCA has only cancelled a firm's Part 4A permission or its registration. ("Threshold Conditions are effectively the minimum standards for being, and remaining, authorised by the FCA. Maintaining these is an ongoing requirement, and the FCA can vary or cancel a firm's permission if it believes that that firm is failing, or likely to fail, to meet them." See Threshold Conditions, *Global Insurance Management*, 24 June 2013, available at: <http://www.globalim.co.uk/latestnews/insurance-intermediaries/fsa%20news/2013/jun/24/threshold-conditions>.)

The elevated level of non-monetary enforcement sanctions in 2014/15 and 2015/16 is largely owing to an increase in variations, cancellations, or refusals of permission to operate within the UK financial industry. The number of non-monetary enforcement sanctions remains similar to that in the financial years 2007/08 to 2011/12 (with the exception of 2009/10, when it was substantially higher).

A recent example of the FCA using non-monetary enforcement is the regulator's February 2016 sanction against stockbroker and wealth manager WH Ireland Limited for deficiencies in its controls to prevent market abuse. In addition to a fine of £1.2 million, the FCA imposed a temporary restriction (for 72 days) on WH Ireland's ability to take on new clients in its Corporate Broking Division. This was the first such ban imposed on a wholesale firm as part of an FCA enforcement action and the third time the power has been used overall.¹⁶ The final notice opined that "[i]mposing a restriction, in addition to a financial penalty, is a more effective and persuasive deterrent than a financial penalty alone".¹⁷

After taking over regulation of consumer credit companies in April 2014, the FCA made consumer credit an area of focus in its 2015/16 Business Plan.¹⁸ Consistent with that focus, on 10 March 2016, the FCA refused the application of PDHL Limited (PDHL), a debt management firm. The FCA found that PDHL did not have sufficient controls to prevent inappropriate advice

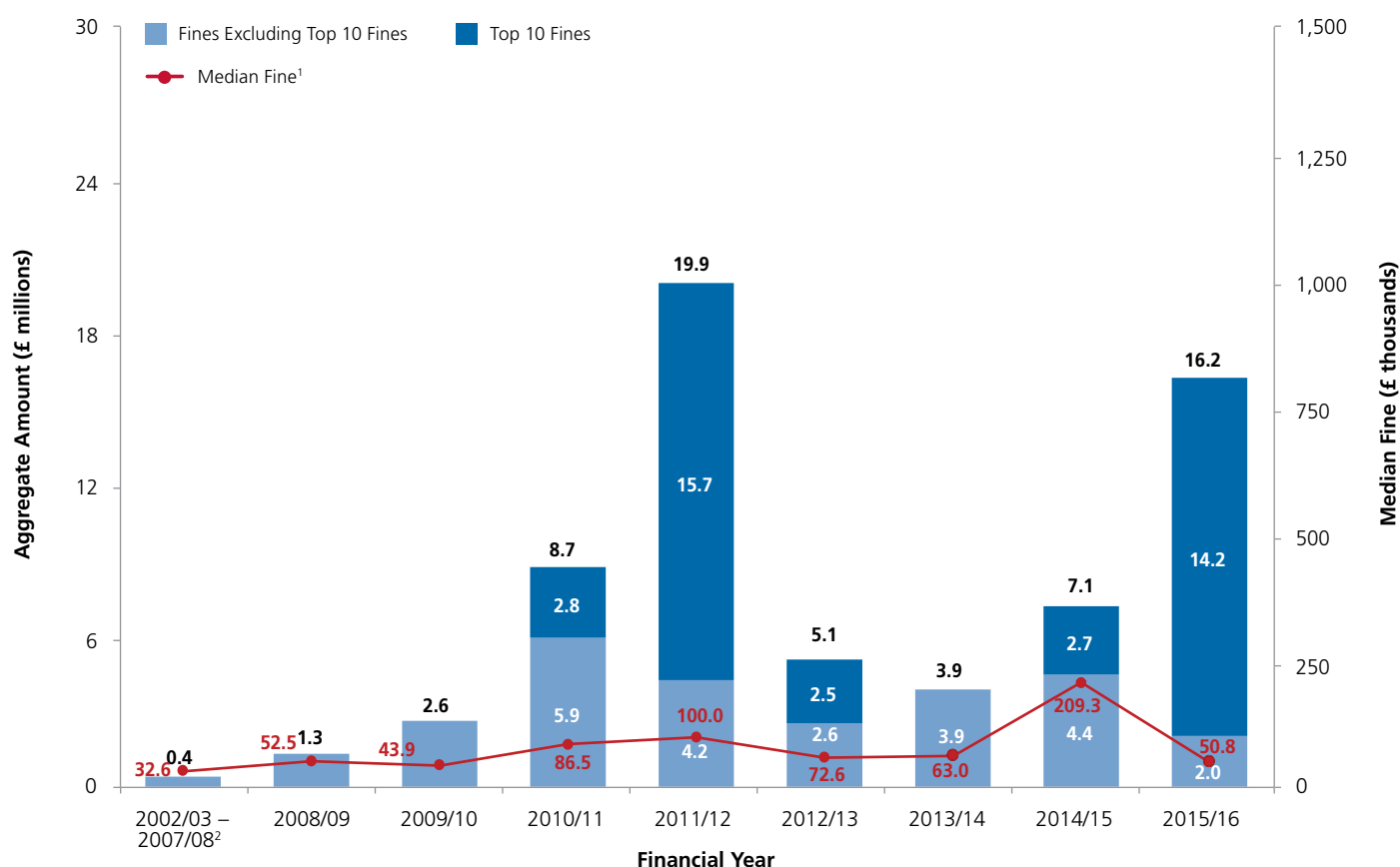
being given to customers. The FCA also identified cases where PDHL customers had been advised to enter debt solutions that were unsuitable for the customers' circumstances.¹⁹ The FCA recently announced that more than 1,400 consumer credit firms had either been refused authorisation or decided to withdraw their application to the FCA.²⁰

In short, with respect to enforcement against firms, the FCA continues to make use not only of financial penalties but also of other measures at its disposal.

Enforcement against Individuals

Fines against individuals in the 2015/16 financial year totalled £16.2 million, more than double the amount in 2014/15 (see Figure 5). However, this increase was driven by a single fine of £14.2 million—the largest ever FCA fine against an individual. Excluding this fine, the annual total was just £2.0 million, lower than total fines on individuals in any financial year since 2008/09. Moreover, as shown in Table 1, the number of fines against individuals in 2015/16 was lower than in any of the prior four financial years (and less than half the number in 2011/12).

Figure 5. **Aggregate Annual FCA Fine Amounts and Annual Median Fine Amounts against Individuals**



Notes and Sources:

NERA classifies fines on sole proprietorships as individual fines.

¹ The calculation of the median fine excludes fines reduced to zero because of financial hardship.

² Annual average.

The number of fines against individuals in the second half of the 2015/16 financial year was double that in the first half of the year, consistent with other indications (discussed below) that enforcement against individuals may be on the upswing as the FCA redirects its resources from the interbank rate and FX investigations.

Top 10 Fines against Individuals

Only one fine imposed on an individual in the 2015/16 financial year was of sufficient size to be included in the all-time top 10 list for such fines. However, this fine, against Shay Jacob Reches for £14.2 million, takes the top spot if the sizeable “Additional Penalty” payable by Mr Reches is included.

Mr Reches was fined for setting up insurance schemes that left more than 1,300 solicitors’ firms without proper professional indemnity cover.²¹ This sanction is also noteworthy in that it marked the first time the FCA fined an individual for undertaking FCA-regulated activities without approval.²² The fine against Mr Reches comprised a financial penalty of £1.05 million plus an Additional Penalty of £13.13 million, which according to the FCA will deprive Mr Reches of the indirect benefit he received from the conduct and which will be paid directly to affected insurers. Without the Additional Penalty, the fine against Mr Reches would only just break into the top 10. Table 4 shows the current list of the 10 highest fines levied against individuals.

Table 4. **Top 10 Fines against Individuals**
1 April 2002 to Present

Fine Rank	Individual	Financial Year	Penalty	Disgorgement/ Removal of Benefit	Total Fine	Category of Misconduct
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Shay Jacob Reches	2015/16	£1,050	£13,130	£14,180	Mishandling Client Assets
2	Rameshkumar Goenka	2011/12	4,138	1,971	6,109	Market Manipulation
3	David Einhorn	2011/12	3,000	638	3,638	Insider Dealing
4	Ravi Sinha	2011/12	1,500	1,367	2,867	Fraud or Other Deliberate Misconduct
5	Simon Eagle	2010/11	1,500	1,300	2,800	Market Manipulation
6	Alberto Micalizzi	2014/15	2,700	0	2,700	Fraud or Other Deliberate Misconduct
7	Michiel Wieger Visser	2011/12	2,000	0	2,000	Market Manipulation
8	Stefan Chaligne	2012/13	900	363	1,263	Market Manipulation
9	Sachin Karpe	2012/13	1,250	0	1,250	Mishandling Client Assets
10	Samuel Nathan Kahn	2011/12	884	211	1,095	Market Manipulation

Notes and Sources:

NERA classifies fines on sole proprietorships as fines on individuals.

Fine amounts are in thousands.

Although it does not make the top 10 list, another high-profile fine in the second half of 2015/16 (and the second largest fine against an individual over the entire year) was a £0.8 million penalty against Achilles Macris, former Head of JP Morgan’s CIO International. Mr Macris was fined for failing to be open and cooperative with the FCA in relation to concerns regarding the “London whale” trades.²³

As we stated in our 2015/16 mid-year report, Mr Macris had previously challenged the FCA for having implicitly identified him in its 2013 final notice against JP Morgan relating to the “London whale” trading (the largest-ever fine against a firm, aside from interbank rate and FX manipulation fines; see Table 2 and Table 3). The Upper Tribunal and the Court of Appeal both

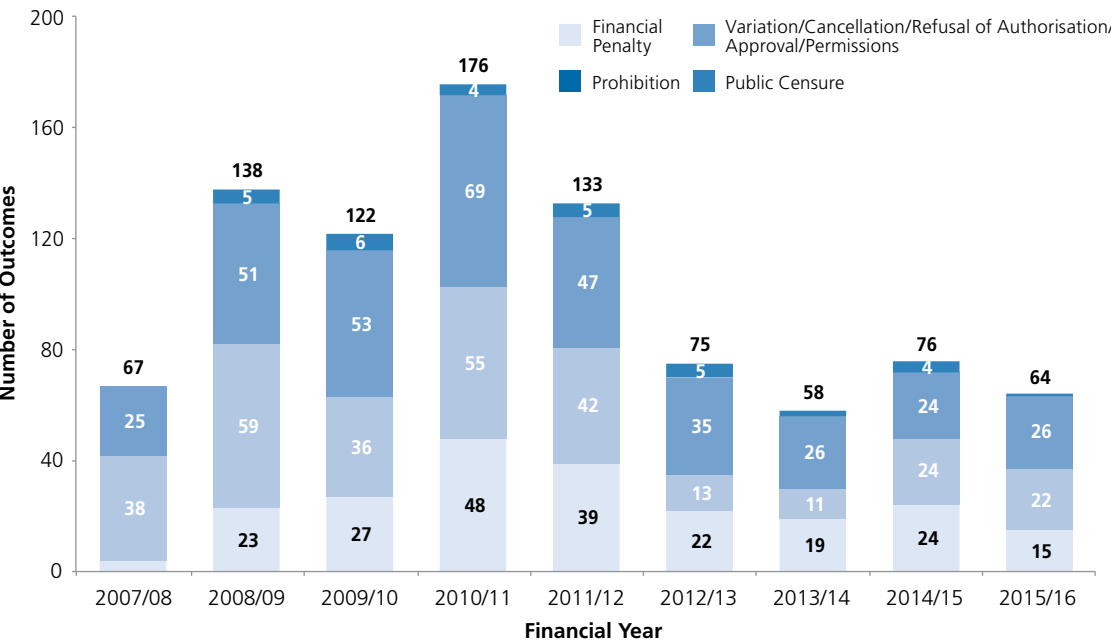
ruled in Mr Macris’s favour, although the FCA has appealed, and the case is to be heard by the Supreme Court in October 2016.²⁴ Several other individuals have made similar claims of improper identification in final notices relating to fines on banks. If Mr Macris is successful, this may affect the level of detail regarding individuals provided in final notices against firms.

Finally, in our 2015/16 mid-year report, we discussed the fines that the FCA is seeking to impose on Stewart Ford and Mark Owen, two former senior managers at Keydata.²⁵ If upheld, the proposed £75 million fine (including £72.4 million in disgorgement) against Mr Ford would be the largest ever, several times the size of the fine imposed upon Mr Rechtes. An Upper Tribunal hearing is scheduled for March 2017.²⁶ A third defendant, Peter Johnson, dropped his Upper Tribunal challenge in May 2016, subsequent to which he was banned and censured by the FCA. The regulator also imposed a fine of £200,000, which was reduced to zero owing to financial hardship.²⁷

Non-Monetary Enforcement Measures against Individuals

The low number of financial penalties imposed by the FCA on individuals in recent years has not been offset by greater use of other enforcement powers by the Authority. As Figure 6 shows, the total number of enforcement activities against individuals over the last four financial years remains substantially lower than in the financial years 2008/09 to 2011/12.

Figure 6. **FCA Enforcement Activity against Individuals**
2007/08 – 2015/16



Notes and Sources:
Data are from “Enforcement Activity” appendices to FCA annual reports for financial years 2007/08–2013/14 and the final notices issued throughout the 2014/15 and 2015/16 financial years.
For financial years prior to 2014/15, the annual numbers of financial penalties shown here may differ from statistics reported by NERA in Table 1 for several reasons. First, beginning with its 2009/10 Annual Report, the FCA assigns each fine to a financial year based on the publication date of the press release announcing the fine, whereas NERA uses the date of the final notice. Moreover, the FCA does not include in its tallies fines that were reduced to zero owing to financial hardship, whereas Table 1 includes such fines. Finally, NERA classifies fines on sole proprietorships as fines on individuals.

In 2015/16, the FCA continued to pursue individual enforcement actions in relation to manipulation of interbank benchmarks. For example, in a final notice dated 29 February 2016, the FCA banned Michael Curtler, a former Deutsche Bank trader, from the UK financial services industry. This ban followed Mr Curtler's guilty plea in a US district court for manipulating LIBOR submissions.

Update on Operation Tabernula

We now turn to the FCA's use of its criminal prosecution powers, focusing first on "Operation Tabernula", the Authority's "largest and most complex insider dealing investigation" to date,²⁸ which is estimated to have cost £14 million.²⁹ Ten individuals were implicated in the FCA's eight-year probe of a conspiracy to insider deal, with the first arrests taking place in 2010. A trial against five of the individuals took place earlier this year. Martyn Dodgson and Andrew Hind were convicted of conspiring to insider deal and sentenced to prison terms of 4.5 years and 3.5 years, respectively. The three other defendants in the trial were acquitted. Martyn Dodgson's sentence was reported to be "the longest ever handed down for insider dealing in a case brought by the FCA".³⁰ To date, the FCA has secured convictions against five of the ten implicated individuals, while four were either cleared of charges before trial or were acquitted of charges following trial (see Table 5). It has not yet been announced how the FCA will proceed with respect to the remaining defendant, Richard Baldwin.

Table 5. **Status of FCA Operation Tabernula**

Name	Current Status	Indictment Year	Verdict Year
(1)	(2)	(3)	(4)
Benjamin Anderson	Acquitted	2012/13	2016/17
Richard Baldwin	Charged	2012/13	n.a.
Martyn Dodgson	Jail Sentence	2012/13	2016/17
Grant Harrison	Acquitted	2012/13	2016/17
Andrew Hind	Jail Sentence	2012/13	2016/17
Paul Milsom	Jail Sentence	2012/13	2012/13
Iraj Parvizi	Acquitted	2012/13	2016/17
Julian Rifat	Jail Sentence	2013/14	2014/15
Clive Roberts	Cleared	n.a.	n.a.
Graeme Shelley	Jail Sentence	2012/13	2013/14

Notes and Sources:

Data are from FCA press releases, supplemented by a review of news articles.

Shaded rows represent updates subsequent to the outcomes for Operation Tabernula presented in our 2015/16 mid-year report.

Other Trends in FCA Criminal Prosecution

Three individuals were indicted by the FCA in the first half of the 2015/16 financial year (all for insider dealing), with no further indictments reported in the second half of the year. This leaves the number of criminal indictments by the FCA in the 2015/16 financial year lower than in any of the prior five financial years (see Table 6).

Table 6. **FCA Criminal Indictments**
2002/03 – 2015/16

	Indictment Year ¹							Total
	Prior to 2010/11	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
	Indictment of Individuals							
Insider Dealing	12	14	4	8	1	3	3	45
Land Banking	0	0	0	0	8	0	0	8
Other Indictments ²	20	1	0	3	3	1	0	28
Total	32	15	4	11	12	4	3	81

Notes and Sources:

Data are from FCA press releases, supplemented by a review of news articles. The table includes only named defendants.

¹ If the indictment date is not reported in the FCA's press releases, the arrest date is used.

² Includes cases of mis-selling, stealing, fraud, illegal deposit taking, and failure to cooperate with the FCA.

In 2015/16, the FCA secured nine convictions in cases originated in prior years (see Table 7). This is a higher number than in the two prior financial years (seven and six in 2013/14 and 2014/15, respectively). These figures do not include the recent Operation Tabernula convictions discussed above, because those occurred after the end of the 2015/16 financial year.

Eight of the convictions in 2015/16 were secured as part of "Operation Cotton", an investigation into land banking firms. Between July 2008 and November 2011, the defendants were involved in an unauthorised collective investment scheme. The prison sentences handed down to these eight individuals ranged from four months to eight years. For one of the defendants (Mr Forsyth), the sentence included 15 months for lying to the FCA in a compelled interview—reported by the FCA to be the first prosecution of its kind.³¹

Table 7. **FCA Criminal Verdicts**
2002/03 – 2015/16

Outcomes	Verdict Year ¹							Total
	Prior to 2010/11	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Insider Dealing Convictions	5	5	1	12	1	3	1	28
Land Banking Convictions	0	0	0	0	0	0	8	8
Other Convictions ²	9	0	4	1	2	3	0	19
Acquittals	1	3	0	5	4	0	0	13
Total	15	8	5	18	7	6	9	68

Notes and Sources:

Data are from FCA press releases, supplemented by a review of news articles. The table includes only named defendants.

¹ If the verdict date is not reported in the press release, the sentencing date is used instead.

² Includes cases of mis-selling, stealing, fraud, illegal deposit taking, and failure to cooperate with the FCA.

The other conviction secured in the 2015/16 financial year was that of Damian Clarke, a former equities trader at Schroder Investment Management Limited. Mr Clarke pleaded guilty to nine counts of insider dealing and was sentenced to a prison term of two years.

Looking Ahead: The FCA's Enforcement Priorities

Following the departure of Martin Wheatley last summer, Andrew Bailey, former head of the Prudential Regulation Authority, took over as head of the FCA at the beginning of this month. George Osborne, Chancellor of the Exchequer, said that Mr Bailey would be “tough but fair” in his dealings with the financial services industry.³² Some market observers have speculated that the appointment of Mr Bailey augurs for friendlier relations between the FCA and the City.³³

The FCA's Business Plan for the 2016/17 financial year identified seven priority themes, which will form the primary focus of the regulator's discretionary work and which provide some insight into potential future areas of enforcement. These are pensions, financial crime and anti-money laundering, wholesale financial markets, investment advice, innovation and technology, firms' culture and governance, and treatment of existing customers.³⁴ Two of these priority themes (wholesale financial markets and advice) are new in 2016/17, whereas the rest were also stated priorities for the 2015/16 financial year.³⁵

The recent vote in favour of Brexit in the UK may in the long run have an impact on the UK regulatory framework and on FCA enforcement priorities, but the magnitude and direction of any such effect are currently unclear. The Brexit vote does not have immediate implications for FCA regulation and enforcement. For one thing, the UK may not actually leave the EU for more than two years. At the time of publication of this report, the UK had not yet invoked Article 50 of the EU Treaty, which formally indicates withdrawal from the EU, and it was unclear when this would happen.³⁶ Article 50 provides a two-year period to negotiate exit. Until the UK has exited the EU, assuming it will, EU legislation and regulations (such as MAR) will continue to be effective in the UK. Even after that point, UK laws crafted to conform to EU directives (such as the Markets in Financial Instruments Directive, or MiFID) will continue to apply unless and until they are changed by Parliament. The relationship between UK and EU financial laws and regulations going forward will also be determined by the institutional arrangements that prevail following a UK departure from the EU, which at present are still to be determined.³⁷

Some observers have also opined that Brexit will result in a diminution of the City of London's status as a worldwide financial services hub.³⁸ Any effect of this dynamic on the focus or intensity of enforcement is also difficult to predict.

Outlook for Fines against Firms

As discussed above, fines against firms in recent years have been driven to a large extent by the substantial fines in relation to interbank rate and FX manipulation. We do not have reason to expect further fines for interbank rate and FX manipulation on the scale of those observed in previous years, nor are we aware of any enforcement actions related to the additional benchmarks that have been brought within the scope of FCA regulation.³⁹ FCA activity in the second half of the 2015/16 financial year may portend fewer (and lower) fines against firms in the near term. Nonetheless, several areas of focus for the FCA could result in enforcement activity against firms. Moreover, new FCA rules on whistleblowing will come into force on 7 September 2016. These rules formalise whistleblowing procedures “to encourage a culture in which individuals working in the (financial services) industry feel comfortable raising

concerns...⁴⁰ Unlike US regulators, however, the FCA has not gone so far as to offer financial incentives to whistleblowers.⁴¹

Financial Crime and Anti-Money Laundering

In the wake of the release of the so-called Panama Papers,⁴² there is increased focus by regulators worldwide on financial crime and money laundering. As discussed above, this is a priority theme for the FCA in 2016/17. The FCA indicated that where it finds firms with material weaknesses in money laundering controls, it would use enforcement powers “to send a deterrent message”.⁴³ With regard to the Panama Papers specifically, the FCA has already requested that regulated banks complete initial investigations of potential links to Mossack Fonseca (the law firm whose documents were leaked) by mid-April 2016.

Moreover, the FCA recently warned Deutsche Bank about “serious failings” with respect to its controls against money laundering, ordering a Skilled Persons Report.⁴⁴ At the same time, the FCA is probing \$10 billion of trades involving Deutsche Bank’s Russian business (an investigation referred to as “Project Square”) for possible money laundering breaches.⁴⁵

Competition/Anti-Competitive Behaviour

On 1 April 2015, the FCA acquired new powers to enforce competition law. These give the FCA the ability to enforce against infringements of competition law (for example, price-fixing and abuse of dominance), stronger powers to conduct market reviews, and powers to refer financial services markets to the Competition and Markets Authority (CMA) for in-depth investigation.⁴⁶ The FCA’s reach is further extended by the obligation that regulated firms now have to bring to the Authority’s attention any possible significant competition law infringements—that is, the responsibility to self-report potential such infringements.

Should the FCA find breaches of competition law, it can impose significant penalties, including fines of as much as 10% of a company’s worldwide turnover.⁴⁷ In March 2016, the FCA confirmed that it had opened its first enforcement investigation under the Competition Act, but did not provide details on the involved firm(s) or alleged behaviour.⁴⁸

In early 2016, it was reported that the FCA, as well as the European Commission and US Department of Justice, was investigating the \$1.5 trillion supranational, sub-sovereign, and agency debt market (the “SSA market”) regarding potential collusion and price manipulation by traders at a number of banks.⁴⁹

The FCA is also conducting several market reviews. For example, it is assessing whether competition is working well in the asset management industry, with an interim report expected to be published this summer.⁵⁰ The FCA has also been actively supporting the CMA’s investigation into retail banking.

“Closet Indexing”

“Closet indexing” (or “closet tracking”) is a practice whereby investment funds are marketed as being actively managed (and charge fees for active management), while in fact they are managed similarly to passive funds, with holdings and/or performance similar to (i.e., tracking, or nearly tracking) a benchmark index. Funds engaging in this practice are sometimes referred to as “closet trackers”.

In April 2016, the FCA published a Thematic Review that considered whether UK funds were operating in line with representations made in marketing material, investment mandates, and

other disclosures. The review encompassed 19 UK fund management firms and 23 UK authorised funds. Although the FCA concluded that “fund management firms are taking the right steps to meet investors’ expectations”,⁵¹ the FCA found that seven of the funds did not have clear descriptions of how they were managed. In particular, five funds were found to be closet trackers. The FCA has not reported on whether any of these funds will be subject to enforcement action.

Claims Management Companies

It was announced in March 2016 that the FCA will assume oversight for approximately 1,700 claims management companies (CMCs) and that the senior staff at those companies will be included in the Senior Managers Regime (discussed further in the next section). CMCs charge consumers a fee for handling claims for compensation—for example, PPI mis-selling claims or personal injury claims. CMCs have been active in respect of PPI claims and have been criticised in some cases for aggressive marketing tactics.⁵²

Outlook for Fines against Individuals

Some of the areas of focus for the FCA discussed in the previous section relating to firms will also apply to individuals. As reported above, FCA activity in the second half of the 2015/16 financial year remained generally low, with the exception of the large fine against Mr Reches. However, this may be about to change. As discussed in our mid-year report, the Senior Managers Regime (SMR), which came into force in March 2016,⁵³ and the EU Market Abuse Regulation (MAR), which came into force on 3 July 2016, may lead to increased enforcement activity against individuals. In fact, the FCA acknowledged that there “may be an increase in cases against individuals in the future”, consistent with the introduction of the SMR, “which will give greater clarity over an individual’s responsibilities and increase accountability”.⁵⁴

The introduction of MAR highlights that preventing abusive trading behaviour in the wholesale financial markets remains a priority for the FCA. The FCA’s market cleanliness statistic tracks the percentage of takeover announcements with abnormal pre-announcement price movements, which may indicate possible insider trading. This statistic increased in 2015 to 19% from 14.3% in the prior year.⁵⁵ The FCA also received more suspicious transaction reports in 2015 than in 2014, with a higher proportion of those reporting potential instances of market manipulation.⁵⁶

Fine amounts may also be affected by proposed changes to the FCA’s enforcement process, which were set out in an April 2016 consultation paper.⁵⁷ These proposals were made in response to recommendations made by HM Treasury and by Andrew Green QC in his report into the FCA’s enforcement actions following the failure of HBOS (the HBOS report⁵⁸). The FCA has proposed that a firm or individual be able to contest certain aspects of a fine at a relatively early stage in the process. In particular, the FCA proposed to allow a firm or individual to enter into a “focused resolution agreement” in cases where the subject agrees to all relevant facts and the breaches that arise from those facts, but contests the proposed enforcement action. In these cases, the Regulatory Decisions Committee (RDC) would then determine the appropriate regulatory response (i.e., the fine amount and/or other enforcement action).

The FCA’s consultation paper indicated that this proposal should “increase the transparency and clarity of how financial penalties are calculated and give a clearer message, as they will be accompanied by a reasoned decision from the RDC”.⁵⁹ The FCA proposed that the same discount as that which is currently in place (30%) would apply where a focused resolution agreement is reached during the earliest stage of the investigation (i.e., Stage 1).⁶⁰ Although this change would affect both actions against firms and actions against individuals, individuals tend to contest enforcement actions at the RDC more than firms do.⁶¹

The HBOS report may have also prompted the FCA's decision earlier this year to open investigations into "certain former HBOS senior managers".⁶² The applicable limitation period prevents the FCA from imposing fines on these individuals, but they may still be subject to non-monetary enforcement measures (for example, a ban from the UK financial services industry).⁶³

Looking Ahead: The Broader Economic and Financial Context

In addition to the FCA's stated priorities, the focus of enforcement inevitably is also driven by developments affecting financial markets and the broader economy. For example, the FCA has acknowledged in its most recent Business Plan that broader macroeconomic trends "influence the products and services that [financial] firms are willing to offer, their profitability and the volume of financial products sold".⁶⁴

Economic Growth and the Enforcement Environment

A prominent past example of the connection between the economy and enforcement is the 2008 global financial crisis, which led indirectly to a reorganisation of the regulatory architecture in the UK, including the creation of the FCA, and which is viewed as having played a substantial role in the development of the "credible deterrence" philosophy of more robust enforcement that has guided the FCA since the crisis.⁶⁵

In addition, specific aspects of post-crisis enforcement have aimed to prevent recurrence of problems that arose in the context of the crisis. For example, since 2010, the FCA has imposed more than 20 fines, totalling over £221.6 million, relating to failures by financial institutions to ring-fence or otherwise safeguard client assets. This enforcement has been linked to the experience following the bankruptcy of Lehman Brothers in September 2008, in which a failure by Lehman Brothers International (Europe) to segregate clients' money properly from other assets led to lengthy legal battles and corresponding delays in money being returned to clients.⁶⁶

More recently, the Brexit vote in the UK provides an example of a development that was unexpected by many policymakers and market participants, which in its immediate aftermath created substantial market volatility⁶⁷ (though this subsided relatively quickly) and which may affect the enforcement context through several channels.

For example, a number of economic forecasters have predicted that Brexit will lead to a further economic slowdown.⁶⁸ Even pre-Brexit, the FCA opined that "slow but stable" economic growth might lead financial firms to become "complacent" and less incentivised to review and adapt their business models to reflect changes in the marketplace. Moreover, the FCA expressed concern that if sales volumes are sluggish, firms may respond by cutting costs or by trying to sell more to existing customers, potentially resulting in risks to financial consumers and to the integrity of financial markets.⁶⁹ A more serious economic downturn, leading to investment losses and to stresses at financial institutions, or even to failures of such institutions (as in the 2008 global financial crisis), might be more consequential still.

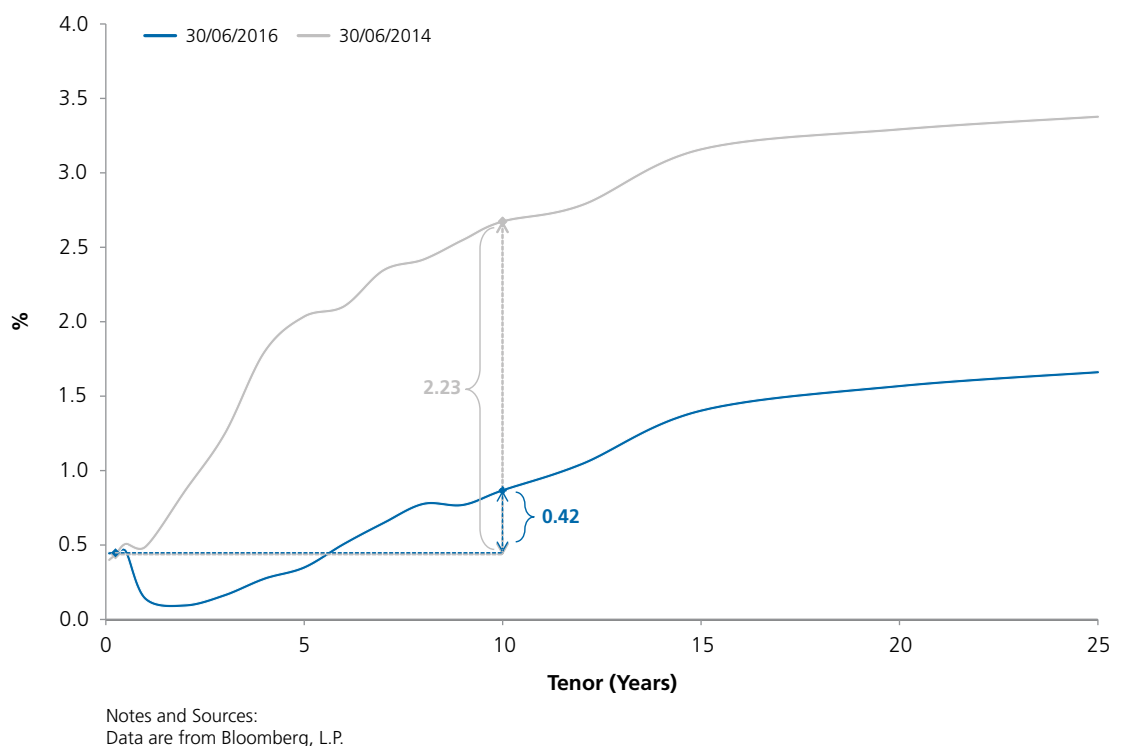
The precise nature, depth, and timing of any downturn or slowdown are, of course, difficult to foresee. However, some variables have traditionally been relied upon to provide clues as to how economic performance may unfold. These include changes in the unemployment rate, increases or decreases in share prices, and movements in the yield curve.⁷⁰ The last of these metrics, the yield curve, is widely used in academia and by practitioners as a leading (i.e., forward-looking)

indicator of future real economic activity: an “inverted” or “downward-sloping” yield curve, that is, one where shorter-term rates exceed longer-term rates, has historically been a useful predictor of economic recessions.⁷¹

Under normal circumstances, when the yield curve is upward sloping (i.e., not inverted), a flattening of the curve—a reduction in long-term rates relative to short-term rates, though not to the point of being inverted—can be taken as signalling a deteriorating economic outlook.⁷² Figure 7 shows the yield curve for UK government bonds (gilts) of various maturities (tenors) at 30 June 2016 and, for comparison, the yield curve two years earlier. The difference (“spread”) between the 10-year and 3-month yield is indicated for each date; this spread is a widely followed metric capturing the difference between long-term and short-term rates.⁷³

Figure 7 shows that the UK government yield curve, although still upward sloping, has flattened considerably over these two years. The difference between the 10-year yield and the 3-month rate on UK government bonds had declined to 0.42% on 30 June 2016, from 2.23% two years earlier. The conventional interpretation of this change is that it may portend a worsening macroeconomic picture.

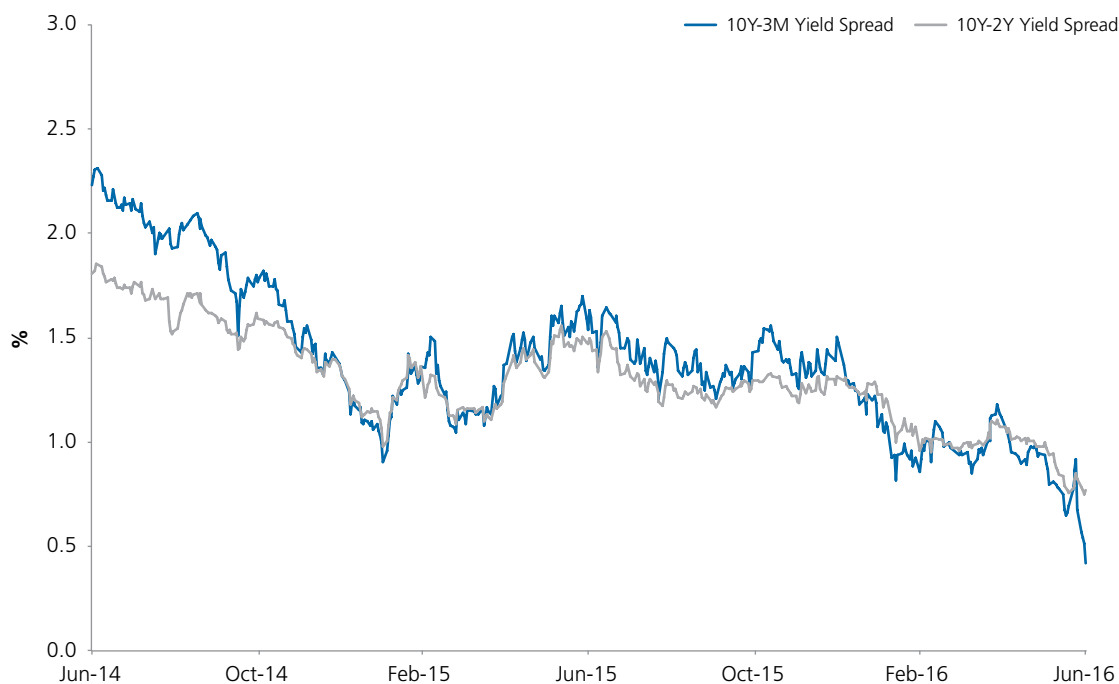
Figure 7. **UK Government Yield Curve and 10-Year—3-Month Yield Spread**



More specifically, a flattening of the yield curve has been shown in studies to be a good predictor of a decline in future spot interest rates, which are associated with lower real gross domestic product (GDP).⁷⁴ Figure 8 shows the 10-year—3-month yield spread and an alternative metric of the long-term—short-term spread, the 10-year—2-year UK government yield spread.⁷⁵ These spreads are shown daily from 30 June 2014 through to 30 June 2016. Consistent with Figure 7, both spreads have declined substantially since the end of June 2014, which may be indicative of a worsening economic outlook. This would be consistent with recent forecasts from the International Monetary Fund (IMF) and the Office for Budget

Responsibility (OBR). Both the IMF and the OBR recently revised their UK GDP growth forecasts for 2016 downwards by 0.3 percentage points, to 1.9% and 2.0%, respectively.⁷⁶ The OBR stated that “[i]n the short time since our November forecast, economic developments have disappointed and the outlook for the economy and the public finances looks materially weaker.”⁷⁷ In comparison, IMF and OBR forecasts for 2014 were 2.9% and 2.7%, respectively, at the same time in that year.⁷⁸

Figure 8. **10-Year–3-Month and 10-Year–2-Year UK Government Yield Spreads**
June 2014 – June 2016



Notes and Sources:
Daily data are from Bloomberg, L.P.

These forecasts were made prior to the recent Brexit vote. Following that vote, a panel of 11 economists surveyed by *The Wall Street Journal* forecasted growth below 1.5% for 2016 and below 0.5% for 2017.⁷⁹ The further flattening of the yield curve that we have observed after the Brexit vote is consistent with these reductions in growth forecasts.

The economic environment may interact with enforcement and other regulatory priorities in other nuanced ways. For example, in discussing its “risk outlook”, the FCA has focused on the relevance of indicators such as GDP growth, household earnings and debt, unemployment and other labour market trends, consumer price inflation, and interest rates.⁸⁰ The FCA noted in its 2016/17 Business Plan that:

- The post-crisis UK recovery has been driven by consumer spending, despite the fact that average wages have been stagnant (in inflation-adjusted terms) since the crisis. Consistent with this, household debt is projected to rise. This may lead to defaults and greater vulnerability of consumers to an increase in interest rates or to a shock such as the loss of employment.⁸¹
- An increase in self-employment and part-time or temporary jobs could put pressure on consumers’ saving plans. According to the FCA, “These kind[s] of employment forms may

involve less secure contracts and in some cases may make it harder for consumers to plan and save. This is likely to change the products and services consumers seek to fit their new income patterns.”⁸² This could give rise to enforcement outcomes, depending on how such products are designed and how they perform.

- UK interest rates have remained low (consistent with the situation elsewhere in Europe and in the US). Long-term low interest rates can encourage consumers to take on excessive debt, leaving them more exposed to changes in monetary policy (i.e., to greater debt service costs if interest rates rise). In addition, investors could opt for riskier investments in pursuit of higher returns. As arguably happened in the years prior to the global financial crisis, this might incentivise consumers to invest in unsuitable products.⁸³

Building on the FCA’s observations, it may be useful to consider certain additional financial indicators that reflect the enforcement environment. Accordingly, we review market volatility, credit risk, and liquidity risk. As we explain below, these are additional factors that bear on the risks and conduct issues potentially faced by the regulator.

Market Volatility

Increased market volatility, that is, more extreme up-and-down swings in asset prices, can be a symptom of greater uncertainty in financial markets, and at high levels may be associated with financial distress. Such uncertainty may lead investors to be more risk-averse and affect their investment decisions. In extreme circumstances, investors might decide *en masse* to move their capital away from risky investments to safer options such as government bonds (i.e., a “flight to quality”).

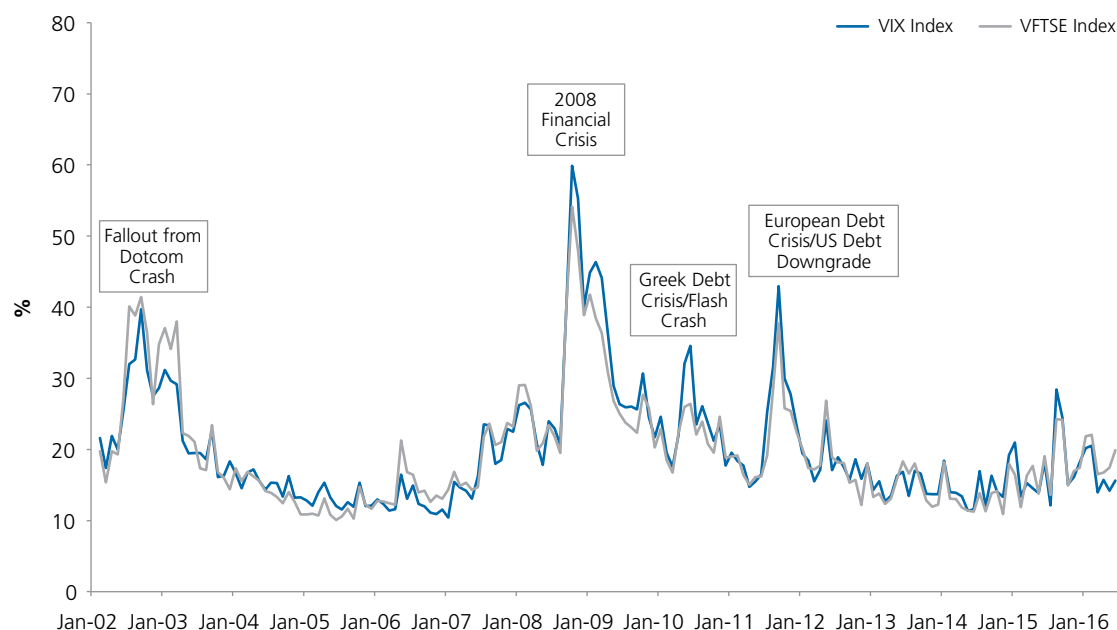
High levels of market volatility can also increase the risk of capital losses for investors, particularly for some complex instruments or products that are linked to different types of risks (for example, hybrid securities) that investors may not fully understand. For instance, around 10 years ago, “precipice bonds” came under scrutiny after some retail investors incurred losses in these instruments, which paid high rates of income but could result in substantial loss of principal if equity markets fell.⁸⁴

The FCA has sought to reduce the risk of investor losses from instruments that are exposed to volatility in difficult-to-understand ways. For example, in August 2014 the FCA temporarily restricted the sale of contingent convertibles (CoCos)⁸⁵ to retail investors because of the instruments’ complexity and riskiness.⁸⁶ In October 2015, permanent rules restricting the retail distribution of CoCos came into force.⁸⁷ Clearly, however, early intervention to restrict or ban certain financial products cannot completely eliminate the risk of losses for investors.

A frequently cited gauge of market volatility is the VIX Index.⁸⁸ The VIX is a measure of the expected short-term volatility of US shares, as implied by the prices of options on the S&P 500 Index. It is sometimes referred to as the “fear index” because an increase in the VIX indicates that investors anticipate greater market turbulence. Similarly, the VFTSE Index reflects the expected volatility of the FTSE 100 Index.⁸⁹ Figure 9 shows the VIX and VFTSE indices from January 2002 through to June 2016, with certain periods of heightened volatility labelled.

In the third quarter of 2015, volatility in the US and UK markets reached its highest level since the European sovereign debt crisis. This may have been attributable to several factors, including a perceived downside risk to emerging economies’ growth (for example, China), uncertainties about a rise in the federal funds rate, and the decline of oil prices.⁹⁰ Since then, markets have

Figure 9. **VFTSE and VIX Indices**
January 2002 – June 2016



Notes and Sources:

Monthly data are from Bloomberg, L.P. Here, VFTSE and VIX indices represent the implied volatility embedded in the prices of options on the FTSE 100 and S&P 500, respectively. The VFTSE Index was first published by NYSE Euronext on 23 June 2008; prior VFTSE values have been computed by NYSE Euronext with index option prices.

been more quiescent. UK shares fell substantially, then rebounded, following the Brexit vote on 23 June, but this volatility subsided fairly quickly. Figure 9, which tracks the VIX and VFTSE on a monthly basis, does not show a substantial increase in volatility.

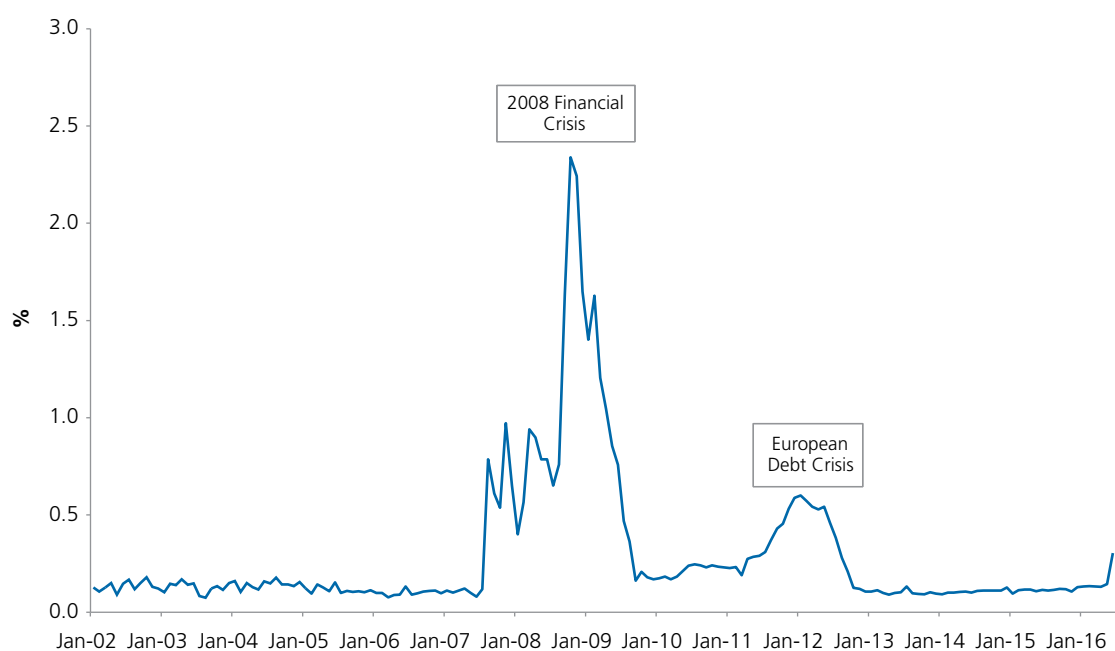
A number of open-ended commercial property funds in the UK have recently suspended trading. This is due to high investor demand for redemptions following the Brexit vote, combined with difficulty in valuing or quickly liquidating the underlying property held by the funds.⁹¹ It is unclear at this stage how widespread this problem will become, or what if any action will be taken by regulators.

Credit Risk

High levels of perceived credit risk might push investors and banks to cease lending to one another, amid fears of default. In addition, if a default were triggered on some lower-rated entities, this might have a “contagion effect” and put pressure on higher-rated debt holders, potentially leading to systemic financial stresses. Moreover, as happened during the 2008 financial crisis, higher levels of credit risk might lead the interbank lending market to seize up. In such a scenario, consequences could be severe for financial markets and the economy as a whole. For instance, banks could have problems obtaining short-term financing and meeting obligations to lenders and other counterparties.

Figure 10 shows the 3-month GBP LIBOR minus Overnight Indexed Swap (OIS) spread, which is frequently used in financial markets to track the short-term credit risk of prime banks.⁹² Figure 10 also indicates periods of heightened perceived credit risk, including the 2008 global financial crisis and the European debt crisis. The GBP LIBOR-OIS spread peaked in October 2008, subsequently returning to lower levels by Q3 2009. From mid-2011, the European government debt crisis led the GBP LIBOR-OIS spread to increase sharply again, and the

Figure 10. **3-Month GBP LIBOR Minus Overnight Indexed Swap Spread**
January 2002 – June 2016



Notes and Sources:

Monthly data are from Bloomberg L.P. The spread is the difference between the 3-month GBP LIBOR rate and the GBP Overnight Indexed Swap rate (Sterling Overnight Index Average).

spread did not return to pre-financial crisis levels until around October 2012. A small recent increase is noticeable in this graph, which runs through to 30 June 2016. Some market observers attributed the widening of the LIBOR-OIS spread in late June 2016 to the effect of the Brexit vote.⁹³

Liquidity Risk

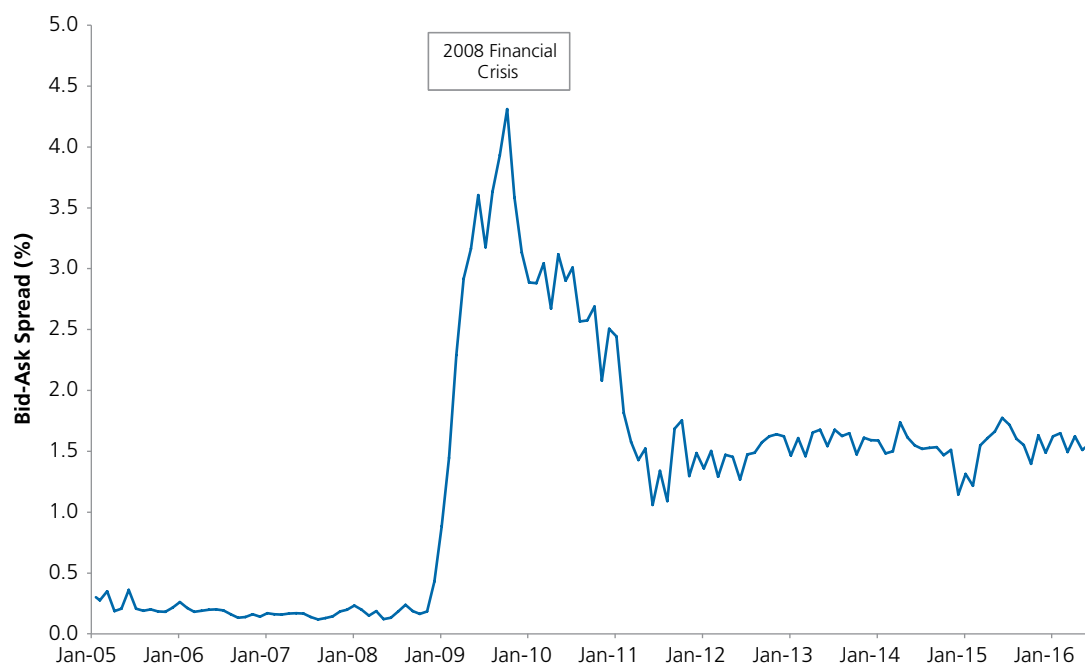
Illiquidity may also reflect distress in financial markets. For example, in the immediate aftermath of the Lehman Brothers bankruptcy, financial institutions were reluctant to lend to one another; as a result, lending between banks largely dried up. That led several financial institutions to fail to meet their short-term obligations or only to be able to meet those obligations with substantial emergency assistance from central banks.

Two distinct types of liquidity are *market liquidity* (also called *trading liquidity*) and *funding liquidity*. *Market liquidity* relates to the ease with which the seller of a financial asset can find a willing buyer, and vice versa. *Funding liquidity* refers to the ability of an institution to meet its financial obligations as they become due. Market illiquidity and funding illiquidity can be linked to one another, particularly during periods of market turmoil when their interaction can lead to a so-called liquidity spiral.⁹⁴

Bid-ask spreads for financial instruments are a widely used gauge of market liquidity/illiquidity: higher spreads are a symptom of worsening market liquidity conditions. If an asset is illiquid (i.e., cannot easily be converted into cash), brokers will tend to charge more for handling transactions in that asset. This results in a larger spread between the price at which a broker will buy the asset (the bid) and the price at which a broker will sell the asset (the ask).

In Figure 11, we present an index of illiquidity in UK financial markets, which we have constructed. It averages bid-ask percentage spreads for equity, FX, and interest rate markets.⁹⁵

Figure 11. **Custom UK Market Illiquidity Index**
January 2005 – June 2016



Notes and Sources:

Monthly data are from Bloomberg L.P. Here, bid-ask spreads for the equity market are computed by using iShares Core FTSE100 UCITS, an exchange traded fund that tracks the performance of the FTSE 100 Index. Spreads for the FX market are computed by using GBP/EUR, GBP/USD, and GBP/JPY currency pairs. Spreads for the fixed income market are computed by using 1-month and 3-month GBP Swap rates (vs. Sterling Overnight Index Average). The bid-ask spreads for each liquidity measure are expressed as a percentage of daily ask prices. Our index is ultimately computed by taking the simple average of the average bid-ask percentage spreads for each market (i.e., equity, FX, and interest rates).

As shown in Figure 11, market liquidity has improved since the crisis, when average bid-ask spreads reached their peak at 4.3% in 2009. Bid-ask spreads had fallen by mid-2011, reflecting more-liquid markets, although the index remains above pre-crisis levels.

Emerging Issues

Even if regulators succeed in reducing the risks of misconduct relating to traditional financial institutions and products, the possibility remains that such risks may simply migrate to new markets, products, and institutions. We examined selected recent developments relating to technological and market innovations that may raise enforcement issues in future. In particular, in the following, we consider high-frequency trading, alternative payment systems, and peer-to-peer lending.

High-Frequency Trading

High-frequency trading (HFT) has remained in the regulatory spotlight in the UK and elsewhere. The term refers to automated computer-based trading techniques that involve a large number of trades executed quickly, often across multiple markets and trading platforms. HFT algorithms analyse market trends in milliseconds (one-thousandth of a second) or even microseconds (one-millionth of a second) and are often characterised by a rapid submission and cancellation of orders. Rather than trading on fundamentals, HFT strategies typically seek to exploit arbitrage opportunities or profit from bid-ask spreads.⁹⁶ In 2014, nearly half of all equity trading in the US and approximately one third in Europe was high-frequency trading.⁹⁷

Some studies have highlighted potential advantages of HFT in financial markets, such as increased market efficiency, lower bid-ask spreads, and lower volatility.⁹⁸ However, HFT has also

been a focus of regulatory concern. New York Attorney General Eric Schneiderman has referred to high-speed trading as “insider trading 2.0”.⁹⁹ Such concern relates in part to the ability of some high-frequency traders, who invest in communications technology or “co-location”, to gain an information advantage by finding out more quickly about orders and trading by others. Concerns about HFT also stem from activities such as “spoofing” and “layering”, which pre-date HFT but have been carried out recently using HFT.¹⁰⁰

A number of recent enforcement actions, in multiple jurisdictions, have focused directly or indirectly on HFT. In August 2015, the FCA won a permanent injunction and penalties for market abuse totalling £7,570,000 against Da Vinci Invest Ltd, Mineworld Ltd, and three individuals for “layering” and “spoofing” using HFT.¹⁰¹

Other recent HFT enforcement actions have been carried out against Latour Trading LLC in the US¹⁰² and Virtu Financial in France.¹⁰³

In March 2016, the US Securities and Exchange Commission (SEC) paid a \$750,000 whistleblower award to Eric Hunsader for providing evidence that the New York Stock Exchange potentially violated regulations related to algorithmic trading.¹⁰⁴

Regulators in the US and Europe have developed measures to address perceived risks associated with HFT. In the European Union, the Markets in Financial Instruments Directive (MiFID) II has implemented changes such as imposing more comprehensive recording of trades and quotes.¹⁰⁵ In addition, HFT investment firms will be required to share with regulators information about trading strategies, including codes and proprietary algorithms.¹⁰⁶

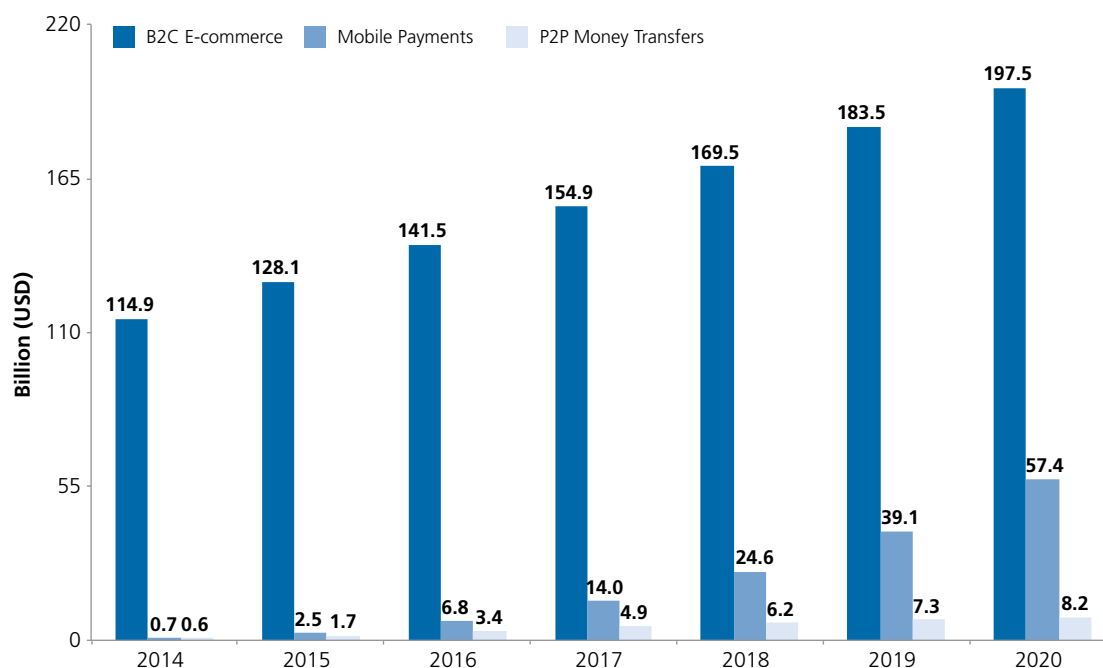
Alternative Payment Systems

Another area of rapid change affecting financial markets relates to electronic payment systems. These changes have been driven in part by advances in mobile technology and connectivity. For example, mobile payments and online peer-to-peer (P2P) transfers, which accounted for only a small fraction of all digital payments in 2014, are expected to represent a quarter of all digital transactions by 2020.¹⁰⁷

Figure 12 shows that the value of transactions carried out in the UK using business-to-consumer e-commerce (B2C E-commerce),¹⁰⁸ mobile payments,¹⁰⁹ and P2P transfers¹¹⁰ has grown rapidly and is expected to continue to grow. In particular, mobile payments, which at the end of 2015 represented less than 2% of the digital payment market, are expected to grow by more than 2,000% over the next five years.

P2P transfers can be used to exchange alternative currencies such as bitcoin. Digital currencies can create challenges for regulators, in particular with respect to the enforcement of financial sanctions, because of their degree of anonymity, the ability to make payments without going through intermediaries, and the absence of third-party authorities that could stop or reverse digital payments.¹¹¹ More generally, potential enforcement issues include the use of alternative payment systems for bribery and corruption or money laundering. HM Treasury announced in March 2015 that the UK government intended to “apply anti-money laundering regulation to digital currency exchanges, to support innovation and prevent criminal use”.¹¹² In an October 2015 report, HM Treasury concluded that “money laundering risk associated with digital currencies is low, though if the use of digital currencies was to become more prevalent in the UK this risk could rise”.¹¹³

Figure 12. **Recent and Forecast Digital Payment Transactional Value**
2014 – 2020



Notes and Sources:

Data are from Statista. Data for 2014 and 2015 are actual; data for 2016 onward are estimates.

In April 2015, the FCA created a new independent economic regulator for the payment systems industry—the Payment Systems Regulator, a subsidiary of the FCA—“to promote competition and innovation in payment systems, and ensure they work in the interests of the organisations and people that use them”.¹¹⁴ Although the FCA does not currently regulate digital currencies,¹¹⁵ it is continuing to monitor development of the block chain technology.¹¹⁶

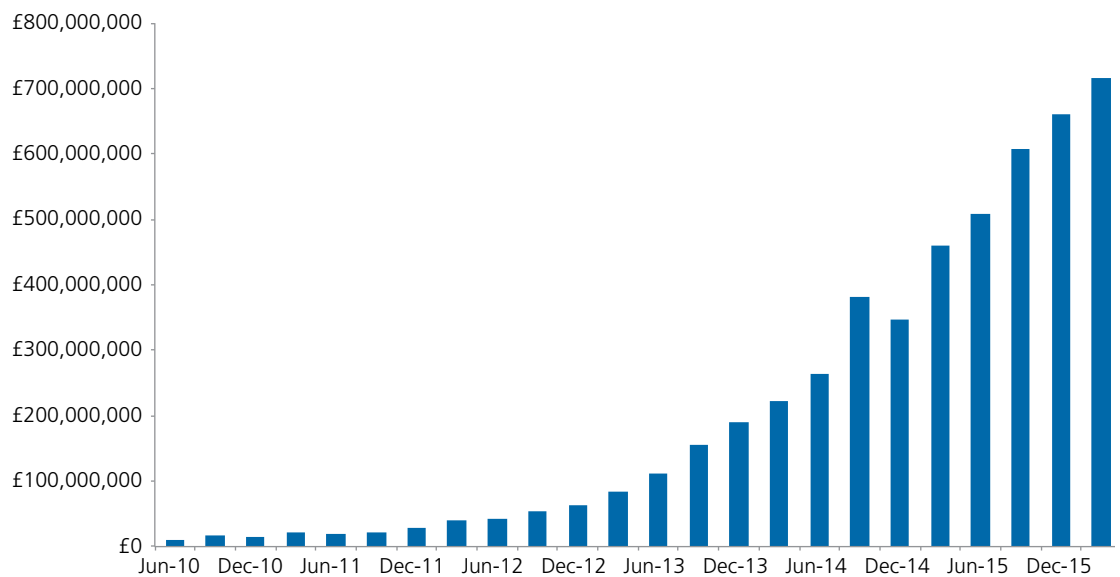
Peer-to-Peer Lending

P2P lending is a specific form of P2P transfer. In particular, it is a type of “crowdfunding”¹¹⁷ that involves lending money to individuals or businesses by matching borrowers directly with lenders (investors) through an online platform. By cutting out the “middleman” (for example, a retail bank or a credit card company), P2P lending platforms may offer borrowers lower interest rates than they might have otherwise received¹¹⁸ and at the same time may offer lenders attractive returns on their investments.

In the UK, P2P lending was initiated in the mid-2000s and has grown rapidly, reaching £2.2 billion in 2015 (see Figure 13). In 2014, the International Organization of Securities Commissions estimated that global P2P lending origination could reach \$70 billion (around £48 billion) by 2019.¹¹⁹

Although P2P lending platforms are not classified as banks or loan originators, they are nonetheless subject to securities and lending regulations. The FCA began regulating P2P lending platforms in March 2014,¹²⁰ and a comprehensive review of the rules applying to P2P lending in the UK was published by the FCA in February 2015.¹²¹ On 8 July 2016, the FCA published a Call for Input on whether the regulations applicable to P2P lending remain appropriate given the market’s rapid growth, requesting responses by 8 September 2016.¹²²

Figure 13. **Peer-to-Peer Lending: New Loan Volume**
Q2 2010 – Q1 2016



Notes and Sources:
Data are from Peer-to-Peer Finance Association (P2PFA).

The risks of P2P lending include borrower default as well as failure of the P2P lending platform. Former FSA chairman Lord Adair Turner recently opined that “the losses which will emerge from P2P lending over the next five to 10 years will make the worst bankers look like lending geniuses”.¹²³ One main difference between P2P lenders and traditional banks is that P2P investors can choose the level of risk they wish to bear, by lending to riskier or safer borrowers with correspondingly higher or lower interest rates. With respect to the risk of borrower default, the FCA is focused on “ensuring that consumers interested in lending to individuals or businesses have access to clear information”¹²⁴ to allow them to assess credit risk.¹²⁵

The FCA requires regulated P2P lending platforms to follow client money rules and meet minimum capital standards. The FCA also requires the firms to have resolution plans such that, should the lending platform collapse, loan repayments would continue to be collected from borrowers and repaid to lenders.¹²⁶ The importance of having such a plan was highlighted in October 2015 when TrustBuddy, a Swedish P2P lending platform, suspended operations after management discovered “serious misconduct”, including misuse of client money.¹²⁷ More recently, in May 2016, US P2P lending platform LendingClub received a grand jury subpoena from the US Department of Justice following the discovery of failures in the company’s internal controls.¹²⁸ As the FCA’s regulation in the growing P2P lending market continues to evolve, it is possible that we will see enforcement activity in this area.

Conclusion

Although the future direction of enforcement is inherently uncertain, the combination of the FCA’s stated priorities, aspects of the broader economic and financial context, and certain emerging technologies, markets, and products can provide some indication of the types of enforcement activity that we are likely to see in future.

Putting Fines in Context: Additional Conduct-Related Costs

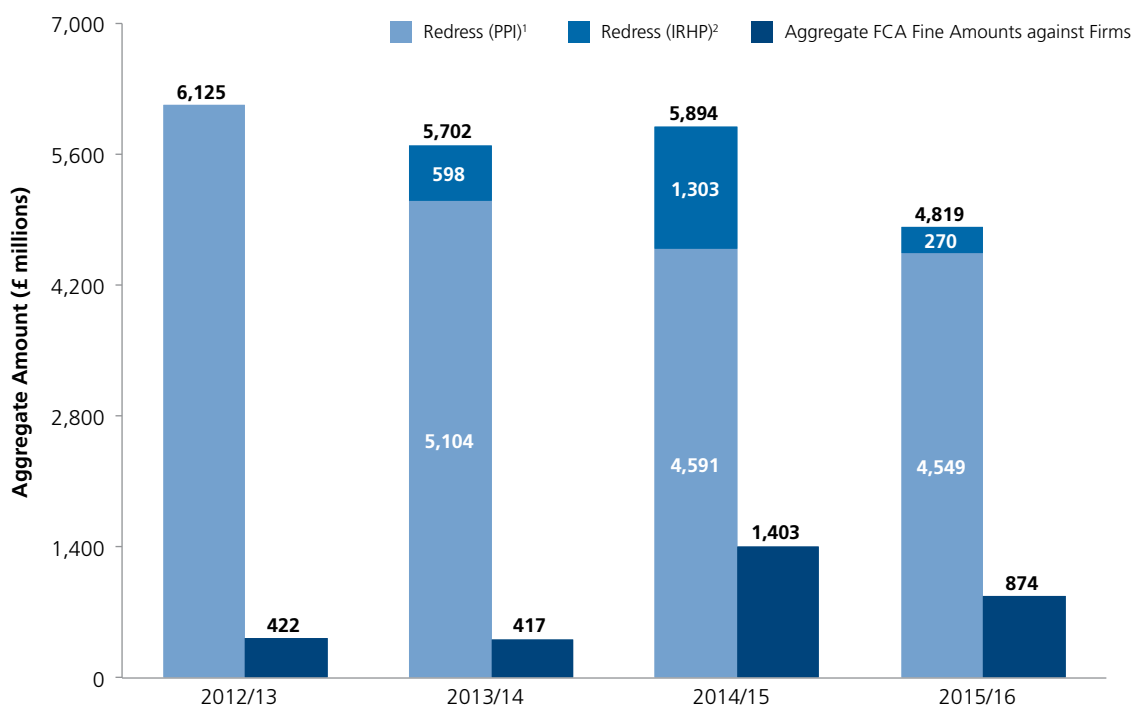
Above, we have reviewed FCA-imposed fines, which encompass disgorgement and other repayment of financial benefits from misconduct, along with other financial penalties. We have also looked at sanctions other than fines imposed both on firms and on individuals. In this section, we consider the broader context of other conduct-related costs to financial institutions. We first consider FCA-mandated payments for redress to customers affected by misconduct, which in recent years have substantially exceeded fine amounts. Regarding major UK banks, we also look at how FCA fines compare with the total cost of regulatory enforcement, investigations, and litigation (as reported in these banks' financial statements). Finally, we consider the reputational cost of enforcement, which recent academic research has found can substantially exceed the direct cost of fines and redress.

Redress

By mandating redress in certain instances, the FCA seeks to ensure that customers are put "back in the position they would have been in had the regulatory failings not occurred".¹²⁹

From financial years 2012/13 to 2015/16, the FCA imposed more than £3.1 billion in fines on firms. Although unprecedented in magnitude, this is considerably lower than FCA-mandated redress paid by firms over this period. For example, as Figure 14 shows, redress associated with mis-selling of PPI and Interest Rate Hedging Products (IRHP)¹³⁰ alone exceeded £22.5 billion over these four years.¹³¹

Figure 14. **Annual FCA Redress Paid for PPI and Interest Rate Hedging Products (IRHP) Compared with Aggregate Fine Amounts against Firms for All Conduct**

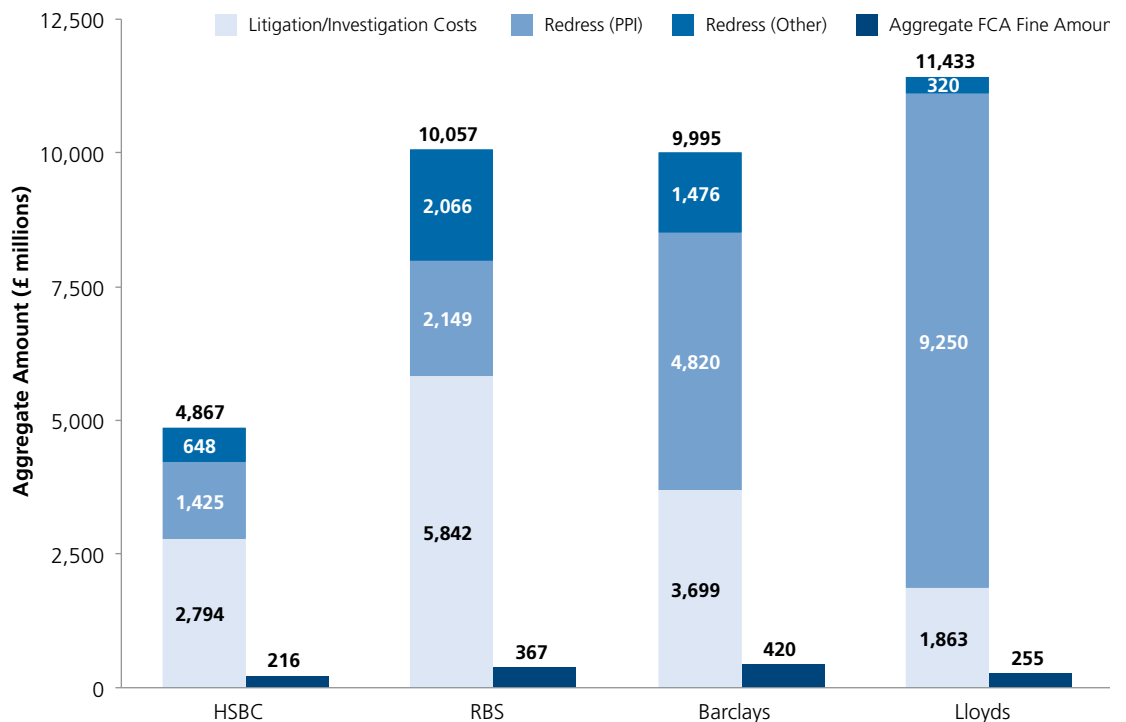


Notes and Sources:

¹ Data are from the FCA. See *Monthly PPI Refunds and Compensation*, Financial Conduct Authority, 14 March 2016.

² Data are from the FCA. See *Interest Rate Hedging Products*, Financial Conduct Authority.

Figure 15. **Conduct Cost Provisions Taken by Four of the Largest UK Banks and Total FCA Fine Amounts Imposed on the Same Banks**
1 January 2013 – 31 December 2015



Notes and Sources:
Data are from company annual reports (HSBC Holdings Plc, Royal Bank of Scotland Group [RBS], Barclays Plc, and Lloyds Banking Group).

Banks' Total Conduct Costs

Between 2013 and 2015, four of the UK's largest banks (HSBC, RBS, Barclays, and Lloyds) reported taking provisions of roughly £36.4 billion for expected costs related to global enforcement, investigations, and litigation (which we refer to collectively as "conduct costs"). See Figure 15. To put these figures into context, between 2009 and 2014, the entire UK banking sector raised approximately £30 billion in private capital, according to a recent Financial Stability Report from the Bank of England.¹³²

Figure 15 also shows fines imposed by the FCA on these four banks between 2013 and 2015. These fine amounts were dwarfed by the banks' total provisions for global conduct costs. As reflected in Figure 15, the largest single component of this is PPI-related redress.

Reputational Costs

Another potential cost to firms from enforcement activity is through the *reputational damage* that an enforcement action may inflict. In contrast to the out-of-pocket costs associated with fines, redress, and investigations, reputation is an inherently intangible concept, and measuring damage to it is not straightforward.

Academic researchers have recently sought to quantify the reputational damage associated with enforcement actions and suggest that such harm often substantially exceeds the size of the fine itself. Their research has focused on financial penalties imposed on publicly traded firms, applying a technique called an *event study*, which measures the change in a firm's market value in response to news.

Some of the studies find that the decline in market value attributable to a fine is often larger than can be explained by those factors alone. A forthcoming paper by Armour et al.¹³³ focusing on fines imposed in the UK finds that, from January 2001 to January 2011, when the FCA announced fines on publicly traded firms,¹³⁴ the average drop in market value for certain categories of fines¹³⁵ was *nine times* the size of the fine and other payments such as redress. Armour et al. attribute this additional market value loss to the reputational effect of the fines announced.

According to the Armour study, the effect of a fine on a firm's reputation may be felt in its market value via two channels: first, if the firm is fined for conduct that affects customers (for example, mis-selling, mishandling client assets, or not treating customers fairly), this may make customers less likely to do business with the firm in future, impairing the firm's future prospects and reducing the market's estimate of its future cash flows. Misconduct that affects shareholders and other investors in the firm, such as misstatements made by the firm to the market, may worsen the terms on which the firm can raise capital, increasing the rate at which expected future cash flows are discounted.

However, these studies find that not all types of fines have reputational consequences that are reflected in reduced market values. When a firm is fined for conduct that does not directly affect customers or investors, but affects only third parties, a substantial reputational effect is not observed. Such fines include, for example, failures in reporting transactions to the regulator or in complying with anti-money laundering rules. However, the studies find that fines for conduct that affects those who transact with the firm or those who invest in the firm's securities do tend to have an adverse reputational impact as gauged by the effect on market value.

The UK-focused Armour study covers FSA enforcement through nearly the end of the 2010/11 financial year. However, since then, the regulatory enforcement landscape has changed in several important ways. First, as discussed above, fines against firms have become considerably larger (see Figure 3). This may alter the relationship between fine size and reputational damage.

Moreover, a number of firms have now been subject to multiple fines. For example, of the 17 fines imposed on firms by the FCA in 2015/16, 2 were levied on the same firm (Barclays), and 5 of the 15 firms fined, that is, one-third, had been fined at least once previously since 2011.¹³⁶ The incremental effect of the second, third, or fourth fine on a firm's reputation may be different from the first.

Another factor that complicates capturing the reputational effect is changes to the legal framework governing the disclosure of fines since the period covered by the Armour study. In particular, the enactment of the Financial Services Act 2010 has allowed for disclosure of earlier stages of an enforcement proceeding, that is, of Warning Notices and Decision Notices.¹³⁷ This means that capturing the reputational effect of UK enforcement actions now requires a review of multiple steps of enforcement.¹³⁸ This makes capturing the reputational effect of UK enforcement more similar to the process required for doing so with US enforcement, for which academic studies have typically focused on multiple announcements at different stages of the process.¹³⁹

Conclusion

Based upon fine activity by the FCA in the second half of the 2015/16 financial year, it appears that the enforcement pendulum may be swinging back to lighter enforcement against firms. Fines against individuals remain generally low, although this may change with the Senior Managers Regime, the European Market Abuse Regulation, and other initiatives.

Although the number of criminal indictments in 2015/16 was low relative to prior years, the FCA has recently secured a number of high-profile convictions, including in Operation Tabernula and Operation Cotton.

Looking ahead, the FCA's stated priority themes (and, in particular, preventing financial crime and promoting competition) provide some indication of the areas where we may see additional enforcement. Developments in the financial markets and the broader economy, as well as the emergence of innovative technologies, may also affect the regulator's activities. The recent referendum result in the UK to exit the EU creates some uncertainty in the longer term with respect to both economic performance and the future evolution of the regulatory and legal framework within which the FCA operates.

Although fines imposed against UK firms in recent years have been substantial, these amounts have been far exceeded by other conduct-related costs, including FCA-mandated redress to customers and the cost of enforcement, investigations, and legal disputes across multiple jurisdictions. Moreover, these conduct costs do not reflect any reputational damage that an enforcement action may inflict on a firm. The effect of the announcement of an enforcement action can decrease a firm's market value by an amount far exceeding the size of the fine and/or mandated redress.

NERA will continue to monitor and analyse these developments as they unfold.

Notes

- ¹ Mr Patton is an Associate Director, Ms McHugh is a Senior Consultant, Mr Renzi-Ricci is a Consultant, and Mr Pruski is an Economic Analyst at NERA Economic Consulting. The authors would like to thank Bradley Heys, Gary Lambert, and Grant Sagers for valuable feedback on earlier drafts, and George Moschopoulos, Davide Oneglia, Jielei Mao, and Mattia Dolci for research assistance.
- ² On 1 April 2013, the Financial Services Act 2012 came into force, and the FCA superseded the FSA as financial enforcement regulator. In this paper, unless indicated otherwise, we use “FCA”, “the Authority”, or “the regulator” to refer to the FSA and the FCA collectively. Throughout this paper, unless otherwise indicated, information relating to fines is taken from NERA’s database of final notices obtained from the FCA and FSA websites.
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- ⁹⁰ Gavin Jackson, "Why Market Volatility is Growing More Intense", *Financial Times*, 14 September 2015.
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- ⁹³ Jamie McGeever, "Brexit Shakes UK Banking System, But No Repeat of 2008 Seizure Seen", *Reuters*, 29 June 2016.
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- ⁹⁶ For instance, by artificially placing large sell or buy orders and cancelling them fractions of seconds later, high-frequency traders can influence and move the market in a specific direction, ultimately buying at lower ask prices and selling at higher bid prices.
- ⁹⁷ Orcun Kaya, "High-Frequency Trading—Reaching the Limits", *Deutsche Bank Research*, 24 May 2016, available at: https://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000406105/High-frequency_trading%3A_Reaching_the_limits.pdf.
- ⁹⁸ For example, see Jeff Castura, Robert Litzenberger, Richard Gorelick, and Yogesh Dwivedi, *Market Efficiency and Microstructure Evolution in US Equity Markets: a High-Frequency Perspective*, Working Paper, October 2010, available at: https://www.academia.edu/2657560/Market_efficiency_and_microstructure_evolution_in_US_equity_markets_A_high-frequency_perspective.
- ⁹⁹ Eric Schneiderman, "Remarks on High-Frequency Trading & Insider Trading 2.0", *New York Law School Panel*, 18 March 2014, available at: http://www.ag.ny.gov/pdfs/HFT_and_market_structure.pdf.
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- ¹⁰² “Latour Trading Charged with Market Structure Rule Violations”, *Securities and Exchange Commission Documents*, 30 September 2015.
- ¹⁰³ “French Regulator Considers Fining HFT Virtu; Enforcement Division of the AMF Proposes a Fine of €5 Million for 2009 Trading Violations”, *Financial News*, 5 November 2015. France’s Autorité des Marchés Financiers (AMF) imposed fines of €5 million each on Virtu and Euronext.
- ¹⁰⁴ “Whistleblower Award for NYSE Fine Goes to HFT Critic; Eric Hunsader Gets Payout from the SEC”, *MarketWatch*, 1 March 2016.
- ¹⁰⁵ *Impact Assessment on Commission Delegated Regulation Supplementing Regulation (EU) No 600/2014*, European Commission, 18 May 2016, p. 41, available at: http://ec.europa.eu/finance/securities/docs/isd/mifid/160518-impact-assessment_en.pdf.
- ¹⁰⁶ For a brief summary of the different new requirements imposed by MiFID II on HFT and their implications, see Mohammad Adil, “Tackling Challenges of High Frequency Trading through MiFID II”, *Advantage Reply*, October 2014, available at: https://www.reply.eu/Documents/16734_img_Tackling-Challenges-of-High-Frequency-Trading-through-MiFID-II.pdf.
- ¹⁰⁷ See for instance, the report *FinTech Digital Payments in the United Kingdom*, Statista.
- ¹⁰⁸ Business-to-consumer e-commerce is the direct sale of products or services from businesses to consumers over the internet.
- ¹⁰⁹ Mobile payments (also called “mobile wallets”) rely on a mobile application allowing customers to store and control online their payment and shopping details.
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- ¹³⁷ *Enforcement Information Guide*, Financial Conduct Authority, April 2013, p. 3, available at: <https://www.fca.org.uk/static/documents/enforcement-information-guide.pdf>.
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- ¹³⁹ See, for example, Jonathan M. Karpoff, Allison Koester, D. Scott Lee, and Gerald S. Martin, *Database Challenges in Financial Misconduct Research*, Georgetown McDonough School of Business Research Paper No. 2012-15, May 2014, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2112569###.

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